Advancing the Clean Energy Future

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LD 1053 – An Act To Allow Microgrids That Are in the Public Interest

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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 1053 – An Act To Allow Microgrids That Are In the Public Interest.*

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 1053.

Acadia Center supports policy initiatives that help advance microgrid deployment in Maine, supported by renewable energy and storage. Microgrids are innovative electric network models that come in many shapes, sizes, and configurations, but are generally thought of as discrete collections of electricity generators and electricity consumers ("load"), that have the ability to operate autonomously. Microgrids can, in some cases, be totally unconnected to the grid, and in other instances possess the ability to operate "islanded" (independently) from the grid. This islanding functionality affords microgrids substantial resilience in withstanding unpredictable outage conditions, such as extreme weather. Microgrids have historically been developed by entities that need uninterrupted electric power the most: hospitals, universities, emergency/first-responder facilities, and the military. Microgrid energy sources can be fossil fuels or biomass, but to completely decarbonize our economy, solar, wind, and tidal are better alternatives. Combined with ample battery storage, microgrids can be scaled and tailored to meet local needs.

Microgrids are not a single application, but instead entail the coordination and synchronization of multiple installations and applications, which could include a variety of distributed energy resources (DERs) such as solar, wind, energy storage, energy efficiency, demand response and management, fuel cells, and others. By enabling the integration of these DERs, microgrids support a clean, flexible, resilient, and more efficient local electric grid. In addition, the use of local sources of energy provides opportunities for local jobs and investment, serves local loads to help reduce energy losses in transmission and distribution, and increases efficiency of the microgrid system.

Microgrids are already showing promise in Maine. The longest running microgrid in Maine is the Boothbay "non-transmission-alternative" microgrid, conceived to save energy and meet peak summer load on Boothbay peninsula. Projects like these will be eminently replicable across Maine as municipalities, state agencies, and private customers get better acquainted with the benefits that a microgrid can offer. Microgrids are already becoming more prevalent around the world with the goals of improving grid resiliency; reducing economic losses and decreasing the number and length of electricity outages during extreme weather events; reducing peak power and transmission costs; and generally lowering electric bills.

LD 1053 encourages and incentivizes local government to establish microgrids in Maine if the Maine Public Utilities Commission (Commission) finds the project to be in the public interest. Of the many economic, energy, and environmental benefits of a clean, modernized microgrid system, one might stand out for electric customers across the Northeast right now: resiliency. Communities need better, more resilient energy systems, and they deserve the freedom to access and control clean, affordable, local energy. Microgrids are a key component of this clean energy future. These self-contained power systems can combine distributed renewable generation resources with demand optimization and energy storage to serve their immediate geographical area. As mentioned earlier, microgrids can operate as part of the main electrical grid or go into "island" mode to operate separately from the grid during power outages.

Microgrids improve resiliency because they provide electrical service to a concentrated area and their generation and storage sources can be distributed across that area—with multiple rooftop solar installations, for example. This compact, yet decentralized, approach makes microgrids more rugged overall, reducing their vulnerability to the service disruptions that long-distance transmission and distribution lines can be exposed to, especially during extreme weather events. Microgrids can help keep the powering flowing when it's needed most.

Microgrids became a focus of many state resiliency plans after Hurricane Sandy in 2012, and those on-line in Texas helped keep stores and hospitals open during Hurricane Harvey. Even in good weather, microgrids add value to a community. Vermont's Stafford Hill solar and storage microgrid not only powers Rutland's emergency shelter, but it also yields $380,000-$700,000 annually in energy storage benefits and land-lease fees.

Maine communities are ripe for microgrids, yet there is no clear authority for municipalities to act. LD 1053 may give communities a clearer path by enabling developers and stakeholders to collaborate on microgrids that enable local clean energy generation; use distributed energy storage; improve control over energy consumption; add resilient capacity and stability to the larger grid; and operate independently at critical times.

Acadia Center urges the Committee to support LD 1053 and looks forward to working on Maine's microgrid 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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