



**VINEYARD WIND**

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**Attachment 12.3-1**

**Torsten Smed Resume**

# TORSTEN LODBERG SMED

## Senior Partner & Co-Founder, CIP

Torsten Lodberg Smed is Senior Partner at CIP, overseeing CIP's wind development projects. Torsten has more than 20 years of experience in the energy sector including mergers and acquisitions (M&A). Prior to establishing CIP in 2012 together with the other Senior Partners, Torsten held various senior positions within Dong Energy, during the period 2003-2012, and most recently as Senior Vice President of Partnerships in the offshore wind division. Torsten was also responsible for developing Dong Energy's offshore wind partnership model. Furthermore, he established Dong Energy's offshore wind transaction team and several past members of this team today represent the senior management of Dong Energy's offshore wind business. From his time in Dong Energy and CIP, Torsten is today acknowledged as a leader in this sector who has executed the most offshore wind transactions.

At CIP, Torsten was instrumental in bringing the Beatrice offshore wind project (588 MW) in Scotland and the Veja Mate offshore wind project in Germany (402 MW) to financial close. In addition to his offshore wind experience, Torsten had a key role in the consolidation of the Danish energy sector between 2002 and 2006. Prior to joining Dong Energy, Torsten worked as a lawyer for Kromann Reumert, a leading Danish law firm where he focused on M&A and tax structuring.

## EXPERIENCE

### Senior Partner & Co-Founder – Copenhagen Infrastructure Partners, (2012-Present)

Torsten is overseeing CIP's wind development projects in the US and Europe. Torsten is fully involved in the Vineyard Wind project, overseeing the project's infrastructure funds management as CIP is the infrastructure fund manager with total commitments of ~6 EUR billion. Torsten is responsible for CIP's offshore development projects and the Deal Team of CIP. Torsten is responsible for numerous investments into energy infrastructure projects and for taking a number of energy projects to financial close, including the Veja Mate offshore wind project (402 MW) and the Beatrice offshore wind project (588 MW) with overall responsibility for all of CIP's offshore development projects in the US, Taiwan, Australia, and Canada.

### Vice President, Head of Partnerships & Executive Committee Member - Dong Energy Wind Power, Copenhagen, Denmark (2011-2012)

Torsten was part of the Executive Committee and Head of Partnerships, including Joint Venture Management (management of existing joint ventures with financial and industrial partners) M&A, key supply partners (strategic sourcing of wind turbines), regulatory affairs, structured solutions (development of new products to financial investors), and partner communication (creating relationships with a number of global financial investors to ensure continued access to equity). He oversaw the management of 50 professionals and was responsible for a number of transactions, including various disposals of offshore transmission assets (UK) as well as the below offshore wind projects:

#### COMPANY

- Copenhagen Infrastructure Partners (CIP)

#### EDUCATION

- Master's Degree, Law, University of Copenhagen, Copenhagen, Denmark
- MBA, Rotterdam School of Management (Erasmus), Rotterdam, The Netherlands
- BS, Finance & Credit, University of Copenhagen, Copenhagen, Denmark

#### KEY QUALIFICATIONS

- Offshore Wind Farms
- Energy Efficiency
- Energy Infrastructure
- Business Law
- M&A
- Tax Structuring
- Offshore Transmission Assets
- Disposal Management
- Process Improvement
- Field Operations
- Offshore Development
- Financing Strategy

#### TRAINING & SPECIALIZATIONS

- Graduate Certificate in Business Administration & Finance (HD), Copenhagen Business School

#### AFFILIATIONS

- Vineyard Wind Executive Committee, Member

#### LANGUAGES

- Fluent in English and Danish

- **Disposal of 50% of the Borkum Riffgrund 1 offshore wind project** (277 MW in Germany) to Kirkbi (LEGO) and the Oticon Foundation
- **Disposal of 50% of the Gunfleet Sands offshore wind project** (172 MW in the UK) to Marubeni Corporation
- **Disposal of 50% of the Anholt offshore wind project** (400 MW in Denmark) to PensionDanmark and PKA
- **Disposal of 50% of the Nysted offshore wind project** (166 MW in Denmark) to PensionDanmark
- **Disposal of 24,8% of the Walney 1 and 2 offshore wind projects** (367 MW in the UK) to Ampere and PGGM

### **Vice President, Head of Mergers & Acquisitions - Dong Energy A/S, Copenhagen, Denmark (2006-2011)**

Torsten was promoted to VP, Head of Mergers & Acquisitions from Director to VP in May 2010 and since has been successfully involved as part of the core Corporate Affairs team which is responsible for corporate strategy, corporate finance, legal, and M&A. Torsten oversaw all MA& activities and strategic partnerships on a group level; managed the M&A unit (9 professionals); and was responsible for numerous transaction including ad hoc responsibility for strategic analyses and business development projects and the following:

- **Acquisition of 50% of the Lincs offshore wind project** (~277 MW in the UK) from Centrica together with Siemens Project Ventures in 2009
- **Disposal of 25.1% of the Walney I and II offshore wind projects** (~367 MW under construction in the UK) to Scottish and Southern Energy in 2009
- **Acquisition of a 50% stake in three offshore wind farm projects** in the Netherlands from Scottish and Southern Energy (Airtricity) (~1,000 MW) in 2009
- **Acquisition of 100% of A2Sea A/S, ship company specialized in offshore wind turbine installation**, in 2009 from various private equity funds
- **Acquisition of a 50% stake in the Enecogen 870 MW CCGT power plant** under construction in the Netherlands in 2009 from International Power
- **Acquisition of the Severn 850 MW CCGT power plant** under construction in the UK and an engineering business in 2009 from Welsh Power
- **Acquisition of Shell's stake in the London Array offshore wind farm project** (~200 MW), UK, in 2008
- **Disposal of Greek wind assets** in 2008 (~20 MW)
- **Disposal of Danish heat and water activities**, EnergiGruppen Jylland A/S, Denmark, in 2008
- **Disposal of Irish waste to energy project** in 2007

### **Senior Partner & Co-Founder – Dong Energy A/S, Hørsholm, Denmark (2003-2005)**

Torsten was Senior Consultant in the M&A Department, Business Development, and Strategy. He was a core member of the M&A-team responsible for Dong Energy's takeover of Elsam, Energi E2, NESA, Københavns Energi, and carved outs of activities to Swedish Vattenfall (total value of all transactions in the range of 6 EUR billion) creating a leading integrated energy company in Northwestern Europe. Torsten was known as the Deal Maker based on his successfully record of M&A projects.

### **Lawyer – Kromann Reumert, Copenhagen, Denmark (1996-2003)**

Torsten served as lawyer at this prestigious large Danish law firm.

### **Trainee – A/S Tarm Bank (now Ringkjøbing Landbobank A/S), Tarm, Denmark (1989-1991)**

Torsten performed a variety of banking functions as trainee in traditional banking for this Danish bank.



**VINEYARD WIND**

**Vineyard Wind**

**Attachment 12.3-2**

**Felix Pahl Resume**

## FELIX PAHL

### Associate Partner, CIP

Felix Pahl has been with Copenhagen Infrastructure Partners (CIP) since 2014 and is the Asset Manager for the offshore wind projects Veja Mate and Vineyard Wind. Felix has 15 years of experience in the infrastructure sector, with focus on energy investments for the past ten years. Prior to joining CIP, Felix held a position as Head of Asset Management, Germany at Dong Energy Wind Power. Felix began his career in Hochtief AG (2003) as a Structural Engineer and progressed to Project Manager of Corporate Development M&A.

## EXPERIENCE

### Associate Partner – CIP (2014-Present)

Felix is responsible for asset management of current German portfolio investments (400 MW offshore wind, 900 MW transmission), asset manager for Vineyard Wind Investment, and is involved in multiple transactions and financings in the renewable energy sector.

### Senior Manager – Dong Energy Renewables, Hamburg, Germany (2011-2014)

Felix was the Senior Manager at Dong Energy serving as Asset Manager and Deputy Program Director for Gode Wind I and II (582 MW) projects. He was responsible for the offshore wind development activities in Germany and the successful acquisition and integration of Gode Wind I, II and III development projects (930 MW).

### Investment Manager– Siemens Project Ventures GmbH in Erlangen, Germany (2009-2011)

Felix served as the Investment Manager at Siemens on the following projects:

- Project Manager for the acquisition of a 25% share in 270 MW Lincs offshore wind farm in UK and subsequent non-recourse debt financing (> GBP 900 million)
- Project Manager for successful bidding process and subsequent development for UK Round 3, 4,000 MW offshore development projects (alternate director in project company)

### Project Manager of Strategy/M&A – Hochtief AG, Essen, Germany (2006-2009)

Felix provided strategy and M&A management on the following projects:

- Project Manager preparation of an IPO of the infrastructure investment portfolio (airports, toll roads, social infrastructure)
- Project Manager for a strategic review for an entire business segment with a revenue > EUR 1.5 bn (trade sale, spin-off) and subsequent corporate restructuring activities
- Team lead (revenue, Capex, Opex) for planned acquisition of a German port operator

### Structural Engineer – Hochtief Construction AG, Hamburg, Germany (2003-2006)

Felix performed the following while serving as Structural Engineer on multiple projects:

- Review of construction contracts and preparation of alternative proposals
- Engineer for design and engineering work of two bridges
- Technical coordination of BOT-bidding projects (toll roads) in Greece

#### COMPANY

- CIP

#### EDUCATION

- MBA, Elmshorn University (Nordakademie), Germany
- BS, Engineering, Kiel Technical University, Germany

#### KEY QUALIFICATIONS

- Offshore Wind Farms
- Offshore Wind Development
- Structural Engineering
- Renewable Energy
- M&A
- Asset Management
- Investment Management
- IPO & Infrastructure Investment Management
- Project Management
- Field Operations
- Financing Strategy

#### TRAINING & SPECIALIZATIONS

- Talent Program - Leadership Development Courses: Managers, Leadership, and Executive Training (Dong Energy)

#### AFFILIATIONS

- Vineyard Wind Executive Committee, Member

#### LANGUAGES & OTHER ACTIVITIES

- Fluent in English and German
- Military Service (10 months) in German Airforce in 1996



**VINEYARD WIND**

**Vineyard Wind**

**Attachment 12.3-3**

**Joanthan Cole Resume**

# JONATHAN COLE

## Managing Director, Iberdrola Offshore Wind Division

Jonathon Cole is a Member of the Executive Team of ScottishPower Renewables (SPR) and Managing Director of Iberdrola's Global Offshore Division, and has acted as Offshore Managing Director of Iberdrola Renewables since 2011. Jonathan is responsible for the management of Iberdrola's global offshore business, including development, construction and operation of projects in the UK, Germany, and France.

Jonathan has overseen the creation of Iberdrola's offshore wind business from inception into an established and successful business with more than 300 employees; committed funds of over €6 billion and a projected investment program of €15 billion by 2025, with expected annual revenues of more than €1 billion by 2020 and >€2 billion by 2025. Iberdrola's offshore business is now one of the leading players in European offshore wind and is a leading developer of offshore wind projects in the USA.

Jonathan sits on the Board of a number of industry bodies related to offshore wind, including the Offshore Wind Program Board, the G9 Health & Safety Board, and the Offshore Renewable Energy Catapult Industry Advisory Board (as Chairman). Jonathan started his professional career at ScottishPower Renewables in 2008, where he previously held the positions of UK Legal Director and Commercial Director.

## EXPERIENCE

### Managing Director - Iberdrola Offshore Wind Division (2011-Present)

Jonathan is a member of the Executive Team of ScottishPower Renewables and Managing Director of Iberdrola's Global Offshore Division. He is also the Corporate Director and Company Secretary of numerous renewable energy companies, including joint venture companies. Jonathan is responsible for management of Iberdrola's Global Offshore Business, including development, construction, and operational activities in the US as well as in the UK, Germany, and France, and development of project pipeline in other regions. Jonathan is accountable for the following projects:

- **Vineyard Wind, Massachusetts, US** – Responsible for recently acquired 50% share of a potential 3GW, \$10 billion investment opportunity for offshore windfarms off the coast of Massachusetts. Created and oversees the relationship with 50/50 JV Partner, Copenhagen Infrastructure Partners.
- **Kitty Hawk Zone, North Carolina, US** – Responsible for recently acquired site with potential for 2.5GW, \$7 billion investment opportunity for offshore windfarms off the coast of North Carolina.
- **Leading a strategy for expansion of the Offshore business with a focus on North America**, and Board member of the following:
  - Member of the UK Offshore Wind Industry Council (appointed by Secretary of State for Energy)
  - Chairman of the Offshore Wind Program 2 Board (appointed by Secretary of State for Energy)

### COMPANY

- Iberdrola Offshore Wind Division

### EDUCATION

- Postgraduate Diploma in Legal Practice, University of Strathclyde, Glasgow, UK
- Bachelors of Laws (Hons), University of Strathclyde, Glasgow, UK

### KEY QUALIFICATIONS

- Offshore Wind Farms
- Offshore Wind Health & Safety
- Offshore Wind Project Investment
- Offshore Wind Management
- Offshore and Onshore Wind
- Marine Energy
- Tax Equity Strategy
- Infrastructure Funds Management
- Business Law
- Asset Management
- Project Management
- Regulatory Policy
- Financing Strategy

### TRAINING & SPECIALIZATIONS

- Talent Program - Leadership Development Courses: Managers, Leadership, and Executive Training

### AFFILIATIONS

- Vineyard Wind Executive Committee, Member
- Executive Team of ScottishPower, Member
- Law Society of Scotland (2000)
- Law Society of England and Wales (2003)

### LANGUAGES

- Fluent in English and Spanish (basic)





- Chairman of Global Offshore Wind Health & Safety Organization (appointed by industry peers)
- Chairman of the Industry Advisory Board of Offshore Renewable Energy Catapult (government funded leading innovation body)
- Member of ICE's Infrastructure Client Group
- **West of Duddon Sands, UK** –operational management of a 389 MW, £1.5 billion asset. Annual revenues of >£200 million and O&M budget of >£30 million. Created and oversees the relationship with 50/50 JV Partner, Dong Energy.
- **Wikinger, Germany** – construction of a 350 MW, €1.4 billion asset, including high level political engagement in formulating German regulatory support for offshore wind. Also for the development of numerous other Projects in the German Baltic Sea, ready for construction after the Wikinger Project is complete.
- **East Anglia Offshore Wind, UK** – development, engineering and construction of a series of projects (up to 3,600 MW and ~£10 billion Capex). First project currently in construction phase (714 MW, £2.5 billion).
- **St. Brieuc, France** –development and engineering of a 500 MW, €2.5 billion asset, with tariff and grid access already secured.

### **UK Commercial Director – Iberdrola Renewables (2010-2011)**

Jonathan is a member of the Executive Team of SPR and Managing Director of Iberdrola's Global Offshore Division. He is also the Corporate Director and Company Secretary of numerous renewable energy companies, including joint venture companies. Jonathan is responsible for all commercial aspects of Iberdrola's Global Offshore Wind Division and SPR's onshore renewables business, including supply chain, M&A, JV formation and management, finance, and investment. He led various transactions, including:

- **West of Duddon Sands Offshore Wind Farm** – Formation of JV with Dong Energy and divestment of 16%, negotiation and completion of circa £1.5 billion of supply contracts.
- **East Anglia** – Creation of EAOW organization and management structure and development of supply chain strategy.

### **UK Legal Director – Iberdrola Renewables (2008-2010)**

Jonathan led a team of legal professionals, responsible for all legal issues affecting Iberdrola Renewables in the UK. He was the lead on various transactions, including corporate acquisitions, joint venture formation, and all construction contracts for large renewable energy projects, including:

- **UK Offshore Round 3** – contract with Crown Estate and formation of Joint Venture with Vattenfall
- **West of Duddon Sands Offshore Wind Farm** – acquisition of 2/3 share and formation of joint venture with Dong Energy
- **Mark Hill Wind Farm** – acquisition of 100%
- **Whitelee Wind Farm** – construction and maintenance contracts
- **Hammerfest Strom AS** – acquisition of 17% of Norwegian tidal energy technology company and active participation in Board of Directors

### **Associate Partner – Pinsent Masons, Energy Group (2000-2007)**

Jonathan assisted in the creation and development of Pinsent Masons UK, a renewable energy practice. He advised developers, contractors, consultants, and funders on numerous energy projects in the UK and internationally, including offshore and onshore wind, marine energy, anaerobic digestion, biomass, and combined cycle gas turbine (CCGT). Jonathan acted as lead adviser to project companies, equity sponsors, lenders, and contractors for various Public Private Partnerships/Private Finance Initiative (PPP/PFI) and project finance concepts (hospitals, schools, rail, and roads). He also provided general advice on various construction and property development projects.





**VINEYARD WIND**

**Vineyard Wind**

**Attachment 12.3-4**

**Laura Beane Resume**

# LAURA BEANE

## President & CEO, Avangrid Renewables

Laura Beane, President and CEO of Avangrid Renewables (AR), has spent more than 20 years with AR, including its original parent, holding a wide variety of roles and responsibilities in myriad facets of the business. Her previous executive role as VP of Operations and Management Services followed her tenure as Director of Market Structure and Policy. In addition, she has led numerous initiatives including the company's innovative Self-Supply Program, which involves AR taking responsibility for the balancing obligation of its 1,400 MWs of wind in the Pacific Northwest.

Laura holds an MBA from Comillas and Strathclyde Universities as part of Iberdrola's Master in the Global Energy Industry and previously earned an MBA and BS degree from the University of Utah. Laura also serves as the Chairman of the Board of The Climate Trust, a national leader in carbon offset projects and innovative climate change solutions

## EXPERIENCE

### President & CEO – Avangrid Renewables, Portland, OR, US (2014-Present)

Laura is responsible for the management of all critical services required to support the company's 6,000+ MW generation fleet. Departments include Asset Management, Environmental Health, Safety & Training, Land Management, Performance Reporting, Operations Business Processes, Quality and Operational Environmental, and Permitting. Laura has:

- Spearheaded the repower retrofit initiative with development of a business case for purchase of wind turbine components which will enable the company to qualify for new production tax credits. The initiative will provide significant value and optionality for the company's long-term operations strategy for the company's aging wind fleet.
- Negotiated and executed a settlement agreement with the Fish & Wildlife Service covering the company's highest risk Western plants to eliminate risk of enforcement from historical takes and ensure protection from future takes.
- Managed the ongoing audit of the company's nearly \$2 billion ITC Grant awards. Developed strong relationships with the US Treasury audit staff and obtained an in-person settlement meeting to develop a path for final resolution, avoiding expensive and high-risk litigation.

### Director, Regional Market Structure & Policy – Iberdrola Renewables (2012-2015)

Laura led the company's efforts to shape regulatory policies affecting the interconnection, integration, transmission, and marketing of the company's operating assets and developments in the western US by representing the company's position with key regulatory, industry, and customer groups to promote policies that support a level playing field for renewable resources. She managed the company's Investment Tax Credit grant application process, ensuring access to all eligible funding to expand Iberdrola's U.S. wind and solar development and securing \$2 billion in grant funding. Laura performed the role of project manager for Iberdrola Renewables' innovative "self-supply" pilot program which enabled the company to supply its own balancing reserves for more than 1,300 MWs of wind generation in the Pacific Northwest, significantly

## COMPANY

- Avangrid Renewables

## EDUCATION

- MBA, Comillas & Strathclyde Universities (graduated with distinction)
- MBA, University of Utah, USA (graduated magna cum laude)
- BS, University of Utah, USA (graduated magna cum laude)

## KEY QUALIFICATIONS

- Offshore Wind Farms
- US Electricity Markets
- Financial Structuring
- Tax Equity Strategy
- Health & Safety
- Environmental Health
- Environmental & Permitting
- Process Improvement
- Operations Strategy
- Business Audits
- Business Relationship Building
- Regulatory Policy & Management
- Project Management
- Strategic Planning & Execution

## AWARDS & SPECIALIZATIONS

- Portland Business Journal's "40 Under 40" Award (2012)
- PacifiCorp Spirit of Excellence Award (2005)
- Witness Training Program, Communications Counsel of America (2005) – ranked #1 witness in Business Leadership Program, PacifiCorp (2002)

## AFFILIATIONS

- Vineyard Wind Executive Committee, Member
- Chair of the Board of Directors for The Climate Trust (since 2009)



reducing the integration burden on the Bonneville Power Administration and propelling the company to a reputation as a solution-oriented, sophisticated wind owner and operator.

### **Manager, Market Structure – Iberdrola Renewables (2007-2012)**

Laura developed, implemented and managed a company-wide electric reliability compliance program to bring Iberdrola Renewables into compliance with all applicable NERC reliability standards. Laura performed the following:

- Analyzed the impact to Iberdrola Renewables from changes in the western US electricity markets driven by new policies, structures and rules and managed necessary changes within the business to ensure the company's ability to successfully operate within the evolving market structures.
- Managed the company's successful transition from the California ISO's zonal pricing model to its current MRTU nodal market. This project included the identification and implementation of all required systems changes, process changes, and personnel training to ensure the company was prepared to effectively participate in the new California market.
- Independently represented Iberdrola Renewables with NERC auditors in four separate electric reliability audits, saving the company hundreds of thousands of dollars both in reduced penalties and avoided external counsel fees.

### **Regulatory & Project Manager – PacifiCorp (2000-2007)**

Reporting to Vice President of Regulation, Laura effectively managed all aspects of the company's regulatory business in its Oregon jurisdiction including accounting for over 30% of the company's total revenue and customer base. She successfully prioritized and managed over 30 open regulatory dockets at a given time and managed during a time of unprecedented level of regulatory activity in any of PacifiCorp's state jurisdictions. Laura prepared, managed, and executed large general rate increase proceedings and processed requests in excess of \$100 million, effectively drafting and/or coordinating the testimony and activity of 15+ expert witnesses.



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**Attachment 12.3-5**

**ALEJANDRO DE HOZ  
GARCÍA-BELLIDO**

## ALEJANDRO DE HOZ GARCÍA-BELLIDO

### VP, Avangrid Renewables

Alejandro de Hoz Garcia-Bellido (Alex), Vice President (VP) of US Offshore Wind, is in charge of developing the US offshore wind business for the Iberdrola Group through its US-based company, Avangrid Renewables. Alejandro has 13 years of direct experience in the renewable energy sector, preceded by 14 years in the telecommunications sector. Before taking the VP role within Avangrid Renewables, he was Offshore Business Performance director within the Iberdrola Offshore business for 5 years and in charge of preparing Iberdrola's offshore pipeline for competitive auction processes in the UK and Germany, as well as coordinating the teams to take awarded projects through the financial close. He was behind the award and financial close of the 714 MW East Anglia 1 project, the first UK project to have been awarded a "Contract for Difference" through a competitive process. Prior to this, he held different positions within the Iberdrola Group in developing the onshore wind business internationally, including the construction and operation of 30 onshore wind farms over a 10-year period.

## EXPERIENCE

### Vice President – US Offshore Wind, US (2016-2017)

Alex is in charge of developing the US offshore wind business for the Iberdrola Group through its US-based company, Avangrid Renewables.

### Offshore Business Performance Director – Iberdrola Renovables, Madrid (2016-Present), London, UK (2013-2016)

Alex defines the strategy of the Company in the Offshore Wind business, including the pipeline selection, its development, construction and operation, and partnering strategy. He manages projects under development (4 projects to be commissioned in the period 2014-2023 with a capital expenditure of over 8b€, spread over UK, France, and Germany, with a capacity of ~2GW), Alex manages industrial partners and stakeholders in the different markets to ensure the progress of our developments and coordinates the projects to technically and financially optimize the business model of pipeline projects and the preparation and socialization of the investment dossiers to be presented to the board of Iberdrola Group to receive final Investment decisions. Alex successfully performed the following activities on offshore wind projects:

- **Preparation of the Wikinger Offshore project business model** for presentation to the Iberdrola Operating Committee in April 2014, resulting in a Final Investment Decision for 1.400mm€
- **Lead ScottishPower participation in the first UK offshore wind auction**, being awarded in February 2015 with a Contract for Difference (ca. 350mm€/year) for 15 years for the East Anglia One project, 714 MW capacity
- **Renegotiation of the Joint Venture agreements with Vattenfall Wind Power** for the split of the East Anglia Zone offshore wind assets, resulting on a 100% ownership on a pipeline of 2,800 MW in addition to the 714 MW of East Anglia One

## COMPANY

- Avangrid Renewables

## EDUCATION

- MBA, ICAI-ICADE University of Madrid, Spain
- BS, Physics, University Complutense of Madrid, Spain

## KEY QUALIFICATIONS

- Offshore Wind Farms
- Power Generation
- Sustainable Energy
- Energy Efficiency
- Corporate Finance
- Energy Management
- Financial Structuring
- Partnering Strategy
- Bid Strategy
- Asset Management
- Business Modelling
- Process Improvement
- Project Management
- Field Operations
- Development and Implementation
- Financing Strategy

## PUBLICATIONS & PATENTS

- Author of 9 papers published in telecom reviews
- 13 patents registered in the European Patent Office (EPO) as well as US Patent and Trademark Office (USPTO)

## AFFILIATIONS

- Vineyard Wind Executive Committee, Member

## LANGUAGES

- Fluent in English, Spanish, German, and French

- **Preparation of the East Anglia One Offshore Project Business Model** for its presentation to the Iberdrola Operating Committee in March 2016, resulting in a Final Investment Decision for 2.600mm€
- **Acquisition of a 500 MW Offshore wind project** in the German Baltic Sea increasing our pipeline in the region to 750 MW, in view of a participation in the German auction in March 2018

### **Business Development Emerging Markets Director – Iberdrola Renovables, Madrid, Spain (2010-2012)**

Alex managed local teams in the Iberdrola Renovables offices in Romania, Hungary, Brazil, and Mexico; developed the business development strategy of the company in those markets and was responsible for the Capex and Opex budget and P&L of the businesses in those markets. His achievements include:

- **Award of 258 MW of onshore wind power** in the August 2010 Leilao auction (Brazil)
- **Wind farm acquisition of a 26 MW wind farm** under operation (Mexico)
- **Wind farm acquisition of an 80 MW wind farm** ready for construction and signature of a Connexion Agreement to the transport network for 600 MW of capacity (Romania)

### **Country Manager – Iberdrola Renovables, France (2005-2010)**

Alex established Iberdrola Renovables in France, setting up a structure with all functions represented locally: legal, finance, procurement, business development, and operations. Alex developed the strategy for the company in the French market and searched, selected, and materialized M&A business opportunities; developed, constructed, and operated existing portfolio; was responsible for the Capex and Opex budget and P&L of the businesses in France; and successfully achieved a 350mm€ investment and 277 MW onshore wind operation, with 34mm€ revenue in the year.

### **Telecom Consultant – Various Clients (2010-2005)**

Served as a Consultant in the telecommunications sector for different projects in relation to UMTS technology (3G system) and delivered training in UMTS technology under NOKIA to European telecom operators.

### **Telecom Consultant – Xfera Móviles (renamed Yoigo), Madrid, Spain (2010-2005)**

Head of a group of 8 engineers in charge of defining engineering rules for the deployment of the UMTS network infrastructure (3G system) nation-wide and was responsible for the interface with the administration and regulatory bodies for all technical aspects of the project.

### **Project Manager – Hewlett Packard Consulting, Madrid, Spain (2000)**

Project Manager for turn key projects for various telecom operators.

### **R&D – Alcatel, R&D Centre, Madrid, Spain and France (1990-2000)**

Alex worked on research projects in radio engineering “CDMA for UMTS” and performed research on new voltage conversion systems for low powers; improved transformer performance at high frequencies.



**VINEYARD WIND**

**Vineyard Wind**

**Attachment 12.3-6**

**Rany Raviv Resume**



## RANY RAVIV

### VP, Avangrid Renewables

Ran (Rany) Raviv oversees wind and other renewables business development and manages renewable mergers and acquisition activities in the U.S. and Canada. He is Vice President (VP) of Commercial and Strategic Relationships at Avangrid Renewables. Prior to joining Avangrid, Rany was VP of Iberdrola Renewable Energies USA overseeing renewable energy projects and wind power solutions in the US since 2007, and is was a 10-year veteran of Ormat, a geothermal energy leader where he led growth activities in the US. He has more than 25 years of combined experience in global energy, mergers and acquisition (M&A), and project finance, and brings a valuable track record of closing complex and diverse deals, including several tax and equity transactions.

## EXPERIENCE

### **VP, Commercial & Strategic relationships – Avangrid Renewables, LLC, Portland, OR (2007-Present)**

Avangrid Renewables is the third-largest provider of clean, renewable wind power in the US with more than 6,000 MW of owned and controlled wind and solar power facilities. The firm produces an economic windfall for numerous rural communities while providing clean, affordable power to US customers. Rany is responsible for strategic development and offshore development, and serves as the liaison for Investor and Shareholder Relations for Avangrid, Inc. (NYSE: AGR). Rany is an active member of Vineyard Wind's Executive Committee.

### **VP, Business Development and M&A – Iberdrola Renewables, LLC, Portland, OR (2008-2016)**

Rany spearhead the company's US renewable growth overseeing the development pipeline of ~ 25,000MW, selecting ~ 1,000MW for annual construction while overseeing M&A opportunities which help replenish the pipeline as projects proceed into construction/operation. During his tenure in the US, Iberdrola's energy business has grown to become one of the largest regions of Iberdrola Renewables globally, in terms of market share topping \$3 billion in annual investments. At Iberdrola USA, Rany was responsible for the company's US growth overseeing the selection, negotiation, and closing of M&A opportunities in the renewable energy space including wind, hydro, biomass, and solar projects. Recent acquisitions include CPV Wind with over 3,500 MW pipeline as well as the integration of Iberdrola Renewable Energies USA, Ltd. and PPM Energy pursuant to the merger between Iberdrola and ScottishPower. Iberdrola Renewables is the US arm of Iberdrola Renovables, the largest renewable company in the world and was number 2 in the USA market by size, growth, and operating fleet.

### **VP, Business Development – Iberdrola Renewable Energies USA, Ltd., Radnor, PA (2007-2008)**

Iberdrola Renewable Energies USA, Ltd. was the US subsidiary of Iberdrola prior to the merger with PPM Energy, Inc. Rany was responsible for the company's US growth overseeing the selection, negotiation, and closing of M&A opportunities in the renewable energy space including wind, hydro, biomass, and solar projects. Recent acquisitions include CPV Wind with over 3,500 MW pipeline as well as the integration of Iberdrola Renewable Energies USA, Ltd. and PPM Energy pursuant to the merger between Iberdrola and ScottishPower.

### **VP, Business Development – Ormat Nevada, Inc., Reno, NV (2001-2006)**

Ormat Nevada, Inc. is the US arm of the Ormat Group. Rany is accountable for M&A and greenfield development of independent power producer (IPP) with responsibilities that include acquisitions of competing IPP's and developmental projects; supervision over the finance/leveraging of acquired or developed projects to permit further growth; enhancing contacts with competitors/potential targets such as Covanta, Calpine, MidAmerican Energy Holding Inc., Caithness, and Constellation; financing either in the

#### COMPANY

- Avangrid Renewables (USA)

#### EDUCATION

- MBA in International Business & Export Management, City University Business School (UK)
- BS, Computer Science & Business Studies, University of Buckingham (UK)

#### KEY QUALIFICATIONS

- Offshore Wind Farms Financing
- Wind Energy
- Power Generation
- Sustainable Energy
- Alternative Energy
- Energy Efficiency
- Tax Equity Strategy
- M&A
- Private Equity
- Structured Finance
- Corporate Finance
- Smart Grid
- Energy Management
- Process Improvement
- Financing Strategy

#### AFFILIATIONS

- Vineyard Wind Executive Committee, Member
- Oregon Angel Fund, Member of the Investment Committee
- Senior Management Program, MIT Sloan School of Management

debt- or equity-markets; strengthening contacts with utilities; initiation and overseeing Greenfield development including negotiation of power purchase agreements; and restructuring, consolidation and mergers within the company including litigation/arbitration and dispute/settlement management. Rany managed and closed more than 12 large size acquisitions (> \$600 million) Rany also initiated, negotiated, and closed numerous (> \$500 million) debt- and capital-markets financing (including 2 rule 144A issuances - managed by Lehman Brothers). Rany's responsibilities span from initiation, due diligence, negotiation, funding, and closing. Since joining Ormat Nevada, US sales increased from virtually none to > \$225 million/annum coupled with market cap increase from \$100 million to \$1.1 billion. He directly supervised a group of employees located at the Reno, Nevada headquarters as well as at the power projects throughout the Western states in the US. Rany was an officer of the company with signing authority, and reported to the CEO of the Ormat group.

#### **Manager, Business Development – Ormat Industries Ltd., Israel (1997-2001)**

At Ormat, Rany was accountable for the business development of power plants and private utilities, with particular tasks of project/corporate finance.

#### **Business Manager – Green Land Ltd., Israel (1994-1997)**

Green Land was incorporated as a partnership between Koor Industries Ltd. (the then largest Israeli conglomerate) and by Browning-Ferris Industries Inc. (BFI was one of the largest waste management companies in the world). Rany joined the company during its incorporation and worked on acquisitions of waste-haulers and landfill projects, market development, and corporate operations (IT & Report-Systems). He designed and developed the single largest industry-database; led the planning/purchasing function of trucks and heavy-equipment; managed the bidding process from submission of bids to successful execution/operation; P&L, budget, and Business Plan responsibility; and was a member of the Board of Directors of Green Land, Secretary of the Board, and signatory on behalf of BFI.

#### **Management Consultant – Global Present Ltd., UK (1993)**

Global Presents was a start-up which offered prestigious British goods through a catalogue in the top London hotels. Uniquely, delivery was available 24-hours a day, or within 2 hours of the order being placed. At Global Present, Rany was responsible for the following:

- The assessment of a market opportunity for a mail-order start-up business and formulated the launch strategy into the Business Plan.
- The company started-up based on the business-plan which was later presented to the Department of Trade & Industry (DTI) which was approved and provided venture capital under a loan guarantee structure.

#### **Israeli Air-Force, IDF, Israel (1986-1989)**

Rany worked at Staff Headquarters as a manager as well as a leader of men. Due to the nature of military discipline which is both rigid and flexible, managerial decisions had to be taken under pressure and at Rany's own discretion. His leadership qualities were noticed by upper ranking officers and Rany was afforded other duties such as "man-management" as well as developing relations and coping with the needs of 12 soldiers.



**VINEYARD WIND**

**Vineyard Wind**

**Attachment 12.3-7**

**Lars Thaaning Pedersen  
Resume**

## LARS THAANING PEDERSEN

### CEO, Vineyard Wind

Lars Thaaning Pedersen is a wind energy industry expert who has overseen numerous large-scale, complex offshore projects throughout the US, Europe, and Canada. He is Chief Executive Officer (CEO) of Vineyard Wind, and a co-founder of Copenhagen Offshore Partners (COP) in 2015, a leading offshore wind development and construction management company working exclusively with CIP. COP is currently involved in the development of more than 6,000 MW of offshore wind projects in the US, Canada, Taiwan, and Australia, and COP in May 2017 completed the ahead-of-time, below-budget construction of the 402 MW Veja Mate project in the German North Sea.

Prior to joining Vineyard Wind in 2016, Lars held executive positions at Dong Energy, and has been involved in more than 15 offshore wind projects in Europe, including setting up and managing 6 offshore wind joint ventures. Lars has significant experience in development, construction, and operations of offshore wind farms, and has been instrumental in bringing new wind turbine technology to the market such as the Siemens 3.6 MW-120 in 2009 and the 6 MW Siemens Direct-Drive turbine in 2012. He also headed the development of the in-house O&M and Asset Management business units while at Dong Energy.

## EXPERIENCE

### CEO – Vineyard Wind, New Bedford, MA (2017-Present)

Lars is responsible for the Vineyard Wind team's development of the US' first large-scale offshore wind energy project. On the Vineyard Wind project, he is leading the teams in Copenhagen and the US and is responsible for all aspects of project development.

### Co-CEO – Copenhagen Offshore Partners (2015-Present)

Lars is responsible for project development activities within offshore wind projects on behalf of CIP managed funds and is serving as the Project Director for Vineyard Wind (Massachusetts, USA) on behalf of CIP, a joint venture between CIP and Avangrid/Iberdrola. As Co-CEO of COP, Lars is serving as the Project Director on the following projects:

- **Vineyard Wind Offshore Wind Project** - leading the project team in Copenhagen and the US and is responsible for all aspects of project development and bid strategy for offshore winds projects. Lars is overseeing all regulatory affairs and stakeholder management, permitting/consenting at both federal, state and local level, financing strategy, including tax equity strategy, and technical solutions on the Vineyard Wind project.
- **Beothuk Energy JV for Atlantic Canada Offshore Wind** - developing term sheet and deal structure with Beothuk, leading due diligence, managing stakeholders in Atlantic Canada, and setting up the project team.
- **European Offshore Wind** tender on behalf of 4-party consortium (confidential) - developing bid strategy, negotiate key contracts with WTG and BoP-suppliers, developing project finance setup in cooperation with leading European bank (confidential) to raising more than \$880 million (EUR 750 million) in senior debt, and leading 30-man consortium team working out of Copenhagen.

## COMPANY

- Vineyard Wind

## EDUCATION

- MS, Mechanical Engineering, Technical University of Denmark
- BS, Mechanical Engineering, TU Delft, The Netherlands

## KEY QUALIFICATIONS

- Offshore Wind Farms Financing
- Financial Structuring
- Tax Equity Strategy
- Infrastructure Funds Management
- Bid Strategy
- Asset Management
- Process Improvement
- Project Management
- Field Operations
- Development and Implementation
- Regulatory Affairs and Stakeholder Management
- Financing Strategy

## TRAINING & SPECIALIZATIONS

- Talent Program - Leadership Development Courses: Managers, Leadership, and Executive Training (Dong Energy)

## AFFILIATIONS

- Vineyard Wind Executive Committee, Member

## LANGUAGES

- Fluent in English, Danish, and German, and conversational in Swedish and Norwegian

### **Offshore Wind Independent Consultant – CIP, Denmark (2014-2015)**

Serving as the Offshore Wind Independent Consultant at CIP, Lars was working on the acquisition of the project company and negotiating key contracts for 160 mn GBP Biomass-fired Power Plant (Brite) located in Yorkshire, UK on behalf of CIP. As Independent Consultant, he was responsible for post-closing work to setup project organization with UK-based Management team and internal CIP project team.

### **SVP, Market Development & Asset Management – Dong Energy Wind Power, Denmark (2004-2014)**

Lars served as SVP and Member of Executive Committee in Wind Power Business Unit and lead the business unit of 700 employees in the UK, Germany, and Denmark. He was responsible for regulatory affairs, project development, asset management, and global operations for on- and offshore wind in Dong Energy. Managed the operational portfolio of 9 offshore wind farms and 4 onshore wind farms. Responsible for managing 7 offshore JVs. At Dong Energy, Lars performed the following:

- **Global Operations for Onshore and Offshore Wind at Dong Energy** - lead business unit of approximately 700 employees in 3 countries (UK, Germany, and Denmark) and was responsible for regulatory affairs, project development, asset management, and - he generated the DEVEX budget of 1.5 bn DKK annually (200 mn€), OPEX Budget of 1.5 billion DKK annually (200 mn€); operational portfolio of 9 offshore wind farms and 4 onshore wind farms. Responsible for managing 7 offshore JVs; regulatory affairs and stakeholder management and was responsible for stakeholder relations in footprint countries (UK, Germany and the Netherlands). Responsible for Dong Energy Wind Power country organizations in UK and Germany; provided project development and was responsible for securing project pipeline to reach 2020 target of 6.5 GW installed capacity, maturing 6 projects towards financial close: Burbo Bank Extension (UK), Race Bank (UK), Walney Extension (UK); Hornsea Phase 1 (UK), Borkum Riffgrund 2 (Germany) and Horns Rev3 (Denmark); securing 3 Contracts-for-Difference (CfDs) in UK FID-enabling round 2014 (more than 2 GW of offshore capacity); and the acquisition of Race Bank project from Centrica, 580 MW.
- **Global Operations and Asset Management at Dong Energy** – delivering O&M services for Dong Energy and JV portfolio, managing JVs and providing site management, asset integrity management, claims and warranty management for WTG and Balance-of-Plant contracts, M&A negotiations on JV O&M contracts; leading JVs; and serving as Chairman of the Board Gunfleet Sands Offshore Wind Farm (JV with Marubeni), Chairman of Board Barrow Offshore Wind Farm (JV with Centrica), Chairman of Board/ Walney Offshore Wind Farm (JV with SSE, Ampere, PGGM), Chairman of Board, Nysted Offshore Wind farm (JV with PensionDanmark), Director, London Array JV Board (E.ON, Masdar); and Director, SMartwind Project One (Mainstream, Siemens Project Ventures), Director, Eolien Maritime France (EMF) Board, French 1.5GW development portfolio with EDF as JV partner.
- **Vice President, Markets and Asset Management, Member of Executive Committee in Wind Power Business Unit at Dong Energy** - leading business unit of 500 employees in 4 countries (UK, Germany, Poland, and Denmark) with an annual budget of 1bn DKK in 2012 (150 mn€). Responsible for onshore and offshore wind, regulatory affairs, and stakeholder management; O&M Services (HSE, site management, planned and unplanned maintenance, logistics); asset integrity management, claims and warranty management, business case development for operational phase of new investments, negotiating service contracts for 1,800 MW framework agreement, based on Siemens 6 MW platform and managing 5 operational offshore JVs.
- **Various Roles at Dong Energy** - Senior Director of Operations and Asset Management responsible for developing in-house O&M service provider business model for JVs and growing the organization from 80 to 500; Director of Business Development and Project Valuation for the Wind Power Business Unit; Director, International Business Development; Business Development Project Management; and Dong Energy Merger Project Manager.

### **Other Employment**

- Various positions, various companies (1998-2004)



**VINEYARD WIND**

**Vineyard Wind**

**Attachment 12.3-8**

**Iain Henderson Resume**



# IAIN HENDERSON

## CFO, Vineyard Wind

Iain Henderson is Chief Financial Officer (CFO) of Vineyard Wind, who has been working in the energy industry for 18 years, specifically in offshore wind since 2011. Most recently, Iain was the Head of Regulated Transaction for ScottishPower Renewables Limited, responsible for managing the disposal of the transmission assets of the UK offshore wind projects required by government regulations. Iain was also responsible for negotiating and managing joint venture agreements for offshore wind projects. Previously, Iain had been involved in mergers and acquisition (M&A) activities for 10 years in the utilities market, covering renewable, thermal, gas storage, and nuclear projects.

## EXPERIENCE

### CFO - Vineyard Wind, New Bedford, MA (2017-Present)

Iain is managing the day-to-day financial matters and company financial structuring (including tax equity) for the Massachusetts offshore wind project development. He is managing the financial interfaces to the owner organizations and annual budget funding requests; maintaining a strong control of the environment and ensuring all processes and procedures are in line with Vineyard Wind's policies and that documentation is kept up to date and compliant according to the company and parent companies' procedures. Iain is also the project lead for all corporate governance, tax, and insurance matters.

### Head of Regulated Transactions, Renewables - ScottishPower (2011-2017)

Iain managed the future divestment of offshore transmission assets of the East Anglia offshore windfarm and performed analysis of prior projects lessons learned to give the project the best opportunity to meet the challenging future transaction timescale and maximize the cost recovery. Iain lead the grid package cost control process and presented results to senior management; completed the divestment of the West of Duddon Sands offshore transmission assets in August 2015 for £269M; and negotiated and managed Service Level Agreements with joint venture (JV) partners and internal Iberdrola Divisions for the provision of Business Services.

### Strategy & Markets Manager, Renewables - ScottishPower (2010-2011)

Iain developed response to government market and regulation consultations and coordinated with Iberdrola and ScottishPower to ensure the company's position was protected. He successfully led the development and implementation of innovation, market shaping business opportunities with respect to renewable technologies (i.e., wind, marine, and biomass, including 'live' projects), enhancing the commercial position of ScottishPower Renewables (SPR), liaising with external and internal contacts at executive and director level, creating long term value for the business. Worked with NuGeneration Ltd. on development of an investment model for the Iberdrola JV nuclear development project and reviewed the energy market regulation reform impacts on nuclear projects.

## COMPANY

- Vineyard Wind

## EDUCATION

- BA (Hons), Accounting and Business Law, University of Strathclyde, Glasgow, Scotland (UK)

## KEY QUALIFICATIONS

- Offshore Wind Energy
- Offshore Wind Farms
- Renewable Energy
- Energy Market Regulation
- Energy Efficiency
- Energy Policy
- Electricity Markets
- Power Generation
- Alternative Energy
- Environmental Awareness
- M&A
- Project Finance
- Investment Model Development
- Offshore Wind JV Agreements
- Project Management
- Regulatory Affairs

## AFFILIATIONS

- Vineyard Wind Executive Committee, Member
- Chartered Accountant, Institute of Chartered Accountants of Scotland

## LANGUAGES

- Fluent in English and German



**Senior Valuation Manager, Energy Wholesale - ScottishPower (2004-2010)**

Iain managed a team that ensured all thermal and gas storage acquisition, disposal, and capital development projects were valued and accounted for following regulations and industry practices; managed the departmental budgets and actual performance for operating costs and development budgets; assessed business plan inputs for development projects; lead gas project acquisition process and managed due diligence process. Assisted Energy Retail division in valuation of acquisition opportunity and Energy Services development; and provided input and challenges to price forecast and market structure review process.

**Senior Valuation Manager, Energy Wholesale - ScottishPower (1999-2003)**

Iain coordinated the actuals month-end process and insured the integrity of ledger figures for the Generation Business. He performed monthly monitoring of divisional performance to ensure the business executive and Corporate were kept up-to-date of issues that affected profit targets. Coordinated accounting matters with external auditors; provided budget/forecast packs for all sections within the Division and consolidated the returns to produce the Divisional Profit and Loss Account, Balance Sheet, and Cashflow; and ensured that targets were met.

**Group Leader for Creditors & Accounting, Energy Wholesale - IBM (UK) Ltd. (1996-1999)**

Serving as Group Leader for Creditors & Accounting for Disbursements Team, Cash Accountant, and Cost Management Accountant, Iain oversaw site disbursements, the control of input to the creditors suite of accounts, and timely completion of month end; identified and recommended improvements to the disbursements/creditors process; the preparation of cash flow forecasts for the site for presentation to the site director and UK Treasury; and control and monitoring of the profits of two of the major brands for the sites.



**VINEYARD WIND**

**Vineyard Wind**

**Attachment 12.3-9**

**Erich Stephens Resume**

## ERICH STEPHENS

### CDO, Vineyard Wind

Erich Stephens is a wind energy industry expert who has overseen numerous large-scale, complex offshore projects throughout the US, Europe, and Canada. Erich is Chief Development Officer (CDO) of Vineyard Wind and has been working in renewable energy for nearly 20 years. Erich served as Head of Development Operations at Bluewater Wind, which was the first company in the US to win a PPA with a utility through a competitive procurement process. Erich then served as CEO of OffshoreMW, a Blackstone Group offshore wind project development company, and the company that is now Vineyard Wind.

Erich led Blackstone's offshore wind development business in the UK, Netherlands, and Denmark. Erich was a founding partner of SolarWrights, which became the largest solar installer in New England, was the founding Executive Director of People's Power & Light, Rhode Island's non-profit consumer energy organization, and he was a founder and first Director of New England's leading "green" electricity program, GreenStart.

## EXPERIENCE

### CDO – Vineyard Wind, New Bedford, MA (2017-Present)

Erich is responsible for the Vineyard Wind team's development of the US' first large-scale offshore wind energy project. On the Vineyard Wind project, he is leading the teams in Copenhagen and the US and is responsible for all aspects of project development. Erich is fully committed to the success of Vineyard Wind with office in New Bedford, and Boston, MA.

### CEO & Managing Director – OffshoreMW/SeaMW (2009-2017)

OffshoreMW is a Blackstone Group offshore wind development company. Erich led the acquisition of the lease area now held by Vineyard Wind and the community partnership with Vineyard Power. He led the early stage project development for offshore wind projects on the US East Coast, UK, Netherlands, and Denmark for project portfolio companies of a leading US private equity investment firm.

### Head of Development Operations – Bluewater Wind (2006-2009)

Bluewater Wind is the first company in the US to win a power purchase agreement (PPA) with a utility through a competitive procurement process. This was the direct result of Mr. Stephen's direction and management in developing the project plan, forming the team, bid strategy, and expertise in wind energy project development. Erich led project development teams in site selection, developing, and pursuing PPA opportunities, and permitting and leasing process on 4 offshore wind projects on the US East Coast.

### Founding Executive Director – People's Power & Light, Rhode Island (2002-2006)

The People's Power & Light is a non-profit consumer energy organization in the New England area. Erich was Founder and first Executive Director of an energy buyers' co-operative which promoted renewable energy, energy affordability, and energy efficiency. Erich secured start-up funding, developed and successfully implemented the business plan for Rhode Island's first "green"

## COMPANY

- Vineyard Wind

## EDUCATION

- BS, Marine Ecology (Hons), Brown University, Providence, RI
- Program in Energy Finance, Vermont Law School, South Royalton, VT
- Evolutionary Ecology Coursework, UC Davis, Davis, CA

## KEY QUALIFICATIONS

- Offshore Wind Farms
- Offshore Energy Efficiency
- Power Generation
- Utilities
- Development Strategy
- Offshore Wind Farm Project Development
- Leadership
- Marine Ecology
- Process Improvement
- Project Finance
- Project Development and Implementation
- PPA Negotiations

## AFFILIATIONS

- Vineyard Wind Executive Committee, Member

## PUBLICATIONS

- New England Green Electricity Bertness, M.D., S.D. Gaines, E.G. Stephens, P.O. Yund, 1992, Components of recruitment in populations of the acorn barnacle *Semibalanus balanoides* (Linnaeus): Journal of Experimental Marine Biology and Ecology, 156:199-215
- Stephens, E. G., and M. D. Bertness, 1991, Mussel facilitation of barnacle survival in a sheltered bay habitat: Journal of Experimental Marine Biology and Ecology, 145:33-48.

electricity retail product and heating oil buyers' group, and provided technical assistance to businesses, municipalities, and universities pursuing on-site wind energy projects. He initiated and led the organization through a merger with a similar organization in Massachusetts, represented interests of renewable energy development and low-income residents at Public Utilities Commission and the General Assembly (state's legislative body). Responsible for all operations and general management of the organization.

#### **Green Electricity Program Manager – Energy Consumers Alliance of New England, Boston, MA**

Erich managed staff in two states in developing and managing New England's most successful retail "green" electricity program:

- Negotiated off-take agreements with renewable energy (mostly wind) project developers.
- Managed operations, marketing, and sales; ensured regulatory compliance.
- Provided consulting to businesses, investors, and municipal utilities regarding opportunities and requirements relating to renewable energy.

#### **Founding Partner – SolarWrights (2000-2002)**

SolarWrights is the largest solar installer in New England. Erich conceived and co-founded a residential design-build construction firm, with a sister company that designed and installed solar electric and solar hot water systems. He secured start-up capital and was responsible for project management, external relations, and back-office operations.

#### **Project Development Leader – Endless Energy Corp., Providence, RI (1998-2000)**

Erich was the key point-of-contact person for a demonstration project to develop commercial-scale wind turbines located at end-user sites in Rhode Island and performed the following:

- Identified potential project sites, developed financial models, established agreements with site owners, and recommended policy changes to Public Utilities Commission needed to develop economic projects.
- Assisted with wind farm developments in Vermont and Maine, including researching/analyzing data needed for project finance models: meeting with local residents and officials to develop support for project, researching land ownership, meeting with local landowners.

#### **Program Associate – Equity Trust, Voluntown, CT (1997-1998)**

Erich represented the revolving community economic development loan funds to potential investors, directed borrowers through the loan process, provided investor relations services, and was responsible for cash flow management.

#### **Consulting Ecologist – Various US: CA, CT, PA, RI (1990-1997)**

Erich conducted habitat restoration, "green" real estate development planning, conservation easement monitoring, public use of protected-areas planning, preserve management, and prescribed burns on a consulting basis to The Nature Conservancy (CA, CT, PA, and RI), Ducks Unlimited (CA), and private real estate developers (CA).



**VINEYARD WIND**

**Vineyard Wind**

**Attachment 12.4-1**

**AR Onshore Operating  
Projects List**

## Appendix 12.4-1 Avangrid Renewables Onshore Projects

Avangrid Off-Take Summary				
Project Name	Location	Control Structure	Capacity	Customers
Klamath Cogeneration	Klamath Falls, Oregon	Own	535 MW Cogen., 100 MW Peakers	Various
San Luis Solar	Colorado	Own	30 MW	Xcel/PSCo
Copper Crossing Solar	Arizona	Own	20 MW	Salt River Project
Simpson Biomass	Western Washington	PPA	43 MW	SMUD
Baffin	Texas	Own	202 MW	Merchant
Barton 1	Iowa	Own	80 MW	NIPSCO, WPPI Energy
Barton 2	Iowa	Own	80 MW	Merchant
Barton Chapel	Texas	Own	120 MW	Pending
Big Horn	Washington	Own	200 MW	Modesto, Santa Clara, Redding
Big Horn II	Washington	Own	50 MW	Modesto, Santa Clara, Redding
Blue Creek	Ohio	Own	304 MW	AMP, First Energy, The Ohio State University
Buffalo Ridge	South Dakota	Own	50.4 MW	NIPSCO
Buffalo Ridge II	South Dakota	Own	210 MW	Merchant
Casselman	Southwest Pennsylvania	Own	35 MW	First Energy
Cayuga Ridge	Illinois	Own	300 MW	TVA
Colorado Green	Southeast Colorado	50/50 JV with Shell	81 MW	Xcel/PSCo
Dillon	Souther California	Own	45 MW	Southern California Edison
Dry Lake I and II	Arizona	Own	128 MW	Salt River Project
El Cabo	New Mexico	Own	298 MW	Southern California Edison
Elk River	Southeast Kansas	Own	150 MW	Empire District Electric Company
Elm Creek	Southwest Minnesota	Own	100 MW	Great River Energy
Elm Creek II	Southwest Minnesota	Own	148.8 MW	We Energies
Farmers City	Missouri	Own	146 MW	Merchant
Flying Cloud	Northwest Iowa	Own	25 MW	Interstate Power & Light (Alliant)
Groton	New Hampshire	Own	48 MW	Massachusetts Utilities
Hay Canyon	Central Oregon	Own	101 MW	Snohomish PUD
High Winds	Northern California	PPA with NextEra	162 MW	SMUD, Merced, Modesto, Palo Alto, Alameda, SCPPA
Hoosac	Massachusetts	Own	28.5 MW	Massachusetts Utilities
Klondike II	Central Oregon	Own	75 MW	Portland General Electric
Klondike III	Central Oregon	Own	224 MW	EWEB, PG&E, PSE, BPA
Klondike IIIa	Central Oregon	Own	76 MW	PG&E
Klondike I	Central Oregon	Own	24 MW	BPA
Lempster	New Hampshire	Own	24 MW	Southern New Hampshire University
Locust Ridge	Pennsylvania	Own	26 MW	PPL Energy Plus
Locust Ridge II	Pennsylvania	Own	102 MW	PPL Energy Plus, Thomas Jefferson University, Thomas Jefferson University Hospital, Mainline Health System, Albert Einstein Health System, Frankford Hospitals, McGee Rehabilitation, Christiana Care
Manzana	California	Own	189 MW	SDG&E, Silicon Valley Power, Los Angeles Department of Water & Power
Maple Ridge I	Northern New York	50/50 JV with EDP	116 MW	NYSERDA
Maple Ridge II	Northern New York	50/50 JV with EDP	45 MW	New York Power Authority
MinnDakota	Southwest Minnesota	Own	150 MW	Northern States Power (Xcel)
Moraine	Southwest Minnesota	Own	49 MW	Northern States Power (Xcel)
Moraine II	Southwest Minnesota	Own	50 MW	Northern States Power (Xcel)
Mountain View III	Southern California	Own	25 MW	SDG&E
New Harvest	Iowa	Own	100 MW	Ameren Illinois, Commonwealth Edison
Pebble Springs	Central Oregon	Own	99 MW	SCPPA
Peñascal I	Texas	Own	202 MW	City of San Antonio, South Texas Electric Co-op
Peñascal II	Texas	Own	202 MW	
Providence Heights	Illinois	Own	72 MW	Commonwealth Edison
Rugby	North Dakota	Own	149 MW	Missouri River Energy Services, CMMPA, UMPMA
Shiloh	Northern California	Own	150 MW	PG&E, Palo Alto, MID
Southwest Wyoming	Southwest Wyoming	PPA with NextEra	144 MW	LADWP, Anaheim, Glendale, Burbank, UAMPS
Star Point	Central Oregon	Own	99 MW	Modesto Irrigation District
Top of Iowa II	Northern Iowa	Own	80 MW	Madison Gas & Electric, Wisconsin Public Power
Trimont	Southwest Minnesota	Own	100 MW	Great River Energy
Tule	Southern California	Own	132 MW	Southern California Edison
Twin Buttes	Southeast Colorado	Own	75 MW	Public Service Company of Colorado (Xcel)
Winnebago	Iowa	Own	20 MW	Dairyland Power
<b>Total</b>			<b>5885</b>	