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Clearway Energy Comments Regarding DOER *Charging Forward* Storage Report

INTRODUCTION

Clearway is a leading developer, owner, and operator of utility-scale onshore wind, solar, and energy storage assets across 26 states, with significant project development interests in Massachusetts. Our experience bringing over 7 GW of clean energy projects into operation through more than \$11.8 billion in financing means Clearway is well versed in financing underwriting requirements and risk appetites within the tax equity and broader financing community. Clearway's experience in the energy storage sector includes deployment of 45 MW (140 MWh) of distributed storage paired with solar projects in Massachusetts, 75 MW (300 MWh) of utility-scale storage in Hawaii, and four utility-scale storage projects under construction in California totaling 613 MW (2,542 MWh). As a long-term owner-operator of clean energy projects, Clearway approaches project development and state-led procurements with careful consideration of long-term technical and financial performance.

Deploying multiple gigawatts of mid- and long-duration energy storage resources by 2030 would strengthen Massachusetts' grid and represent meaningful progress toward a more flexible and resilient energy system. For that vision to become reality, DOER must utilize the authority granted in Section 80(c) to create a solicitation program in the near term, and to utilize a structure that attracts and selects energy storage projects that will be built. We offer our comments through that lens – ensuring any solicitation results in financeable revenue contracts in the near term so that Massachusetts can be confident in meeting its energy storage and broader climate goals.

COMMENTS

"Further State Intervention is Now Needed"

Clearway agrees with the statement that "further intervention is now needed" from page 9 of the Report. Our broad recommendation is that DOER follow the leadership path the Commonwealth has set in establishing best in the nation deployment programs for solar, wind and energy efficiency. For instance, Massachusetts' SMART program successfully drove significant distributed-interconnected battery storage deployment, attracting developers and their financial partners with the relative simplicity of the program's design (in terms of storage operational requirements and revenue methodology). Clearway is proud to have been a part of that effort; we invested in and deployed 45 MW of storage paired with solar, including the state's largest solar + storage single portfolio, totaling 56 MW PV (24 MW storage).

Utility-scale storage should have the same type of forward policy certainty that renewables benefit from in the form of RPS standards, and the assumption that Massachusetts will do what is necessary to hit such standards, to make investments today (i.e., far in advance of when such projects will be online) in anticipation of expected renewable deployment. Otherwise, storage deployment will lag, there will be significant reliability and resiliency detriment "gaps" stemming from this policy, and Massachusetts will be stuck doing "emergency procurements" like California to shore up the grid when renewables show up sooner and in greater amount than expected, if a planning horizon/target is not utilized.

In response to the report Clearway focuses these comments on three main themes:

1. Storage procurement program(s) should be simple, financeable and based on proven structures.
2. DOER should leverage its expertise and relevant authority to reduce as many barriers to siting, permitting, and deployment as possible.
3. DOER should capitalize on its existing programs and success to act quickly in deploying storage in the Commonwealth.

1. ***Storage procurement program(s) should be simple, financeable and based on proven structures such as full tolling agreements.***

To ensure that a Massachusetts energy storage solicitation succeeds in the selection and deployment of financeable operating energy storage projects, Clearway encourages DOER to consider procurement design elements that create a guaranteed revenue stream for

project owner-operators. Energy storage is in its early years of deployment; long-term financing partners (e.g., tax equity)¹ are still getting accustomed to underwriting the operational life of this asset class. Particularly in the early years of state support for storage deployment, the goal should be certainty of deployment through simple, transparent, tried-and-true contracting mechanisms. Contracts with a guaranteed revenue stream — particularly full toll agreements — are most efficiently financed and therefore accelerate the deployment of this relatively nascent energy storage asset class. Clearway strongly recommends DOER include full tolls as a preferred contract structure under its solicitation and consider the viability of project financing in its evaluation of bids.

For example, California's Resource Adequacy (RA) program enables long-term, bilateral, fixed-price contracts between load-serving entities and storage project owner-operators. Specific contract types are not prescribed; however, transacting on full tolls is highly efficient. Clearway is developing and constructing utility-scale standalone storage projects in California and has executed full tolling agreements and RA-only contracts. Through full tolling agreements, load-serving entities pay a fixed monthly charge for all RA (capacity), energy, and ancillary services benefits of a project, so long as such projects reasonably perform as expected, and benefit from all storage revenues in exchange for a fixed monthly charge to the project owner. The load-serving entity dispatches the battery into the market to best serve the needs of the grid within defined operational limitations set by the project owner. The negotiated tolling rate approximates the project's total value to the grid over the operational life of the system. The simplicity of a long-term, bilateral, fixed-price contract structure – both full tolling arrangements as well as RA-only contracts – has helped California lead the nation in scaling energy storage deployment.

Procurements using tolling arrangements are especially prudent given the rapid evolution in wholesale markets for energy, capacity, and ancillary services. The ISO-NE market and the Federal Energy Regulatory Commission have yet to settle on structures and mechanisms to make risky programs like indexed storage credits viable.

Given the relative nascency of storage deployment nationwide and the ongoing evolution of wholesale market design, programs that ascribe guaranteed revenue to projects for their contribution to system reliability will be most successful in mitigating post-contract award attrition, attracting capital, and achieving permanent financing, and ensuring reliable operations over the life of the projects. In the early years of wind and solar deployment, contracting mechanisms were straightforward, which attracted capital and allowed for large-scale investment in the development and construction of these assets.

¹ Tax credit transferability will bring new players into the tax equity space; however, this transformation will take place over time – on the order of years, not months.

In time, alternative contracting structures that introduce revenue risk (such as partial tolls, indexed storage credit, etc.) may be appropriate to consider as more parties develop a better understanding of this asset class, allowing for more efficient and less risky financing. Putting forward a mechanism, such as an indexed storage credit, that relies on market rates and signals that do not yet exist would be foolhardy. As with solar and wind, we expect to see entities experiment with more complex contract structures over time and look forward to being part of that market evolution.

Additionally, the market opportunity should be transparent and predictable. Specifically, Clearway recommends DOER release numerical targets for new energy storage resources that clearly delineate the deployment goals and timeframe for both mid-duration and long-duration storage resources. DOER should then outline the timing, cadence, and contract structure for solicitations. Clearway disagrees with the assertion that “the need is not immediate” (page 17) for mid-duration storage. As mid-duration storage is more widely available in the market today, it would be prudent to emphasize mid-duration storage deployment in an initial solicitation in the near term, while providing a line-of-sight to greater volumes of long-duration storage deployment toward the end of the decade. Providing the industry with a clear line of sight to commercialization facilitates more thoughtful and advanced BESS (Battery Energy Storage Systems) development. Most well-capitalized, experienced developers will be hesitant to significantly invest in project development until there is such a path to commercialization.

2. DOER should leverage its expertise and relevant authority to reduce as many barriers to siting, permitting, and deployment as possible.

The Commonwealth consistently ranks in the top categories in the country when it comes to the deployment of clean energy technologies, and the implementation of energy saving programs. The DOER has a strong reputation for the management and implementation of these programs. Clearway wholeheartedly supports and agrees with many of the recommendations in the report found under Section V. “Other Issues Impacting Energy Storage.”

The two highlights are Permitting and Interconnection. Clearway understands that DOER does not have direct authority to make substantive changes to the costs and timelines for storage projects to be permitted and interconnected. However, with the strong expertise within the DOER, Clearway encourages the DOER to continue its leadership in the interconnection working groups. Outside of direct incentive and procurement structures, we see permitting and interconnection as the biggest barriers to a successful storage market in the Commonwealth.

We also second the suggestion that DOER continue to work with all stakeholders to continue to refine rate structures that will benefit the deployment of medium and long duration storage.

3. DOER should capitalize on its existing programs and success to act quickly in deploying storage in the Commonwealth.

Clearway applauds DOER for the expedience in generating this report and setting a quick turnaround of April 1, 2024, for a straw proposal. Clearway supports this quick work. Every moment that a storage program is not implemented, is a wasted opportunity to leverage money provided by the federal government through the Inflation Reduction Act ("IRA"). To the point of leveraging the IRA, Clearway believes that it is unnecessary for DOER to provide an added benefit to projects sited "at or near fossil based peaker plant sites or brownfields" (page 15) as the IRA currently provides additional tax benefits for such projects, and this would be double dipping and not the best use of ratepayer funds.

Clearway also supports the report's recommendation to conduct a review of current programs. However, this review can occur in conjunction with a storage program release. It is not necessary for this review to delay the release of a procurement program as DOER has capably shown the ability to make periodical reviews, and adjustments to many of DOER's clean energy program offerings.

Conclusion

Clearway believes that DOER should focus on the rapid deployment of storage assets to meet the Commonwealth's ambitious clean energy goals. The quickest, most cost-effective way to do so is to utilize tried and true mechanisms proven to work in other jurisdictions, like full tolling arrangements. Further, we believe that DOER has statutory authority to deploy a program immediately.

Clearway appreciates the opportunity to offer these comments and looks forward to working with DOER to shape and execute a successful energy storage program. Please contact me with more questions.

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