



January 31, 2023

Tom Ferguson
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Department of Energy Resources
Boston, MA 02114

By Electronic Submission to thomas.ferguson@mass.gov

Mr. Ferguson,

Thank you for the opportunity to provide feedback on the Department of Energy Resources' (DOER) Energy Storage in a Net Zero Commonwealth Report (Report) and recommendations for lowering barriers to energy storage deployment. As an early actor in implementing large-scale initiatives to reduce greenhouse gas emissions, the City appreciates that a fast but equitable transition to a green grid is critical to support the mitigation strategies that build on increased energy efficiency and electrification. Many interventions will need to be brought to bear to achieve this objective; energy storage is an important tool. Energy storage can support a reliable and cost-effective decarbonized system and provide services with both system and customer-level benefits. These services include integrating more renewable energy into the grid, improving resilience, flattening peak demand, and reducing the need for additional generation, distribution and transmission services.

In brief, this letter recommends: (i) accompanying model siting bylaws with guidance regarding safety issues, interconnections, decommissioning and ownership configurations; (ii) focusing project funding on storage systems that equitably advance community resilience, including by tiering cost share requirements to enable participation by municipalities and community based organizations; and (iii) creating safety data sheets for different types and configurations of energy storage systems as part of the educational materials prepared by DOER.

The Development of Model Siting Bylaws Should be Accompanied by Model Rules and Policies regarding System Safety, Interconnections, Decommissioning and Ownership Partnerships

Model siting bylaws that incorporate up-to-date technical knowledge and input from relevant stakeholders could support a standardized permitting approach across the Commonwealth. The working group for such models should include direct municipal representation, from planning, environmental and safety agencies, and engage in outreach to a wide array of cities and towns.

(Regional planning associations may be useful partners in collecting insights from municipalities.) Given the complexities of siting large energy storage systems in dense urban areas, the model rules should include specific provisions tailored to these areas.

Recognizing that many key aspects of siting, such as setbacks and access to hydrants, are informed by safety and other concerns, it would be valuable for DOER to coordinate the development of model rules and/or policies regarding issues such as the following:

- Safety/Fire Codes: Work with the Board of Fire Prevention Regulations and Board of Building Regulations and Standards to determine if revisions to the Massachusetts Fire Prevention Regulations or Building Code respectively are required to accommodate different types and configurations of energy storage systems and, if so, to promulgate such regulations. Municipalities often look to these state codes for guidance; timely action at the state level, even in the form of confirming that no additional changes are needed, may support faster deployment of energy storage systems throughout the Commonwealth.
- Interconnections: Consider strategies for expediting interconnections and distributing costs to ensure that private deployment of medium and large energy storage systems is not delayed or deterred by allocation of costs that penalize early actors or installations in congested areas where storage may be most needed. For example, DOER should explore rate-basing interconnection costs based on factors such as system owner or services provided, e.g., deferred development of new distribution infrastructure. DOER should solicit public input into this analysis and prepare recommendations for the Department of Public Utilities to consider in its proceedings.
- Ownership Models: Explore strategies to distribute the costs of energy storage systems and minimize impacts on ratepayers, including through various ownership and operation models. Funding the decarbonization of our energy system will require a combination of public and private partnerships, including between municipalities, private building owners and utilities. With its stakeholder working group, DOER should identify different ownership structures and assess whether current laws, particularly utility regulations, present potential barriers to beneficial ownership models. Model agreements for public private partnerships could reduce legal barriers to projects.
- Decommissioning: Develop protocols to advance best practices and account for costs associated with the disposal of energy storage systems at the end of their useful life. While recycling and reuse technologies are expected to evolve over time, it would be helpful now to develop frameworks for assigning responsibility for decommissioning to make sure that environmental impacts are minimized and that the appropriate parties pay

for the relevant costs. Extended Producer Responsibility programs may provide a model for developing a robust and equitable system for disposing of any hard to recycle materials used in energy storage systems that cannot or should not be a part of standard curbside waste or recycling programs.

- **Long-Term Funding:** Explore the benefits and possible functions of a state fund, which project owners pay into and the state oversees, to help finance municipal costs arising from decommissioning, environmental remediation or other energy storage system related expenses that private parties fail to cover. The Massachusetts Underground Storage Tank Petroleum Product Cleanup Fund might serve as a model (G.L. c. 21J).

DOER's Project Funding Should Focus on Systems that Advance Resilience and other Community Level Benefits

The majority of project funding proposed by the Report should be directed to resilience programs that can address grid distribution needs and directly benefit those communities most in need of additional and/or more reliable electricity. As proposed by the Report, this should include funding for projects that integrate storage with microgrids, which can provide protection during prolonged grid outages and reduce peak demand and energy costs.¹

Funding storage projects that provide resilience benefits to communities can help advance multiple aspects of equity, including (i) providing access to reliable, affordable electricity and (ii) fairly distributing the benefits and burdens of electric infrastructure. As an example, through the lens of equitable electrification, the City is exploring the development of resilience nodes that strategically promote combinations of smart systems, demand response programs, and distributed solar and storage systems within specific neighborhoods to support critical facilities and keep community lifelines operating during power outages, e.g., emergency services, food and water distribution, and community cooling or heating centers. Such programs can help respond to high prices and grid constraints, both as a short-term solution and to reduce the size of required upgrades to the grid. The siting of resilience nodes is informed by community input, thus integrating the Report's proposal to address the needs and concerns of communities through consent-based siting.

As DOER further develops the parameters of the resilience programs, we encourage incentivizing community-centered projects that mitigate grid capacity issues, ensure access to

¹ The City has been working to support the deployment of microgrids for many years, including a 2016 Community Energy Study to identify potential districts where microgrids were most feasible and the benefits they would provide. "Boston Community Energy Study: Exploring the Potential for Local Energy Generation, District Energy, and Microgrids," (2016) pg. 8 (finding that 42 districts were identified as good candidates for Community Energy Solutions based on building location, energy demand, and socio-demographic criteria).

critical facilities, and reduce electric bill costs. We also encourage DOER to take a holistic approach when reviewing submissions and evaluate both system and customer-level benefits.

To ensure greater accessibility and the equitable distribution of the energy storage resilience funding, we suggest that any cost share requirement be tiered based on factors such as project size, location - *e.g.*, whether serving an environmental justice community, and the type of application - *e.g.*, private entity versus municipality or community based organization. Furthermore, project proponents should be able to use other government funding to satisfy any cost share requirement.

DOER Development of Educational Materials regarding Energy Storage Systems Should Include System Safety Data Sheets and Mechanisms for Periodic Updates to Track Evolving Technologies

Given the ongoing development of different types of energy storage, especially at large scale, educational materials created or approved by non-market participants may be helpful in building community knowledge of and comfort with such systems. We encourage DOER to develop storage system safety data sheets, akin to chemical Safety Data Sheets,² that succinctly provide an overview of important information, such as safety and siting considerations that may differ depending on (i) the type of energy storage system, *e.g.*, lithium, sodium-ion or flow batteries, and (ii) system design decisions, *e.g.*, open versus enclosed.

DOER could also create a repository for case studies on deployed larger-scale energy storage systems in the Commonwealth, including successes and any issue areas. Case studies can help address constituent concerns regarding novel systems and provide best practices.

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Thank you for your consideration of these comments and continued work in advancing our shared climate goals. We look forward to future opportunities to engage in discussions around energy storage. Should you have any questions, please contact Aladdine Joroff, Director of Climate Policy (aladdine.joroff@boston.gov; 617-635-3407).

Sincerely,



Chief Mariama White-Hammond
Environment, Energy and Open Space, City of Boston

² The Hazard Communication Standard (29 CFR 1910.1200(g)) requires the preparation of Safety Data Sheets, formerly known as Material Safety Data Sheets, that include product information including hazards, composition/chemical ingredients, first-aid, fire-fighting and accidental release measures, exposure controls/personal protection, stability and reactivity, and toxicological information.