necec
Accelerating the Clean Energy Economy

TESTIMONY OF THE
NEW ENGLAND CLEAN ENERGY COUNCIL (NECEC)

Regarding

Clean Energy Procurement, Transmission and Financing

S1757, *An Act relative to clean energy resources*
S1783, *An Act relative to bonding authority for the Massachusetts Clean Energy Center*
H3532, *An Act creating a green bank to promote clean energy in Massachusetts*
S1774, *An Act fueling job creation through energy efficiency*
H2851, *An Act to promote offshore wind energy*
H2881, *An Act to promote energy diversity*
S1965, *An Act relative to energy sector compliance with the Global Warming Solutions Act*
H3724, *An Act relative to a long-term, sustainable solar industry*

Submitted by

Peter Rothstein
President

September 29, 2015

Chairman Downing, Chairman Golden and Members of the Telecommunications, Utilities and Energy Committee:

My name is Peter Rothstein, and I am the President of the New England Clean Energy Council ("NECEC"). NECEC's mission is to accelerate the region's clean energy economy to global leadership by building an active community of stakeholders and a world-class cluster of companies. Our mission is to create a world-class clean energy hub delivering global impact with economic, energy and environmental solutions. NECEC's business, innovation and policy leadership is making the Northeast U.S. the best place for clean energy companies to start, scale and succeed.

NECEC would like to thank the Committee for its leadership on clean energy and for convening this hearing on a range of bills concerning solar net metering, large scale renewables, hydro and transmission, energy diversity, and financing that have been filed. Massachusetts needs to diversify its electricity resource portfolio, balancing distributed and grid scale clean energy options, to ensure reliable, affordable and environmentally sound energy resources for the future.

NECEC is the only business organization in the Northeast representing clean energy broadly, advocating for policies that advance clean energy across the range of

technologies from solar to energy efficiency, demand response, renewable energy, clean and renewable distributed generation, combined heat and power (CHP), energy storage, biofuels, fuel cells and advanced and "smart" technologies. Our member companies are diverse, ranging from small start-ups to large international corporations and including all sizes of companies providing services to a variety of customers under a variety of business models.

NECEC is also part of the Masachusetts Solar Coalition, which includes SEIA, SEBANE, MassSolar and Vote Solar. We have been working together, along with the companies our organizations represent, to achieve consensus across the solar industry on the policies needed to continue to advance solar in Massachusetts.

NEED FOR IMMEDIATE ACTION

I appreciate the opportunity today to offer NECEC's perspective on **two immediate issues** in this most important discussion:

- **Enacting a bill now that lifts the net metering caps and provides a process to establish a long-term sustainable solar policy framework** to ensure that solar development continues to flourish in Massachusetts and provide economic, energy and environmental benefits to out citizens, businesses and industry; and
- **Enacting a bill now that authorizes the solicitation of long term contracts for grid scale renewable energy technologies that qualify as Class I** under Massachusetts Renewable Portfolio Standard ("RPS"), along with hydroelectric power that can be used to "firm" Class I resources such as onshore wind and thereby improve the cost-effectiveness of the transmission needed to deliver this clean energy to customers.

Lifting the Net Metering Caps and Establishing Long-Term Sustainable Solar Policy

NECEC's message on solar will be brief as the TUE Committee has held hearings on a number of solar bills already. NECEC commends the Senate for the passage of Senator Downing's amendment to **S1973, *An Act providing for the establishment of a comprehensive adaptation management plan in response to climate change***. The amendment lifts the cap on net metering and lays out a process for developing a long-term, sustainable solar policy.

NECEC is also pleased to see that Governor Baker has filed a bill, **H3724, *An Act relative to a long-term, sustainable solar industry***, to increase the net metering caps to reach the Commonwealth's target of 1600 MW of solar and move beyond it. There are, however, two fundamental problems with the bill that must be addressed if it is to serve as the vehicle for establishing a long-term sustainable solar industry in Massachusetts.

Correct the Undervaluation of Net Metering Credits

- H3724 establishes a net metering credit value for projects after 1600 MW of solar are installed equal to the wholesale generation rate or the basic service rate for electricity, without any investigation or process for assessing the value of solar and/or distributed generation. Not only does this greatly undervalue solar by failing to take into account proven value streams such as peak energy cost reduction, capacity value, avoided line losses, reduced environmental compliance costs, and, in the long term, deferral of distribution investment, but it would also reduce compensation for solar at the same time federal tax credits are scheduled to expire. Moreover, it fails to follow the consensus recommendation of the Legislature's Net Metering and Solar Task Force, which directed the Department of Energy Resources to undertake a comprehensive benefit-cost analysis of solar, with stakeholder input, to inform a proceeding at the Department of Public Utilities to establish fair compensation to solar for the value it provides (and ensure that solar customers fairly compensate the utilities for the distribution service they use).
- Predetermining compensation for solar by setting the solar net metering credit level at the wholesale generation or basic service rate will dampen the robust and varied solar generation market that has developed in Massachusetts. Net metering credits at the wholesale rate of $.055/kWh instead of a retail level of $.194/kWh will discourage customer investments in solar because the payback period will be significantly longer and the return significantly less. Certain segments of the market, such as small commercial and industrial facilities, may be particularly affected as building owners and landlords have other competing investment opportunities. Solar has to produce a competitive return when weighed against other, more familiar investments.

Eliminate Net Metering Caps

- H3742 also fails to establish a long-term sustainable solar policy framework because it retains the concept of net metering caps, which would be set by the Department of Public Utilities. When solar customer generators are fairly compensated for the value they provide and distribution companies are similarly compensated for the service they provide, there is no reason to maintain net metering caps.

Clean Energy Resource Procurement to Achieve Renewable Energy and Greenhouse Gas Reduction Goals

NECEC urges the Committee to pass legislation this fall that directs the distribution utilities to solicit additional long-term contracts for RPS Class I eligible resources, potentially in conjunction with hydroelectric resources, such that the combination will facilitate the development of cost-effective transmission to deliver the power to customers. Such timing would enable Massachusetts to coordinate regionally, thereby potentially capturing greater economies of scale. The public policy rationale for long-

term contracts is to reduce the cost of Class I eligible renewable technologies for customers. Recent solicitations have demonstrated that Class I renewable resources can come in at market prices with the certainty provided by long-term contracts. Additional grid scale Class I resources will also increase Massachusetts' and the region's energy diversity, enhance energy security and reduce greenhouse gas emissions. Two bills being heard today address this opportunity: **S1757, *An Act relative to clean energy resources***, and **S1965, *An Act relative to energy sector compliance with the Global Warming Solutions Act***. As the Committee considers these bills, NECEC recommends that it ensure that any large-scale procurement of clean energy be competitive, include a significant portion of Class I eligible resources (e.g., 30%), and deliver power to Massachusetts and New England when it is needed.

TAKING A COMPREHENSIVE VIEW

Offshore Wind

My testimony will also address NECEC's perspectives on several emerging sectors, most importantly offshore wind.

Offshore Wind is the largest, clean energy generation resource available for development within the Commonwealth. Offshore wind can and should become a valuable, cost-effective part of a diversified clean portfolio for the Commonwealth and the region. In spite of the battles of the last dozen years, we need to recognize that today we are in a new phase and in effect a restart of the formation of the offshore wind industry and market.

The US Department of Interior, Bureau of Ocean Energy Management ("BOEM"), competitively awarded leases last winter went to three significant companies for rights to begin planning to develop major offshore wind tracks south of the Islands in federal waters. These sites combined have a potential for up to 5,000 – 6,000 MW of overall wind generation, enough electricity to power more than half the homes in Massachusetts and to have a measureable impact on the South Coast's and the Commonwealth's economy.

The Department of Energy has analyzed these locations and declared them to be among the best sites for wind in North America. Leading global companies with experience developing offshore wind around the world are in agreement, and are looking to be partners and developers in this emerging US clean energy sector.

Offshore wind has potential to move down the cost curve and up the benefit curve in the coming years, driving innovation, leveraging experience and economies of scale, and proving a reliable market structure that lowers financing costs with shared infrastructure and supply chains. We have seen this work in onshore wind over the last 10 years, and with a thoughtful market structure and programmatic support, we can see this unfold in the next 10 years in offshore wind.

So how can we move beyond the offshore arguments of the last decade to solutions for offshore wind in the next decade? It starts with recommendations based on policy principles that have worked in onshore wind.

1. Signal the private sector that Massachusetts (and hopefully our neighboring states as well) is serious and committed to developing the offshore wind industry with multiple, competitive offshore wind solicitations over the next decade, creating a competitive market with declining costs and improving benefits that follow in the path of onshore wind.

2. This 10-year competitive solicitation process should set up a biannual solicitation for a total of five (5) competitive procurements over ten (10) years.

3. Make these solicitations competitive, drawing on the 83A solicitation approach, with clear cost benefit criteria that include benefits for closeness to load, increasing capacity, predictability, emissions and environmental impact, and economic development.

4. Make these solicitations regional, ideally with a large market that can share the investment cost to grow and deliver offshore wind across Massachusetts, Rhode Island, Connecticut and New York.

5. Make this 10-year offshore wind solicitation program additive to the current RPS, and increase the RPS by doubling the growth rate beginning in 2017.

6. Solicitations should start in 2017 with a schedule once every two years. These are approximate numbers and need additional analysis. That said, as regional solicitations, these five solicitations might vary in the 200 to 400 MW range, with higher capacity proposals considered at lower costs. Over the 10-year, five-solicitation period, the combined goal could be for approximately 2,500 MW of offshore wind Power Purchase Agreements (PPA's). Massachusetts might become the customer for up to half of this energy, encouraging regional joint solicitations and procurements.

7. The exact formula should be developed through analysis over the coming months, considering economy of scale units of growth, and with consultation with other states on formulas that could fit a regional, growing market. Department of Energy Resources analysis and stakeholder input will be important to design an offshore wind market with growing scale and economies.

Energy Storage

NECEC believes there are other important policy recommendations related to emerging sectors and models. These include energy storage. Energy storage is a rapidly growing, but still emerging market. Storage has potential to be a very flexible resource to balance supply and demand on the grid, in small, medium and large increments.

Storage combined with intermittent renewables can effectively make this resource dispatchable. It can be a valuable tool for peak reduction and load shifting. It can reduce imports and exposure to fuel price variability.

Energy storage technologies are already beginning rapid progress on cost reductions, and in the last several years have been proven in demonstration projects across the country and the world. It is time to develop the market, expertise, jobs and valuable solutions that are enabled by storage.

The main opportunity that Massachusetts should consider is to create a market signal for the coming five years with a requirement that a specific amount of energy storage be solicited and contracted by utilities. This is the model being proven in California, where legislation in 2013 created a requirement for 1.3 GW of storage by 2020. The utility solicitations to date have been hugely oversubscribed, and are jump-starting the sector, helping to drive down costs and create many jobs in engineering, manufacturing, deployment, finance and services. Considering the overall size of the Massachusetts electricity market, the Legislature might consider a requirement of 250 to 300 MW of storage by 2022.

DOER and the Massachusetts Clean Energy Center (MassCEC) announced The Energy Storage Initiative (ESI) in May. It includes a $10 million commitment from DOER and a two-part study from DOER and MassCEC to analyze opportunities to support Massachusetts storage companies, as well as develop policy options to encourage energy storage deployment. This analysis should be reviewed in future hearings and considered in adjusting the specifics of Massachusetts energy storage legislation.

Other Emerging Technologies and Models

As the Legislature considers a possible, comprehensive bill in this session, there are several resources and mechanisms that should be considered:

Microgrids: There are proposals for a microgrid grant and loan pilot program. NECEC is aware of analysis being conducted at MassCEC to consider operations, performance and congestion across the state's electricity grid, and to help describe the most valuable locations for microgrid projects. A microgrid pilot program initiated in the next year would be very valuable to consider.

Green Bank and related Clean Energy Financing: There are proposals for (1) Commercial PACE financing for commercial building efficiency and distributed energy investments (S1774); (2) for increasing the bonding authority of MassCEC (S1783); and (3) for establishing a state Green Bank (H3532). These proposals could be combined to create a Green Bank division at MassCEC. Note that MassCEC already has examples of green bank programs such as the Mass Solar Loan financing program, and is well suited to expanding in this area.

CONCLUSION

NECEC, and the clean energy businesses we represent, stands ready to work with the legislature, Administration, utilities, consumer and environmental advocates, business and other stakeholders to address the issues raised in this testimony including: (1) the immediate need to lift the net metering caps and establish long-term sustainable solar policy and (2) the need to coordinate solicitations with other New England states for RPS Class I eligible resources, in combination with hydroelectric generation, at a size and scale that would improve the cost-effectiveness of the transmission needed to deliver this energy to customers. We are also eager to engage on the development of comprehensive energy legislation that builds on the strong clean energy foundation championed by the Committee, charting a path to a robust clean energy future.

Respectfully submitted,

Peter Rothstein
President