Edison Electric
INSTITUTE

Power by Association

Comments of the Edison Electric Institute
RPS Class I Emergency Regulation: 225 CMR 14.00

May 27, 2016

The Edison Electric Institute (EEI) respectfully submits these comments to the Massachusetts Department of Energy and Resources (DOER) regarding the RPS Class I Emergency Regulation (225 CMR 14.00). EEI and its members, which include three Massachusetts utilities, Eversource, National Grid, and Unitil, appreciate the opportunity to provide a national perspective on factors that are promoting the rapid growth of solar energy.

EEI is the association that represents all U.S. investor-owned electric companies, international affiliates and industry associates worldwide. Our members provide electricity for 220 million Americans, operate in all 50 states and the District of Columbia, and directly employ more than 500,000 workers. With more than $100 billion in annual capital expenditures, the electric power industry is responsible for millions of additional jobs. Reliable, affordable and sustainable electricity powers the economy and enhances the lives of all Americans. Our members include the local distribution and transmission companies that interconnect solar generators to the larger energy grid and then continue to provide them a range of services.

America's electric utilities are leading the way on solar and are giving their customers a number of solar choices via solar power plants that provide universal solar, community partnerships, residential private solar programs, and green power programs among other options.[1] As leaders in renewable energy, electric utilities provide virtually all of the wind, geothermal and hydropower in the country. Our members also have installed about 60 percent of U.S. solar

[1] EEI recognizes that current Massachusetts law prohibits utility ownership of solar generation in excess of 35 MW; however, as discussed in more detail herein, it is important when considering solar energy policy to recognize that larger-scale universal solar projects are roughly half the cost of other solar options, irrespective of ownership, and offer the most cost-effective way to grow solar.

capacity and expect to install nearly three times as much solar in 2016 as we did in 2015, with the goal of bringing cost-effective solar to all customers. Utilities everywhere are increasing their investment in solar and are expected to invest $9 billion per year in solar through 2020, with an additional $40 billion per year in investments to help manage the integration of solar and other new technologies into the power grid.

As the U.S. moves to a low-carbon future, EEI is working with our member companies, policymakers, and stakeholders across the country to assure that the transition to a clean energy future keeps electricity costs affordable, protects reliability, and enhances resiliency. Because solar power is so important, EEI is focused on getting the policies that support solar right and would urge DOER to carefully consider its proposal of a blanket extension of the Solar Renewable Energy Credit (SREC) II program and specifically take into account both the costs and the results of the current SREC design. EEI encourages DOER to follow other states to modify SREC policies in a way that continues to drive solar costs lower, rewards the lowest cost solar providers and helps keep electric customer costs low.

Solar Power Benefits from Many Different Subsidies in Addition to SRECs.

The private solar installed in Massachusetts had the potential to generate SRECs with an annual cost to the customers of more than $290 million in 2015 alone.[2] Our understanding is that the proposed extension of the SREC II program will add upwards of another $45 million per year on to that total. In weighing the evidence for an emergency extension of the SREC II program, DOER should consider the changing landscape of the solar industry, as well as the plethora of alternative funding sources available.

Solar generation costs have been declining rapidly in recent years. In fact, over the past ten years, the average cost of solar photovoltaics (PV) has declined by more than 73%.[3] While

---

[2] Solar Energy Industries Association, *U.S. Solar Market Insight: 2015 Year in Review*, March 9, 2016.

[3] Solar Energy Industries Association, *Solar Industry Data*, http://www.seia.org/research-resources/solar-industry-data.

private rooftop solar costs have dropped by almost 45% since the inception of the first SREC program in 2010, the costs of larger-scale universal solar generation have dropped even more significantly.[4] By way of example, and as discussed in detail below, utilities throughout the country have signed contracts for solar power for around $50/MWh on average and as low as $40/MWh in some areas.[5] In comparison, Massachusetts utilities, and thus Massachusetts customers, are paying on average $195MWh for solar power[6] because of their reliance on the net metering program to procure solar resources. Additional incentives and payments including SRECs are added to that already generous amount.

In addition to falling solar generation prices, DOER should also consider the plethora of other programs that are available to continue to drive the growth of solar generation. For example, in December, the United States Congress approved an extension of the Investment Tax Credit (ITC) for solar that will continue to provide a 30% credit through 2018, and then slowly taper to 10% by 2022. In addition to the federal tax credit, there are currently thirty (30) solar subsidy programs specific to the Commonwealth of Massachusetts. For example, the Commonwealth supports solar growth through its retail net energy metering programs, the SREC II carve-out at issue in this proceeding (which currently provides a benefit of between $300 and $450 per MWh), a variety of favorable loan and grant programs, a 15% income tax credit for up to $1,000 in net renewable expenditures, and property, sales, and excise tax exemptions as well.

---

[4] In fact, a number of recent studies including "The Future of Solar Energy" from the Massachusetts Institute of Technology's Energy Initiative have consistently concluded that larger-scale universal solar projects, which are roughly half the cost of other solar options, offer the most cost-effective way to grow solar. The study discusses the policy considerations and disconnects between the higher subsidies for less efficient and higher cost smaller solar generation facilities. *See* MIT Energy Initiative, *The Future of Solar Energy*, May 5, 2015, http://mitei.mit.edu/system/files/MIT%20Future%20of%20Solar%20Energy%20Study_compressed.pdf.

[5] Lawrence Berkeley National Lab, *Utility-Scale Solar 2014: An Empirical Analysis of Project Cost, Performance, and Pricing Trends in the United States*, p. ii, https://emp.lbl.gov/sites/all/files/lbnl-1000917.pdf.

[6] U.S. Energy Information Administration, https://www.eia.gov/electricity/monthly/epm_table_grapher.cfm?t=epmt_5_6_a.

Ironically, these large subsidies, combined with the significant cost reductions of solar PV systems, have not reduced the prices consumers pay for installing solar systems. In fact, these subsidies seem to have the opposite effect. In August 2015, Lawrence Berkley National Labs (LBNL), a Department of Energy research laboratory, issued a report that found that installed prices for PV systems are actually the highest in states that offer the highest subsidies, which includes Massachusetts.[7] In fact, median 2014 prices for residential systems in Massachusetts were 20 percent higher than in New Hampshire, a state with fewer subsidies ($4.40/Watt(DC) in Massachusetts compared to $3.60/Watt(DC) in New Hampshire).[8] Similar to Massachusetts, Connecticut's median price is also higher, and with net metering and other state subsidies for residential customers, together with the federal tax subsidy, more than pays for the cost of a residential solar system in that state. Since Massachusetts offers even higher SREC subsidies, the cumulative impact is even greater and should be considered when determining what the right structure is for the SREC program moving forward.[9]

Competitive Procurement of SRECs Promotes Lower Costs for All Customers.

Around the country, competitive solicitation and bilateral contracting are the most common methods used by utilities to procure energy, including clean energy. Competitive procurement strategies have always allowed utilities to "balance their priorities of cost and reliability…[c]ompetitive solicitations, auctions, and bilateral contracting allow utilities to exert control over factors like quantity procured, generation profile, project siting, and reliability."[10] This helps to manage cost and drive efficiencies in the procurement process.

---

[7] Lawrence Berkeley National Lab, *Tracking the Sun VIII The Installed Price of Residential and Non-Residential Photovoltaic Systems in the United States*, August 2015 http://eetd.lbl.gov/publications/tracking-the-sun-viii-the-installed-p.

[8] *Id.* at 29.

[9] Based on EIA average rates, the additional subsidy provided via net energy metering in Massachusetts, as calculated by the difference between retail and wholesale rates, is greater than $135/MWh for residential and $105/MWh for commercial and industrial consumers.

[10] NREL, *Procurement Options for New Renewable Electricity Supply*, Dec 2011, p.vi, http://www.nrel.gov/docs/fy12osti/52983.pdf.

Competitive procurement mechanisms are also a cost-effective tool to buy and promote the deployment of distributed resources, including distributed solar PV. As stated by NREL, "(c)competitive procurement mechanisms or auctions allow for market-based pricing, which can be important in an environment with rapidly changing pricing."[11] As discussed above, rapidly declining prices is precisely one of the main characteristics of the solar market today. Given the continuous cost declines of solar technologies, market mechanisms allow for cost-effective procurement without over-supplying the market. Competitive processes have the advantage of helping to ensure that the best and/or cheapest resources are acquired.

Many utilities are successfully implementing competitive procurement programs. For example, California's Reverse Auction Mechanism (RAM) is designed to streamline the procurement process for distributed generation projects between 3 MW and 20 MW. After being screened for viability, each bid is selected based on price and given a standard contact from the utility. This mechanism ensures that utilities obtain a portion of their Renewable Portfolio Standard (RPS) requirement at the lowest possible cost for consumers. [12] As SEIA points out, reverse auctions are "very attractive to policy makers, as developers are paid a price that is sufficient to bring projects online, but also provide ratepayer protection against 'overpayment.'"[13]

In addition, states with solar carve outs in their RPS, such as Massachusetts, have also created competitive markets where Solar Renewable Energy Credits (SRECs) are traded competitively. New Jersey was the first state to develop SRECs in 2005. Today, Delaware, Maryland, Ohio, Pennsylvania and Washington, D.C also have active SREC markets. Massachusetts, however, is the only state that has a price protection mechanism through the Solar Credit Clearinghouse Auction. All other states have auctions where the SRECs prices are only restricted upwards at

---

[11] NREL, *Distributed Solar Incentive Programs: Recent Experience and Best Practices for Design and Implementation*, Dec 2012, p. iv, http://www.nrel.gov/docs/fy13osti/56308.pdf.

[12] DSIRE, *Renewable Auction Mechanism (RAM)*, May 17, 2016, http://programs.dsireusa.org/system/program/detail/4979.

[13] SEIA, *Reverse Auction Mechanism*, https://www.seia.org/policy/renewable-energy-deployment/reverse-auction-mechanism.

the alternative compliance payment level.[14] These market designs have resulted in lower costs of solar power to customers while still driving solar growth. With the exception of Washington, D.C., which is severely resource-constrained, the current SREC compensation levels in Massachusetts and New Jersey are significantly higher than all other states. In fact, SRECs in these two states are multiples more costly than the remaining states.[15] While recent SREC prices in Massachusetts and New Jersey are roughly equivalent, Massachusetts continues to pay significantly higher prices for solar power because its average electricity rate is more than 25% higher than that of New Jersey.

There are also states, working with their utilities, that are implementing programs where solar projects are subject to competitive bidding. For example, Xcel Energy in Colorado, has implemented a *Solar*Rewards Community Program*, designed to incent community solar projects up to 2 MW. Through this program, the utility solicits bids through a competitive Request for Proposal (RFP) and purchases the project RECs at a price specified in the developer are bid.[16] NV Energy in Nevada implemented a similar program in 2015, the *Subscription Solar Pilot Program*, by which the company issued RFPs for projects up to 10 MW.[17] Other EEI member companies are also deploying similar programs that rely on competitive procurement of solar resources resulting in prices substantially less than Massachusetts.

---

[14] DSIRE, *Programs*, http://programs.dsireusa.org/system/program?type=85&.

[15] U.S. Department of Energy, *Green Power Markets,* http://apps3.eere.energy.gov/greenpower/markets/certificates.shtml?page=5.

[16] DSIRE, *Xcel Energy – Solar* Rewards Community Program,* http://programs.dsireusa.org/system/program/detail/5295.

[17] NV Energy News Release, *Customer Interest for Subscription Solar Pilot Program Strong*, https://nvenergy.mediaroom.com/index.php?s=8838&item=136923.

Conclusion

At the end of the day, all forms of clean power, including solar, should be encouraged to develop in a context that promotes these resources at the lowest costs to all electricity customers. While each state faces its own unique challenges, all should share this goal. Under that guiding principle, EEI strongly encourages DOER not to approve a blanket extension of its SREC II program. Instead, DOER should use this opportunity to modify its policies in a manner that promotes a more competitive process in order to drive solar costs lower, reward the lowest cost solar providers, and help keep electric customer costs low.

Respectfully submitted,

Adam L. Benshoff
Edison Electric Institute
Senior Attorney
701 Pennsylvania Avenue, N.W.
Washington, D.C. 20004-2696
202-508-5019
abenshoff@eei.org