

## Testimony on LD 528:

### An Act to Advance Energy Storage in Maine

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Committee on Energy, Utilities, and Technology, March 9, 2021

Honorable Committee Chairs Senator Lawrence & Representative Berry and Members of the Energy, Utilities and Technology Committee.

Thank you for the opportunity to submit testimony on *LD 528 – An Act to Advance Energy Storage in Maine*.

Acadia Center is a non-profit, research and advocacy organization incorporated in Maine and committed to advancing the clean energy future by offering real-world solutions to the climate crisis. Acadia Center tackles complex problems, identifies clear recommendations for reforms, and advocates to create significant change that supports a low-carbon economy across the Northeast which can then be a model for application elsewhere. Acadia Center identifies regional, state, and local improvements that will dramatically reduce carbon pollution and improve quality of life throughout the Northeastern United States.

#### Acadia Center supports LD 528

The bill seeks to advance energy storage by establishing a state goal for energy storage system development of 100 megawatts of installed capacity by December 31, 2025; ensuring that Efficiency Maine Trust's authority includes energy storage and uses energy storage to reduce peak electricity demand; directing the Trust to explore alternative methods to demonstrate cost-effectiveness for energy storage projects; and directing the Public Utilities Commission to investigate opportunities to modernize transmission and distribution utility rate designs through time-of-use or other time differentiated rates, with appropriate accompanying pilot programs and updates.

Acadia Center supports energy storage initiatives that aim to reduce peak demand, decrease greenhouse gas emissions, better integrate renewable energy, and optimize performance of the electricity grid. The demand for a cleaner and more dynamic grid necessitates new energy storage projects and better energy storage solutions. Flexible demand that can make use of intermittent renewable energy resources – to literally make products while the sun is shining – will be necessary as our grid transitions to higher concentrations of such resources. Energy storage can enable this transition, as well as reduce costs in the near term. Energy storage can help meet electricity demand during peak times, such as hot summer days when air conditioners are cranked up or at night when homeowners turn on their lights and plug in their electronics. Storage can also arbitrage pricing of energy and allow greater grid flexibility to use cheaper electricity produced during off-peak times. Clearly, there is significant potential for cost-effective deployment of energy storage and projects to further demonstrate the value of various technologies and deployment models.

Energy storage will be increasingly important as electric vehicles (EVs) become more widespread, as they too may increase electricity demand at peak times when people plug in their cars for overnight charge. The bill rightly requires the Commission to investigate opportunities to modernize electricity rate design through time-of-use, or other time-differentiated, rates that send appropriate price signals and incentives to consumers to reduce demand during peak periods and develop and implement a pilot program to test and evaluate time-of-use rates in conjunction with energy storage. Storage combined with onsite renewables will help alleviate the strain on the grid, and EVs can be used as back-up storage to transfer energy back into the grid. Beneficial electrification of end-use services in the buildings sector, coupled with decarbonization of electricity generation, weatherization, and energy storage, is also a key pathway to achieving a low-carbon future in Maine. Enhanced infrastructure is needed to increase the electrical load from heating electrification.

Acadia Center commends and supports the *Commission to Study the Economic, Environmental and Energy Benefits of Energy Storage* for its December 2019 report that serves as the basis for this bill and supports its findings and recommendations to:

1. Establish state targets for energy storage development;
2. Encourage energy storage paired with renewable and distributed generation resources;
3. Advance energy storage as an energy efficiency resource;
4. Analyze electricity rate design issues to create varying rates to optimize use of storage to support the grid;
5. Clarify utility ownership of energy storage;
6. Advocate for energy storage consideration in regional wholesale markets (perhaps in the context of the New England States' *Vision for a Clean Affordable, and Reliable 21<sup>st</sup> Century Regional Electric Grid*) ; and
7. Conduct an in-depth Maine-specific analysis of energy storage costs, benefits and opportunities.

The case for energy storage is evolving quickly in various markets in which innovations will be commercialized, procured, and used. For example, a reliable future electricity generation and T&D system will depend on advances in the innovation sector, such as assimilating energy storage systems as solutions to the intermittency of wind and solar. Existing and emerging technologies like on-site batteries and power control systems, cost trends, and the rise of a robust EV and charging infrastructure market will also shape how Maine developers, utilities, and customers build and operate energy systems with microgrids, smart grids, storage, and other innovations. At the same time, electric utilities must continuously improve reliability of the grid and implement pilot programs with new innovations.

States throughout the Northeast are rapidly enacting or implementing a variety of policies, programs, and incentives to promote energy storage development focused on fighting climate change and promoting cleaner electricity. Massachusetts and New York are particularly active in advancing energy storage initiatives. With increased uncertainty and volatility of the grid, and extreme weather like nor'easters, ice storms, and blizzards, the need for appropriate public policy and procurement targets will continue to spur storage advancement in Maine as well. As costs fall and projects succeed, small pilots are transitioning into widespread adoption activities.

Acadia Center urges the Committee to support LD 528 and looks forward to working on Maine's energy storage policy strategies. Thank you again for the opportunity to provide testimony. Please do not hesitate to contact me if you have any questions.

For more information:

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