

March 1, 2018

Senator Paul Formica, Senate Co-Chair
Senator Gary Winfield, Senate Co-Chair
Representative Lonnie Reed, House Chair
Representative Tim Ackert, House Ranking Member
Energy and Technology Committee
Legislative Office Building, Room 3900
Hartford, CT 06106

Re: NECEC Testimony on SB 9 for Public Hearing on Thursday, March 1, 2018

Dear Chairs Formica, Winfield and Reed and Ranking Member Ackert:

The Northeast Clean Energy Council (NECEC) appreciates the opportunity to submit written testimony on the legislation being heard during the Energy and Technology Committee's public hearing on Thursday, March 1, 2018. The bill slated for review, SB9, includes a number of proposals with important implications for Connecticut's energy future, and we thank the Committee in advance for thoughtfully considering each component of the legislation. NECEC urges the Committee to continue its steadfast support for renewable and clean energy and energy efficiency, and we look forward to collaborating with you and your fellow members again in 2018 to help Connecticut achieve its clean energy and carbon reduction goals.

NECEC is a clean energy business, policy, and innovation organization whose mission is to create a world-class clean energy hub in the Northeast, delivering global impact with economic, energy, and environmental solutions. NECEC is the only organization in the Northeast that covers all of the clean energy market segments, representing the business perspectives of investors and clean energy companies across every stage of development. NECEC members span the broad spectrum of the clean energy industry, including energy efficiency, wind, solar, energy storage, microgrids, fuel cells, and advanced and "smart" technologies. Many of our members are already doing business in Connecticut, and many more are interested in doing so in the near future.

S.B. No. 9 – An Act Concerning Connecticut's Energy Future

NECEC offers the following recommendations on select provisions included in SB9, organized by section and sub-section of the legislation.

Section 1: Renewable Portfolio Standard (RPS) Extension and Expansion

While NECEC supports the 2%/year RPS extension and increase proposed in SB9, we urge Connecticut to extend and expand the RPS to achieve 50% renewable energy by 2030, increasing at a rate of 2% to 3% per year. Doing so will create jobs, lower wholesale energy prices, increase energy diversity, and help reach Connecticut's goals to lower greenhouse gas emissions. Renewable Portfolio Standards provide a proven, successful way to establish a market for clean energy.

The RPS has been and should remain the foundational policy underpinning Connecticut's

commitment to renewable energy, a proven policy tool for successful, cost-effective renewable energy development at the state level. An increased RPS is necessary to align renewable energy markets and will support the growth of solar, wind, and other eligible technologies and the jobs that they create, as well as driving further greenhouse gas (GHG) emissions reductions, lower and less volatile wholesale electricity prices, and greater energy diversity.

NECEC recently commissioned a Study by Sustainable Energy Advantage and Synapse Energy Economics to analyze the benefits and costs of increasing the RPS in Massachusetts and Connecticut.¹ The Study found that continuing to increase regional RPS demand, through action taken both by Connecticut and Massachusetts (as well as actions already taken by other states), will produce significant benefits for the region by 2030:

<u>Increasing the RPS</u>	<u>What It Means for Connecticut and New England</u>
More jobs	10,000 to 43,000 jobs over 13 years across the region
Greater energy diversity	2,000 to 4,900 megawatts (MW) of new, incremental renewables, and reduced reliance on natural gas
Lower emissions	Decreased electric sector emissions of 71% by 2030 rel. to 1990
Lower wholesale prices	Reduced wholesale electricity prices by up to 8.1 percent, with savings between \$100m and \$2.1b under high gas scenarios

The most frequent counterargument to proposals to increase the RPS is that of “cost.” Some, however supportive they might be of renewables, may suggest that an increased RPS is something that Connecticut residents and businesses cannot afford in an environment of already-high energy prices. For Connecticut and New England, however, renewable energy is the *solution to*, not the *cause of*, high electricity prices. Specifically, increasing the RPS will act as an insurance policy against future natural gas price volatility, reducing our exposure to both commodity price increases and scarcity-driven price spikes.

The region’s electricity price issues are entirely related to our dependency on natural gas, which makes up more than 50% of our electric generation mix.² As long as we continue to add to that dependency, customers will remain susceptible to volatile fuel prices. Increasing the RPS is the most cost-effective way to drive more renewables in the region and provide insurance against over-reliance on natural gas and the associated price volatility. Price volatility is characteristic of fossil fuels, even those that can be low cost at times. Price spikes can occur as the result of increases in the cost of the fuel or temporary periods where demand exceeds supply, as happened with the recent cold snap this winter. And, with the US now beginning to export more natural gas than it imports,³ customers at home will be increasingly exposed to the price pressures of an international market.

A modest investment in the RPS will provide insurance against future fossil fuel price increases by increasing the amount of zero-fuel-cost renewable energy sources that serve as a natural hedge against the volatility of natural gas prices. The results of our analyses show that increasing the RPS could provide up to \$2.1 billion in total savings through 2030 due to lowered

¹ *An Analysis of the Massachusetts Renewable Portfolio Standard*. Available online at <http://www.necec.org/files/necec/PDFS/An%20Analysis%20of%20the%20Massachusetts%20Renewable%20Portfolio%20Standard.pdf>.

² <https://www.iso-ne.com/about/key-stats/resource-mix>.

³ <https://www.eia.gov/todayinenergy/detail.php?id=32392>.

wholesale electricity prices in future scenarios where natural gas prices rise.

In summary, NECEC recommends that the Legislature strengthen the RPS trajectory with annual increases of 2%-3% to achieve 50% renewables by 2030 and secure additional benefits for Connecticut in terms of jobs, emissions reductions, wholesale energy price impacts, and energy diversity.

Establishing an Energy Storage Procurement Target

NECEC strongly encourages inclusion of an amendment to SB9 to establish a complementary energy storage target to encourage the most system-efficient and cost-effective clean energy economy. Energy storage systems bring many benefits to ratepayers, but they are not currently being deployed in Connecticut 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 and distribution investments, and reducing GHG emissions. A 2016 study commissioned by the Massachusetts Department of Energy Resources found that adding 1766 MW of energy storage would lead to \$2.3 billion in ratepayer benefits, illustrative of the cost-savings Connecticut could derive from storage.⁴

Connecticut already has explicit statutory authority related 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 – capacity – than renewable energy, which is valued primarily 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 the achievement of their respective renewable portfolio standard goals. These include neighboring states such as New York and Massachusetts, as well as Oregon, and California. Nevada and Arizona are also considering setting storage targets.

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 energy storage in a manner that brings the most savings to Connecticut’s ratepayers. NECEC looks forward to working with legislators, committee staff, and other stakeholders to develop language that would enact an energy storage target for Connecticut.

Clarifying Commitment to Retain Fuel Cells’ Class I Eligibility

On the subject of the RPS, NECEC and several of our member companies are very concerned about the implications of language in the Comprehensive Energy Strategy (CES) suggesting a change in fuel cell eligibility for Class I of the RPS, which may affect the ability of fuel cell

⁴ *State of Charge*, available online at <http://www.mass.gov/eea/docs/doer/state-of-charge-report.pdf>.

projects to secure contracts under the recently released DEEP RFP.⁵ While this subject is not addressed by SB9, assurance from the legislature that it will take no action to remove fuel cells as an RPS Class I resource will be important for the continued confidence and stability of Connecticut's important fuel cell industry. We recommend that the Committee and the Legislature take action to signal their unwavering support for fuel cells' continued eligibility under Class I of the RPS.

Sections 4 and 5: Distributed Generation (DG) Tariff Program Proposal

Like many other states in the northeast and around the country, Connecticut finds itself at a pivotal juncture in the development of its incentive program(s) for distributed generation (DG) technologies, such as solar photovoltaics. With 388 MW of solar installed, Connecticut's solar industry is ranked 18th in the US. There are currently more than 147 solar companies at work in Connecticut, with 2170 solar jobs. However, there was no growth in solar employment in 2017.⁶ Connecticut now has an opportunity to build on and improve existing policies to deliver the benefits of distributed generation, including solar, to customers more efficiently and cost-effectively. While the state has lagged behind the solar leadership of several neighboring states, policymakers now have the chance to implement programs and policies that will put Connecticut in the lead. However, revisions to policies must be made carefully not to disrupt or undermine the developing distributed generation markets.

Connecticut should work to implement a successor distributed generation incentive program that is tariff-based, complementary to net metering, and sizeable enough to provide a robust pathway for the coming years, around 1,600 MW. DEEP's incentive program proposal in SB9 needs substantial modifications to achieve these goals. First, the legislature should remove Section 4 and ensure that Connecticut's current net metering policy remains in place. Then, the legislature should extend the ZREC/LREC programs for two years at full funding levels and direct DEEP to use this time to design a new successor incentive program. This program should be:

- Compatible with net metering, which allows customers to use the energy they generate for themselves and take advantage of new technologies like energy storage and demand management;
- Developed with broad stakeholder input to enhance the likelihood that it will operate consistent with its goals;
- Sized to provide adequate room for growth, not be capped at the status quo level of \$35m per year; and
- Free from overly restrictive rules on project size and the number/type of customers that can participate.

First, any program successor for ZREC and LREC must be designed in a way that is complementary to and/or compatible with net metering, the proven successful policy for

⁵ See the 2018 Comprehensive Energy Strategy, p. 29: "After biomass and landfill gas, fuel cell RECs contribute the next highest percentage of the RPS compliance for Class I RECs. Fuel cells powered by natural gas provide important grid reliability and resiliency benefits but do not directly advance the state's decarbonization goals. A carve-out or separate Class tier limiting fuel cells and other GHG-emitting alternative technologies currently in Class I could help address this issue. The IRP planning process can evaluate REC and RPS trends over time and propose eligibility adjustments as needed." Available online at

http://www.ct.gov/deep/lib/deep/energy/ces/2018_comprehensive_energy_strategy.pdf.

⁶ <http://www.thesolarfoundation.org/wp-content/uploads/2018/02/Solar-Jobs-By-State-1.pdf>.

compensating distributed generation. DEEP's proposal in SB9 would end net metering after 2018. The foundational netting and crediting mechanism provided by net metering is necessary to ensure that clean distributed generation consumed directly on-site remains fairly valued in the same manner as reductions in demand from energy efficiency investment or conservation. In this way, net metering enables Connecticut customers/ratepayers to reduce their energy costs via on-site generation, a principle of energy autonomy that Connecticut should continue to uphold. The net metering construct will also play a pivotal role in the development of future demand-side technologies such as energy storage and active demand management, innovative measures that customers can use to control and manage their energy costs in the future. A renewable energy tariff or any other successor program must not prevent customers from having the option to net meter and control their self-generation as they see fit.

There are smart ways to design a successor program without rolling back net metering. Tariff programs in Rhode Island and Massachusetts offer fixed, 10 to 20-year performance based incentives (PBI) for eligible DG *in conjunction with* and *parallel to* net metering, rather than in place of it.

- Under Massachusetts' forthcoming SMART program,⁷ the program is designed to integrate net metering participation within a tariff structure. This model, while differentiated slightly for behind the meter (BTM) projects and standalone generation units, adjusts incentive payments issued to projects based on how much compensation they are earning for the value of energy generated, such as through net metering. Projects can participate in SMART if they are qualified to net meter, with incentive payments adjusted to reflect overall compensation accordingly.
- In Rhode Island, the Renewable Energy Growth (REG) program⁸ provides incentives for customers looking to take advantage of DG that is wholly separate from net metering; in other words, customers can pursue REG projects under a known capacity allotment each year (40 megawatts), or they can pursue projects under net metering. (They cannot qualify for both.)

We strongly recommend that Connecticut design its successor distributed solar/generation program consistent with these program designs to allow customers to take advantage of the continued availability of net metering. An additional benefit of designing a new program that is similar to programs across the region is that it would facilitate cross-participation by solar providers, reducing soft costs of reaching customers and developing projects.

In addition, we recommend that the Legislature direct DEEP to design an incentive program that will provide a smooth, always-open trajectory to hit a known megawatt goal in a certain period of time, on the scale of 1,600MW of new capacity (similar to Massachusetts' structures and SMART program goal of an additional 1600 MW in approximately five years). We recognize and support DEEP's goal to ensure that incentive levels are set at competitive levels, but note that this must be achieved in a way that avoids the harmful outcomes that recurring solicitations can produce in the market, including project attrition and disjointed development.⁹ Rather,

⁷ <https://www.mass.gov/solar-massachusetts-renewable-target-smart>.

⁸ https://www9.nationalgridus.com/narragansett/business/energyeff/4_dist_gen.asp.

⁹ Project attrition has been an issue for the annual solicitation model adopted under the REG program in Rhode Island, along with its predecessor known as the DG Standard Contract program. Under the DG program, 17 of the 40 megawatts intended to be contracted between 2011 and 2015 were cancelled after enrollment. More recently under REG, the program was sized to support 105 MW of projects through 2017, but only 70 MW are enrolled and only 7

Connecticut should aim to create an “always-on” successor incentive program, a model that has achieved success in New York, Massachusetts, and New Jersey. Should Connecticut’s successor program retain the competitive solicitation structure for larger projects, solicitations/auctions for larger projects should occur with sufficient frequency to allow the market to remain open and development to be as smooth and sustained as possible. The program’s size should not be capped at the status quo level of \$35m per year as DEEP has proposed in SB9, an arbitrary level that leaves essentially no room for solar growth, especially since this proposal would fold incremental growth from community shared clean energy into this limited budget.

Finally, to maintain the growth of solar and distributed generation in Connecticut, the Legislature should enact a two-year extension of the ZREC and LREC program, at the full \$12m funding level for years 8 and 9, to allow sufficient time for the successor program to be developed and implemented in a way that does not disrupt the market. A two-year extension will give DEEP the time it needs to design and implement a successor program without disrupting the market. Experience in other states¹⁰ confirms that designing and implementing a new successor incentive program will take considerable time and effort. A two-year ZREC and LREC extension will avoid 1) any risk of a gap in incentives, and 2) the need for the legislature to reconsider and reauthorize the programs in the 2019 session. We urge the Committee and the Legislature to secure this two-year extension to save time and resources down the line and ensure a smooth transition to the successor incentive program.

Establish a Robust, Statewide Community Shared Clean Energy Program

Finally, NECEC urges the Legislature to launch a full-scale, 300 MW community shared clean energy program.¹¹ The proposal to allow shared clean energy facility (SCEF) participation in the tariff proposal in SB9 falls short in a number of key areas, specifically in regard to restricting the number of offtakers that can participate in a shared project. These restrictions will severely hamper the development of a robust community shared marketplace and limit the availability of shared project opportunities for customers who are unable to site clean energy resources on their own home or business.

Every Connecticut energy consumer, including those who rent, live or work in apartment buildings, or have unsuitable roofs, should have the option to choose clean, homegrown power from local community shared clean energy and access the resulting bill savings. Community shared clean energy allows renters, low-income individuals, and underserved communities to “go solar” at lower costs with greater program flexibility. A robust statewide program can provide cost-saving clean energy solutions for low-income residents who bear the greatest financial energy burden. In addition, a robust, statewide program will drive substantial economic development benefits for Connecticut: recent studies have found that a 200 MW community shared clean energy program would bring over \$374,000,000 in local economic benefits, including an additional \$81 million generated in local property tax revenues, substantial

MW built and operational. The program does have a mechanism to reallocate unused or forfeited capacity in the 2019 program year, but the annual solicitation model has undoubtedly created recurring issues with attrition.

¹⁰ In Massachusetts, the passage of legislation that launched the development of the SMART program took place in April of 2016.¹⁰ Current estimates for the start-date of the new program suggest that it will not be fully online until middle of 2018, likely in quarter 3. While Connecticut can take advantage of work that has been done in Massachusetts and Rhode Island, it will still need considerable time to implement a new program.

¹¹ As relates to the recommendations above, this 300MW level could be included in an overall program sized to achieve a total of 1,600MW.

reductions in municipal operating budgets, and more than 2,500 jobs in Connecticut.¹²

Legislation should be advanced to expand solar access through a full-scale, 300 MW community shared clean energy program, including a targeted policy and programmatic focus on serving low-income consumers. We understand that concept legislation aimed at achieving these goals has been proposed, so we encourage members of the Committee to focus shared clean energy efforts on advancing that legislation this session. Aside from the other substantial issues outlined above, SB9 will not provide an adequate mechanism for driving community shared clean energy development in Connecticut. NECEC again urges the Committee and Legislature to secure these benefits through legislation dedicated to implementing a robust, statewide community shared clean energy program.

Sections 6, 7, 8, 9 – Energy Efficiency Funding Proposals

Despite good progress made over the last two decades through Connecticut’s high-quality energy efficiency programs (the Conservation and Load Management “C&LM” programs), Connecticut risks falling behind nearly all other states in New England on efficiency. Most states in the region have committed to, and implemented, more ambitious energy savings targets than Connecticut. Moreover, last session’s two-year legislative diversion of \$127 million in C&LM ratepayer funding for electric efficiency will decrease energy savings substantially in Connecticut. NECEC appreciates DEEP’s intention to ensure sustainable and equitable funding for energy efficiency, but we share concerns with other stakeholders that the mechanisms proposed in Sections 6, 7 and 8 of SB9 will not accomplish this goal and will fall short of rectifying the unacceptable situation for energy efficiency in Connecticut.

Section 6 would establish a minimum requirement for reducing energy consumption of not less than 1.6 million MMBtu annually for the years 2020 through 2025. While such a requirement could help to ensure Connecticut’s commitment to energy efficiency, modifications to this section are needed to make sure it is coordinated with the existing Conservation and Load Management plans (referenced in Section 7) and to make clear that the minimum works in combination with the state’s “all cost-effective” energy efficiency mandate. In addition, the requirement should be set separately for electricity and natural gas (expressed in units specific to each) to ensure that respective goals for both are achieved. The legislature should also direct a process for the requirement to be updated/increased regularly as new technologies are developed that enable greater efficiency and allow Connecticut to attain greater levels of energy efficiency savings.

In Section 7, NECEC supports the increase in funding for the conservation adjustment mechanism from three to six mills.

As with the establishment of a requirement for reductions in energy consumption, the introduction of a procurement process for passive demand response measures must be coordinated with the existing Conservation and Load Management Plans and process. NECEC is concerned that the proposed language in Section 8 is not adequate to ensure that this will be the case and that energy efficiency will be pursued in a sustainable and cost-effective way. Therefore, we oppose this construct as put forth in Section 8 of SB9. To address this concern, which we expect is shared by others, a stakeholder process could be established to assess and potentially develop a workable competitive solicitation model for passive demand response

¹² <https://votesolar.org/usa/connecticut/updates/jobs/>.

measures that would enhance the effectiveness of Connecticut's energy efficiency programs, with a deadline to come back to the legislature with recommendations. However, any new procurement process that is not well integrated in the C&LM programs would serve to make Connecticut's energy efficiency savings more expensive overall by adding new costs for contracting, consulting, and redundant program administration and evaluation that do not currently exist and are not currently paid for by ratepayers. We are open to working with DEEP and other stakeholders on this proposal, but are again opposed to the passage of this new mechanism as currently proposed in SB9.

Finally, NECEC supports the increase in the Clean Energy Fund to support Green Bank activities in Section 9.

Additional Considerations

Proposal to End Solar Sales Tax Exemption

NECEC urges the legislature not to repeal the solar sales tax exemption for third party owned PV systems, a subject that we understand will be raised by certain stakeholders at today's hearing. Repeal of this tax exemption will reduce the attractiveness of solar options available to customers, increase customer costs, and increase uncertainty for customers and developers, all of which will lead to lower levels of solar deployment. Removing the sales tax exemption as a way to restore funds for clean energy programs is a zero sum game that will not advance Connecticut's goals for a *cheaper*, cleaner, more reliable energy future.

Conclusion

NECEC greatly appreciates the Committee's consideration of this testimony as part of its deliberations during the public hearing on March 1, 2018. Please consider NECEC a resource on clean energy as the Committee reviews these and other renewable energy and energy efficiency related bills in the future.

Sincerely,



Peter Rothstein
President



Janet Gail Besser
Executive Vice President

Cc: Members of the Energy and Technology Committee
ettestimony@cga.ct.gov
Dan Bosley, NECEC
Jamie Dickerson, NECEC
Mike Martone, Murtha Cullina