

Comments: MA 83E Storage procurements, Round 1

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RE: 83E Round 1 Comments

Thank you for this opportunity to comment on the forthcoming Request for Proposals (“RFP”) for a first-round solicitation for mid-duration energy storage projects under Massachusetts Section 83E (“83E Round 1”).

Before my more specific point by point comments: I urge DOER, the LDCs, and in particular the Attorney General’s Office, who acts as the state ratepayer advocate, to seriously reconsider a) the rapid timeline of these procurements, b) the inclusion of existing resources, c) the exclusion of demand-side resources, and d) the incentivization of energy storage resources to operate in designated hours of “peak demand” outside the price signals of ISO-NE markets as in the Clean Peak Standard. All four of these suggest the possibility of the unneeded expenditure of hundreds of millions of dollars of Massachusetts ratepayer resources, with the last additionally usually subsidizing increased net greenhouse gas emissions.

1. Procurement Schedule:

Questions:

- a. The factors the RFP Drafting Parties should consider when designing the schedule for the 83E Round 1 solicitation, including deadlines for bid submission and selection of projects for negotiation. Please include as much specificity in key schedule milestones and timing as well as justification for preferred dates.
- b. How the 83E schedule could be designed to best align with other energy storage procurements being conducted or planned in neighboring New England states.

Comments:

- To provide cost-effectiveness for ratepayers, procurements should be timed so that the deployment of storage matches the roll-out of offshore wind, as recommended in the *Charging Forward* recommendation report; and, as appropriate for more behind-the-meter (BTM) / distribution-scale projects, the roll-out of BTM and distributed solar. Additionally, they should work with rather than against ISO markets. Given the Trump Administration’s halt of offshore wind permitting and the withdrawal of a major wind project just before the new administration began, I recommend a delay of RFP1 until 2026 so an index credit system rather than the existing Clean Peak Std can be developed for environmental attributes, and RFPs 2-5 to be extended to last until 2035, with discretion for DOER to choose the most cost-effective timing.

2. Environmental Attributes:

Questions:

- a. The environmental attributes in addition to Clean Peak Energy Certificates (“CPECs”) that could be procured from your project.

Comments:

There needs to be a step taken back from this question and some principles set down.

- The goal of storage procurements should be to *build* new storage capacity that would not otherwise be built.
- Because production of energy by storage facilities always uses more energy than it produces, procurements should not incentivize any additional *operation* of storage beyond existing market incentives, unless the markets are inadequate to achieve benefits for which ratepayers from Massachusetts should bear the burden to pay. ISO-NE markets *already* incentivize needed operations for utility-scale storage to be used in cost-optimal ways to meet peak demand, shift renewable energy to higher-demand hours, provide frequency regulation, provide reserves, and in all of this, support grid resilience. In the ISO-NE markets, price differentials incentivize lowest cost resources to operate at the right times and places in all these scenarios. Massachusetts ratepayers should not be paying energy storage facilities to operate instead of a lower-cost resource.
- There is one condition at present in which ISO-NE markets are inadequate to incentivize operations, and another that may be present in the future. At these times operational incentives may need to be provided:
 - 1) ISO-NE markets are inadequate to incentivize behind-the-meter and distributed storage.
Regarding #1: With smart meters at local user levels, BTM and distributed storage could and should be linked to locational market prices (LMPs) relevant for the distribution network.
 - 2) ISO-NE markets may in the future be inadequate to incentivize all possible reductions in marginal GHG emissions.
Regarding #2: There needs to be developed a way to measure this. Note that measuring overall (or average) ISO-NE GHG emissions at the time of charging and discharging is inadequate (this data is easily available from the ISO); the crucial question is the *marginal* GHG emissions caused by charging and avoided by discharging. There are occasional opportunities in the current grid for net-negative GHG storage operations, which can happen when excess solar and wind is used to charge storage resources; or when storage is used instead of oil for winter cold spells. The ISO markets already incentivize charging of storage facilities at those times, offering lower LMPs (sometimes going to negative values) during times of high renewable supply, incentivizing charging followed by discharging during peak hours; and high LMPs for energy during winter peaks incentivizing generation, with occasional but important extra-high ancillary prices (and sometimes bonuses as well) during hours of grid stress of scarcity. However, as the grid adds flexible resources it is possible there will be some times when there are inadequate price arbitrage for storage to operate even when it would result in net GHG reduction. The state could provide incentives during such times for storage to operate not as the lowest marginal cost resource but as the lowest marginal GHG resource.
- To be eligible for ratepayer-funded incentives for storage operations, facilities should be required to prove that they provide a non-marketized or inadequately marketized benefit for Massachusetts ratepayers or Massachusetts GHG emission reduction targets. Inability to earn sufficient revenue should not be a reason to incentivize inefficient operations.
- “Environmental attributes” should not be recognized for projects that have extremely high environmental impact outside the energy sector, such as open-loop pumped storage hydropower during recreation and fish migration seasons.

3. Clean Peak Qualification:

Questions:

- a. Any barriers to energy storage facilities qualifying for the Clean Peak Standard (“CPS”) or other attribute-generating program.
- b. Whether you have been awarded a Clean Peak Program Statement of Qualification (“SoQ”) for the project you intend to bid into this solicitation.
 - i. If not, whether you anticipate having a SoQ prior to bidding your project.

Comments:

RFP1 should have the same eligibility requirements as the CPS. However, the Clean Peak Standard’s hours-based system should not be used for grid-scale resources, as it incentivizes operations based on hour of day and season, a far less precise system than the ISO-NE market prices. Instead, RFP1 should provide facilities eligible for the Clean Peak Standard an index credit system like New York’s so it works with rather than against ISO markets. Future and greater-than-ten-year procurement contracts for BTM and distributed storage should also be tied to market prices with smart meters.

4. Eligible Bids:

Questions:

- a. Project’s technology type (e.g., lithium ion, flow batteries, thermal, etc.), and how it meets the defined Section 83E criteria.¹
- b. Appropriate minimum and/or maximum bid size, both in terms of MW and Attributes.
- c. Minimum delivery requirements (e.g., a certain number of CPECs delivered that is a function of Qualified Energy Storage Systems (“QESS”) capacity); the frequency with which that requirement must be met (e.g., over entire contract, yearly, quarterly); and inclusion of an operational schedule in the bid to support delivery feasibility.
- d. Appropriate project maturity requirements.

Comments:

- a. Pumped storage hydropower (at least open-loop PSH) should be excluded given its very high environmental impact.
- b. Small-megawatt and aggregated procurements should be allowed for storage in distributed and BTM systems. I suggest New York’s new storage procurements in which a large fraction of the procurements are for distribution scale systems.
- c. Delivery should only be required when it either (a) responds to clear ISO-NE market signals appropriately, or (b) fills an identified non marketized service need, *and* the operation of storage results in either net marginal GHG reductions or net marginal cost reductions to Massachusetts ratepayers.

5. Facilitating the Financing of Projects:

Questions:

¹ This first solicitation intends to procure “mid-duration storage”, defined in the statute as storage “that is capable of dispatching energy at its full rated capacity for a period equal to or greater than 4 hours and up to 10 hours.”

- a. How the requirement from Section 83E—that this solicitation provide a “cost-effective mechanism for facilitating the financing of beneficial, reliable energy storage systems”—could be applied under this RFP.
 - i. Standards the RFP should set to confirm that projects are using this solicitation to facilitate financing.
 - ii. How those standards could be applied to existing projects to allow their participation in this RFP.
- b. The application of tax credits, for example the Investment Tax Credit and associated guidance, towards the financing of new projects, including whether your project would still be fully financeable if these credits are not available.
- c. The approximate percentage of your capital costs met by:
 - i. CPECs revenue
 - ii. Energy/Energy Arbitrage
 - iii. Ancillary Services (Regulation, etc.)
 - iv. Forward Capacity Market
- d. The risks associated with each revenue over the life of the project.
- e. Please comment on the following examples of lifetime values pictured below from the Massachusetts *Charging Forward* report and how they may correspond to your project

Figure 2-12. FTM Tx Connected Benefits and Cost Stack – Developer Perspective

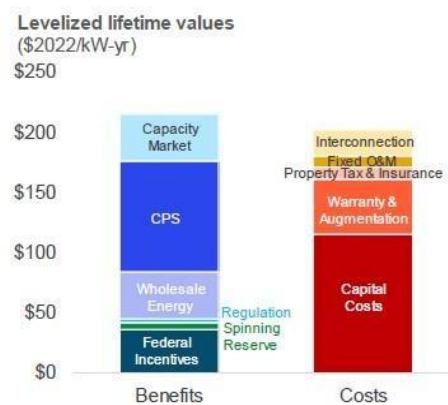
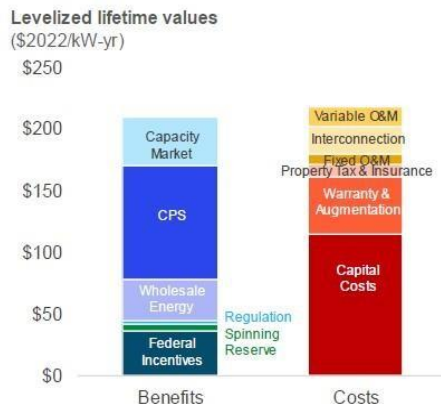


Figure 2-16. FTM Distribution Connected Benefits and Cost Stack – Developer Perspective



- f. How a project’s participation in the ISO-NE market affects its bid. Please specifically comment on how any ISO-NE operational obligations will impact the creation of CPECs.
- g. How a project and potential awarded contract will contribute to short- and long-term affordability for ratepayers in the Commonwealth.

Comments:

- a, g. Cost-effective, ratepayer costs: Since these procurements come out of climate bill in the effort to support the Commonwealth's decarbonization goals, *the goal of cost analyses should be to support state GHG emissions reduction at least cost to ratepayers.*
- This should be supported by an integrated resource plan (IRP)-type study that analyzes least cost provision. Analyses should include comparison with measures on the demand side including demand response, conservation, and actual demand reduction; and behind-the-meter / distributed as well as utility scale resources.
 - I recommend that a cost discount be applied to demand side resources because of their zero environmental and EJ impact.¹
 - Any ratepayer-funded incentives for storage operations (charging and discharging) must (a) reduce net marginal GHG emissions or (b) provide non-marketized or inadequately marketized benefits such as local scale resilience. (See comments above.)
 - To ensure cost effectiveness of storage procurements, storage deployment should be timed to follow offshore wind and storage deployment. (See comments above.)
 - *Ratepayer funds should not be used to pay for existing storage*—this is an unnecessary subsidy that, based on the [cost estimate of New York's storage procurements](#), could cost ratepayers up to \$700 million to pay for two large existing storage plants (both pumped storage hydro) to do what they are already doing.
 - *Increasing the water stored in an existing upper reservoir should not count as new storage.* There is no major capital need that needs to be covered—and there is significant potential for additional environmental harm.²

6. Commercial Operation Date:

Question:

- a. Any appropriate commercial operation date for Section 83E Round 1.

Comment: Storage should be deployed to match the deployment of offshore wind and solar, as recommended in the *Charging Forward* recommendations report. Premature deployment means more incentives for as-yet-unneeded infrastructure—worse if the financing provides incentives for unnecessary operation or what ISO markets already incentivize—and less ability to capture cost reductions from maturing storage technologies. *The current timeline of 5000 MW by 2030 promises an enormous mis-investment of ratepayer dollars.*

7. Resource Types:

Questions:

- a. Whether this procurement should allow for both transmission and distribution connected resources.
- b. The appropriate resource mix in Section 83E Round 1 procurement between distribution connected QESS and transmission connected QESS.
- i. If both distribution- and transmission-connected QESS are to be procured in Section 83E Round 1, please comment on:
 - 1. The need, if any, for a carveout for either distribution- or transmission-connected QESS; and

¹ As with one of the first IRP programs in the country, the [Northwest Power Plan](#) (released every 5 years starting in the 1980s),

² See Vogel et al comments on the draft Massachusetts Water Quality Certificate, February 2024 (attached to email).

2. The need, if any, for separate bidding criteria between distribution- and transmission connected QESS to be considered by the RFP drafting parties.

Comments:

- a. Generally yes, transmission and distribution *as well as demand response* resources should be included.
(Note: I do not support ratepayer subsidies for any kind of contracted pairing of grid-scale resources; the ISO-NE markets already provide incentives for appropriate and location-specific responses to fluctuating supply and demand.)
- b. Again, I suggest reference to New York's balance between utility and distribution scale.

8. Contract Length and Form:

Questions:

- a. The contract length, for a period of up to 30 years, that should be considered under Section 83E Round 1 and associated reasoning, including how the contract term will facilitate the financing of the project, how the term aligns with useful life, augmentation schedules, etc.
- b. Given the degradation of battery performance over time, how contractual provisions for operational security should be constructed to assure optimal/maximum performance for the duration of the contract.
- c. For distribution-connected QESS, how the EDCs would develop manageable contract agreements, including but not limited to defined aggregations with one negotiated contract.

Comments:

- a. Any contract based on the current CPS system of particular hours of operation should be for the minimal length possible (recommended: 5 years); it is an inefficient system. (See discussion above.) If modified to provide an index credit system, contracts could be for 10-20 years. More than this is unwise. There is too much uncertainty in future markets, technology, climate and political conditions, and in ecological and community impacts and needs, to lock in a contract and ratepayer costs for longer.
- b. Given both the degradation of battery performance *and* rapidly changing storage and demand response markets and technologies, *projects must include decommissioning funds* so communities and the Commonwealth do not end up being burdened by a stranded legacy asset after the economic life of the project.
- c. Distribution level projects must have some kind of community-based oversight.

9. Safety:

Questions:

- a. Which safety standards should be required as a minimum baseline.
- b. The safety systems, insurance requirements, relationships with emergency responders and host communities, emergency response plans, and any other necessary protections to keep adjacent communities safe.

Comments: None.

10. Project Viability and Other Qualitative Factors:

Questions:

- a. Any risks associated with uncertainty related to tariffs on imports that may impact the supply chain for energy storage systems. Similarly, any risks associated with uncertainty related to the domestic supply chain.
 - i. What strategies can be implemented to minimize these risks and increase project viability.
- b. The key elements that should be considered in evaluating project viability, including any minimum requirements for participating in the RFP. Please specifically comment on:
 - i. Site control
 - ii. Interconnection studies
 - iii. Technical and logistical viability
 - iv. Ability to finance the project
 - v. Bidder experience
- c. Any other considerations that should be considered when drafting the RFP that would impact project viability.
- d. How the above factors are considered in CPS Qualification.

Comments: None.

11. Grid Resiliency and Transmission Needs:

Questions:

- a. How Section 83E Round 1 may be designed to best encourage investments and commitments that maximize grid resiliency and fulfill transmission needs in specific geographic locations. Please be as specific as possible in describing resiliency and transmission needs.

Comments: By working with and through the ISO-NE markets, incentives can make use of locational marginal prices. There could be incentives for the construction of storage resources where there are regular transmission bottlenecks, as shown by the congestion pricing component of LMPs. EJ locations could also be given preference.

12. Economic Development, Workforce, and Diversity, Equity & Inclusion (DEI):

Question:

- a. How Section 83E Round 1 could be designed to best encourage investments and commitments that maximize economic benefits to the Commonwealth, particularly for transitioning fossil fuel communities, support workforce harmony, and advance DEI goals.

Comment:

13. Environmental Justice:

Question:

- a. How Section 83E Round 1 could be designed to best encourage project design and investments that avoid negative impacts on, and direct positive benefits of the project to, Environmental Justice (“EJ”) communities.

Comment: It’s crucial that EJ communities’ input and processes of notification and consultation from EEA’s EJ strategy be applied. Importantly for local impacts: rural mostly-white communities may not show up on

EJ community maps, but may have neighborhoods or areas of low-income or minority concentration; these should be considered as EJ locations.¹

14. Energy Storage Industry:

Questions:

- a. Any trends in or around the energy storage industry that may impact the Section 83E Round 1 procurement and how the RFP Drafting Team should account for them.

Comments: None.

15. Future RFPs:

Questions:

- a. Whether and how the RFP drafting team should consider inclusion of energy services in future 83E RFP Rounds, both in terms of how future RFPs would be similar or different from 83E Round 1's RFP, which is only for environmental attributes.
- b. The use of indexing or other adjustment mechanism.

Comments:

- a. See comments above. Many apply to later rounds.
- b. An index storage credit system like those of NY state would be far better than Massachusetts' Clean Peak, as it provides funding for new storage facilities but still has them operating with the market. See also New York's system (and amounts) for distributed storage procurements.

16. Other:

- a. Any additional comments that you believe should be known by or would be helpful to the RFP drafting team.

Comment: See attachments for further background.

Thank you for your consideration for these comments, and all your hard work on behalf of the Commonwealth.

Sincerely,



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¹ See Vogel et al comments on Massachusetts EEA EJ Strategy