



March 1, 2018

Testimony Concerning Governor’s Bill No. 9: An Act Concerning Connecticut’s Energy Future

Presented by Jeff Bishop

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Position: Support with Amendment to Include Energy Storage target

Chairman Winfield, Reed and Formica, and the Members of the Energy and Technology Committee, thank you for holding this hearing today. I am the managing director of Key Capture Energy, an energy storage development company focused on the Northeastern US. We currently are developing three stand-alone energy storage projects in Connecticut; the earliest of which could be online by the end of the year.

Key Capture Energy supports Governor’s Bill No. 9 in the extension of the Renewable Portfolio Standard to 40% by 2030, and strongly encourages an inclusion of an amendment to establish a complementary energy storage target to encourage the most system-efficient and cost-effective clean energy economy.

Energy storage projects bring many benefits to ratepayers but are not currently being deployed, as current rules and market structures make energy storage owners unable to be fully compensated for benefits – hence the need for an energy storage target by the state. These benefits include reducing the prices paid for electricity, capacity and ancillary services, deferring transmission investments, and reducing GHG emissions (and RGGI compliance payments). A 2016 Massachusetts government-commissioned study found adding 1766 MWs of energy storage would lead to \$2.3 billion in ratepayer benefits and is illustrative of the cost-savings Connecticut could derive from storage.

This aligns with the expansion of the Connecticut Renewable Portfolio Standard. Storage systems are fuel neutral, meaning that they can capture energy from all generation sources to optimize for use during outages, peak hours, or grid management purposes. Yet, they also serve as an essential integrator for renewable sources, such as wind and solar, due to their intermittent natures. As more renewables are integrated and energy storage is allocated to perform peak shaving, the necessity for inefficient, fossil-fueled peaker plants will be relieved, while also reducing peak pricing for electricity consumers. Without the appropriate build out of storage with increased renewable energy, fossil fuel powered plants are the enabler in a manner contrary to the reasons for establishing a stronger RPS.

This is not Connecticut’s first exposure to energy storage. Section 8 of Public Act 13-303, as amended by Public Act 17-144, allows for the Commissioner of the Department Energy and Environmental Protection in one solicitation or multiple solicitations, to procure from “run-of-the-river hydropower, landfill methane gas or biomass, fuel cell, offshore wind or anaerobic digestion, provided such source meets the definition of a Class I renewable energy source pursuant to section 16-1, ... , or energy storage system”. However, energy storage provides a different service—more like standby capacity--than renewable energy, which is valued just for its energy output. As a result, solicitations thus far in the state have been inappropriately structured to procure energy storage effectively.

Several states have introduced energy storage targets as the most effective pathway to encourage deployment in their systems as they aggressively pursue their own respective renewable portfolio



standards. These states include New York, Massachusetts, Oregon, and California. Presently, both Nevada and Arizona are considering the merits of a storage target.

New York, a state that has been leading their market reform through market-based principles, recently announced the largest energy storage target in the country (1500 MW by 2030). While a target may seem contrary to market mechanisms, Gov. Cuomo agreed to it because targets are not setting a number that indicates the market, but rather catalyzing the industry and stakeholders to go and make it happen.

The inclusion of an energy storage target in this bill will give the Department of Energy and Environmental Protection, along with the Public Utility Regulatory Authority, the ability to procure what brings the most savings to Connecticut's ratepayers. Key Capture Energy supports the implementation of an energy storage target as a sensible step in discovering the grid and ratepayer benefits from deployment of energy storage in a 40% renewable energy system. I ask you to support the modification of this bill, and am including a possible amendment.

Thank you

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Offered Amendment for a Connecticut Energy Storage Target

(New section) The Department of Energy and Environmental Protection shall conduct an energy storage analysis and determine how to solicit energy storage projects on behalf of the state by December 31, 2018.

In conducting this analysis, DEEP shall:

(1) consider how implementation of energy storage systems may benefit ratepayers by providing emergency back-up power for essential services, reduce capacity costs, promote resiliency for coastal communities and stabilize the electric distribution system;

(2) consider whether implementation of energy storage systems would promote the use of electric vehicles in the State, and the potential impact on renewable energy production in the State;

(3) consider the benefits and costs to ratepayers, local governments, and load serving entities associated with the development and implementation of additional energy storage technologies, and determine the quantity and type of energy storage systems that can be owned by load serving entities;

(4) determine a scenario of energy storage to be added in the State through 2030 that maximizes ratepayer benefits, including customer-sited energy storage as well as storage connected directly to the electric grid;

(5) determine potential mechanisms for deployment of storage for maximum ratepayer benefits while also allowing for competition between technologies that can provide similar grid benefits; and

(6) calculate the net benefits or net costs to the State's ratepayers of one or several scenarios of additional installation of energy storage.

The written analysis shall: (1) summarize the analysis conducted pursuant to subsection a. of this section; (2) discuss and quantify the potential benefits and costs associated with increasing opportunities for energy storage and distributed energy resources in the State; and (3) recommend ways to increase opportunities for energy storage and distributed energy resources in the State, including any recommendations for financial incentives to aid in the development and implementation of these technologies by public and private entities in the State.

d. DEEP shall initiate a proceeding to establish a process and mechanism for achieving the goal of deploying 400 megawatts of energy storage by December 31, 2022 and a higher number of megawatts of energy storage by December 31, 2030. The department should evaluate the procurement target and mechanisms not less than once every three years. DEEP may establish alternative compliance payments for load serving entities for failure to procure energy storage to meet the targets set forth.