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October 28, 2016

SENT VIA ELECTRONIC MAIL

RE: SRECTrade Comments on the Next Generation Incentive Straw Proposal

Dear Director Judge and Ms. Kelly,

With the support of Massachusetts businesses, SRECTrade respectfully submits its comments on the DOER's Next Generation Solar Incentive Straw Proposal. The program that follows the successful SREC-I and SREC-II programs will be critical to the continued success of Massachusetts' solar industry. After looking back at the Net Metering and Solar Task Force proceedings and a careful review of the Straw Proposal and the Post-1600 MW Solar Incentive Program Report completed by Sustainable Energy Advantage, LLC, we would like to draw the DOER's attention to several key recommendations made to date, as well as provide suggestions for ensuring that the next solar incentive program protects and sustains the valuable solar industry that the Commonwealth has built in the past six years.

Introduction

Today, SRECTrade manages nearly 10,000 solar PV systems in the Commonwealth, representing roughly 150 megawatts (MW) of capacity. Our Massachusetts aggregation represents thousands of homeowners and local businesses that invested in a clean energy future by installing a solar PV system on their home or business. In addition, SRECTrade supports more than 85 local companies installing solar in the Commonwealth—businesses that employ Massachusetts' residents and contribute to the state's booming solar economy—many of which have signed on to this letter.

As a leader, Massachusetts stands with the nation's heavyweights both in terms of installed solar capacity and solar jobs. To date, Massachusetts has installed more than 1,200 MW of solar, installing 340 MW in 2015 alone.¹ And, due in large part to its commitment to residential and non-residential market segments such as community shared solar, municipal and commercial projects (as opposed to utility-scale installations), Massachusetts ranked 2nd in the nation in terms of total solar employment in 2015.² The Solar Foundation's Massachusetts Solar Jobs Census of 2015 found that, as of November 2015, the Massachusetts solar industry supported more than 15,000 jobs across the solar industry chain, with more than 8.6% growth (1,300 new jobs) in the solar workforce expected in 2016.³

When it comes to solar, Massachusetts has excelled where its neighboring states have faltered. This is due in large part to the policy framework developed by the DOER. Both SREC-I and SREC-II have been extremely successful policies. Whereas neighboring states have a command and control approach—putting the solar incentives in the hands of the regulated

¹ See RPS Solar Carve-Out Qualified Renewable Generation Units, available at <http://www.mass.gov/eea/energy-utilities-clean-tech/renewable-energy/solar/rps-solar-carve-out/current-status-of-the-rps-solar-carve-out-program.html> (total capacity figure based on Operational projects only, across SREC-I and SREC-II); Facts on the Massachusetts Solar Industry, SEIA, at <http://www.seia.org/state-solar-policy/massachusetts> (2015 estimate).

² Massachusetts Solar Jobs Census 2015, p. 6, The Solar Foundation, available at <http://www.thesolarfoundation.org/solar-jobs-census/ma-2015/>.

³ Massachusetts Solar Jobs Census 2015, p. 6, The Solar Foundation, available at <http://www.thesolarfoundation.org/solar-jobs-census/ma-2015/>.



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utilities—Massachusetts has a vibrant ecosystem driven by market mechanics that encourage innovation and cost-reductions, welcoming diverse investment and growth. This healthy marketplace is a direct result of the SREC program design. To allow for the continued growth of this marketplace, continuity in the state's solar policies is the most viable option. Given the state's status of leadership in solar, the nation will be watching as Massachusetts carries its robust solar economy into this next chapter.

In its Straw Proposal, the DOER proposes moving away from the successful SREC model, and changing course to a tariff-based program. As SRECTrade has commented throughout this process, there are several serious disadvantages to changing the incentive model after so many successful years. And while we agree with the majority of the DOER's Objectives as stated in the Straw Proposal, we find that many of the disadvantages that will result from this program shift are in direct conflict with the DOER's Objectives. It is vital that the DOER addresses these concerns in its final design of the next solar incentive program so that the Commonwealth can continue to benefit from a robust and growing solar industry. We elaborate on these disadvantages below, and offer suggestions for a more viable path forward for solar.

Disadvantages of Tariff Program Path Conflict with DOER Objectives

- **Disrupting the incentive framework will be costly to market participants.**
 - State agencies and regulators will need to develop and implement the rules for and administration of the new program. As confirmed by the DOER in its Straw Proposal, this process will require new regulation by the DOER as well as a DPU proceeding. This process will be time-consuming and costly for all market participants, and could take more than a year to complete. Meanwhile, the solar industry will be stuck in limbo, resulting in development and job losses across the industry. The market for new commercial projects greater than 25 kW has already come to a standstill.
 - The 450+ Massachusetts' solar companies at work across the value chain⁴ will need to revise sales processes and incentive administration teams. This will delay the sales cycle and pass new costs on to clients going solar. In addition to the reduced incentive value and the reduced net metering rates, these increased costs will undoubtedly result in fewer individuals and businesses choosing to go solar, slowing down Massachusetts' impressive growth rates.
 - Financing entities will need to adapt to the new framework, which will present uncertainty and potentially increase costs. Unwilling or unable to adapt to the changed program, investors and lenders may choose to leave the market and pursue opportunities elsewhere. This will be detrimental to the overall health of the marketplace in that it will decrease access and opportunity across the market. Evaluating the new framework may cause an increase in the cost of capital. This will hurt the deployment of capital and development of new projects. Many financing entities understand the current market framework and are comfortable deploying capital after years of experience.
- **The changed model will create inconsistency in the Renewable Portfolio Standard (RPS), and achieves the exact opposite of the DOER's objective to "provide clear policy mechanisms that control ratepayer costs and exposures".**
 - Moving away from an SREC program not only disrupts the Massachusetts solar market, but it bifurcates the overall renewable energy policy mechanism in the Commonwealth. Moving forward, the state will have RECs, SRECs, and a third incentive policy for the new solar framework. Electricity suppliers will still need

⁴ Facts on the Massachusetts Solar Industry, SEIA, at <http://www.seia.org/state-solar-policy/massachusetts>.



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- to comply with REC and SREC obligations (and the costs associated with those compliance obligations) while adding the new administrative costs associated with the new program. These costs will be passed on to the ratepayers. Continuing with an SREC program allows all market participants to leverage existing infrastructure for supporting the market and continue to focus on reducing transaction and administrative costs.
- Under the new framework, it is likely that Municipal Light Districts will have a different solar incentive program than the regulated utilities. This will cause confusion and complexity, requiring market participants to understand and sell across different incentives, and exacerbates the impending administrative and soft cost increases.
 - **The tariff program is inflexible, and the incentive structure does not adequately provide adaptable economic support for a diverse set of solar installations given constantly changing market conditions.**
 - Through our experience in a variety of solar incentive programs, we have found that programs that are not based on a flexible market mechanism result in slower-growth rates and an overall less successful solar market than we have seen in Massachusetts under the SREC programs.
 - The inherent benefit of an SREC program is that a variety of factors can impact the price to reduce or increase the incentive as needed (i.e., federal policies, electricity prices, solar equipment and installation costs, etc.). This flexibility does not exist with a tariff block model, and would require legislative or regulatory intervention to be manually adjusted to respond to changing market conditions. This delayed response can result in misaligned incentives, where program costs are unnecessarily high or too low to incentivize individuals or businesses to go solar.
 - The expected breakup of the new incentive program by rate blocks across regulated utility territories could lead to a variety of rates and incentive blocks at any given time, further complicating the program and presenting new challenges. Block programs can also result in a boom-bust cycle of development, where projects rush through development to make it into a block either at its closing or opening. We envision a similar scenario to the end of SREC-I and SREC-II, where projects were frantically rushing to meet application deadlines, which exacerbates administrative costs and frustrates all stakeholders. If this were happening on a more frequent schedule under these blocks, this would be extremely detrimental to the solar industry and the many businesses it supports. Furthermore, this puts additional administrative burden on regulatory bodies.

Recommendations of the Net Metering & Solar Task Force and Key Assumptions of the Post-1600 MW Solar Incentive Program Report

In April 2015, after almost a year of stakeholder input, thoughtful review and analysis, the Net Metering and Solar Task Force ("Task Force") published its Final Report to the Legislature. In its Report, the Task Force offered eight attributes (the "General Principles") that should characterize the Commonwealth's future incentive framework. In several responsive comments, we explained why and how the SREC model aligned with the General Principles. Of the eight attributes, five are worth reiterating here, as they align closely with the DOER's objectives and illustrate precisely why an SREC model is the most viable option for Massachusetts solar:

1. **Promoting the orderly transition to a stable, equitable and self-sustaining solar market** – By continuing with the SREC model, the Commonwealth can guarantee a



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smooth transition from SREC-II to SREC-III, as the model is already established, understood and relied upon by the solar industry's developers, installers, investors and other market participants.

2. **Relying on market-based mechanisms and/or price signals as much as possible to set incentive levels** – The SREC-I and SREC-II programs provide excellent examples of how to set the Alternative Compliance Payment (ACP) and Solar Credit Clearinghouse Auction (SCCA) prices for SREC-III, and the model allows for price flexibility and adaptability for the life of the program through its market-based foundation.
3. **Differentiate incentive levels to support diverse installation types that provide unique benefits** – SREC-II has proven that the SREC model can drive a diverse array of installation types, and lessons can be learned from the SREC-II capacity factor design to further incentivize diverse installation types in SREC-III.
4. **Minimize direct and indirect (i.e., administrative and transaction-related) program costs and barriers** – Without the need for a full-time program administrator, as would be required under the tariff-based declining block model, the SREC model has established costs that can be accurately estimated based on SREC-I and SREC-II. Costs include and are associated with the DOER, SCCA and the costs paid by system owners for the use of service providers for SREC transaction and management. Aggregators also serve to alleviate the administrative burden inherent in the alternative policy programs by providing administrative support and services.
5. **Tracking underlying system costs and revenue streams (i.e., module costs, balance of system costs, installation costs, soft costs, and revenues available from other sources)** – The SREC program has proven to be measurable both in costs and benefits, principally with the preset ACP and SCCA prices, which enables the tracking of revenue streams. As a market-based model, the prices will self-adjust to changing economics, including system costs.

In the Report's introduction, the Task Force qualified its inconclusive recommendations by stating that "[t]he selection of a path for modeling is not an indication that a majority, or indeed any, of the Task Force members would like to see that path implemented." The Task Force did not conclusively recommend nor urge Massachusetts to move forward with one model over another. Nevertheless, the DOER should honor the General Principles as it moves forward in its development of the next solar incentive program, and this is best achieved with an improved SREC-III program.

Following the release of the Task Force's Report, many months of legislative discussion around the future of Massachusetts' solar industry, and the Emergency Regulations for SREC-II, the DOER commissioned a new consultant report "to complete an analysis of revenue requirements for solar projects, as well as a comparative evaluation of various types of incentive programs." This report was completed by Sustainable Energy Advantage, LLC and was released to the public after the Straw Proposal was announced and less than three weeks before comments are due. This gave stakeholders limited time to digest and respond to the information presented in the Report. Unfortunately, the Post-1600 MW Solar Incentive Program Report makes several critically imprecise assumptions of the SREC model and underestimates the costs associated with transitioning to a new program model, both of which are worth analyzing here.

The Report's assumptions of the SREC model include an overestimation of the average brokerage fees for projects of all sizes and, more notably, the assumption that "the market would clear 50% of the time near the ACP and 50% of the time near the soft floor...", when, in reality, industry experts predict that the market would clear near the ACP only 10-20% of the



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time (one or two times within the ten-year period).⁵ This assumption creates an extreme overestimation of the costs of the SREC model, severely obscuring all resulting findings that compare the costs of the SREC model to other models presented in the Report. In practice, there are many mechanisms that can be used to ensure that SREC prices stay within the 10-20% range, and these mechanisms are more cost-effective to leverage than manual adjustments made to tariff values and blocks. Mechanisms include adjusting SREC factors—as was done with the SREC-II factors—or lowering the ACP or SCCA price entirely—as was done between SREC-I and SREC-II. **An assumption that postulates that costs are 30-40% higher than the market proves them to be is a gross misrepresentation of data that serves only to dishonor a program that has incentivized the development of 1,253.901 megawatts (MW) of qualified capacity across 56,077 qualified PV solar projects (as of 10/20/2016).**⁶

In contrast, the Report grossly *underestimated* the costs associated with transitioning to an entirely new program model, and fails to recognize the key benefits of having such a robustly successful incentive program by finding that a cost-benefit analysis was beyond the scope of the Report. The external, administrative, and soft costs that will come with transitioning to an entirely new program will be unavoidable and undoubtedly passed on to ratepayers, and this fact cannot and should not be understated or ignored. These new costs can be avoided by continuing with the SREC model, and ensure that all Massachusetts residents continue to receive the maximum *net* benefit of its RPS program. In 2012, the National Renewable Energy Laboratory (NREL) and the Lawrence Berkeley National Laboratory issued “A Survey of State-Level Cost and Benefit Estimates of Renewable Portfolio Standards”, and found that the compliance costs for the state of Massachusetts in 2012 equaled \$111 million compared to benefits of \$328 million, representing a **net benefit of \$217 million under the current Renewable Portfolio Standard incentive program.**⁷ Among the many benefits realized by the Commonwealth are avoided generation capacity costs, avoided emissions, avoided transmission and distribution costs,⁸ and other grid modernization and environmental benefits, plus the added benefits of new jobs, investor confidence in the market, and energy independence for the Commonwealth—many of which have been recognized by the Baker-Polito Administration as being some of the great benefits associated with the implementation of solar into the Commonwealth’s energy portfolio.⁹ To continue seeing these great net benefits, the Commonwealth needs a program that can continue to deliver the results that the SREC model has proven for six years that it can deliver—and that program is SREC-III.

Suggestions for Improving Massachusetts’ Successful SREC Model

As we look ahead, it is vital that the policy framework ensure continuity for this thriving industry while being receptive and sensitive to the ratepayer impact, and recognizing the great benefit associated with this program. The optimal outcome for the industry and for the ratepayer is an SREC-III program that addresses cost concerns with a recalculation of ACP and SCCA levels to reflect lower costs and a reevaluation of the SREC market sectors and factors designed for SREC-II.

⁵ Based on historical pricing data, http://www.srectrade.com/srec_markets/massachusetts.

⁶ See RPS Solar Carve-Out Qualified Renewable Generation Units, available at <http://www.mass.gov/eea/energy-utilities-clean-tech/renewable-energy/solar/rps-solar-carve-out/current-status-of-the-rps-solar-carve-out-program.html> (figures based on Operational projects only, across SREC-I and SREC-II).

⁷ See <http://www.nrel.gov/docs/fy14osti/61042.pdf>.

⁸ See DOER Consultants’ Report, Task 3b: Analysis of Economic Costs and Benefits of Solar Program, available at <http://www.mass.gov/eea/docs/doer/rps-aps/solar-consultants-report-final-task-3b-093013.pdf>.

⁹ Baker-Polito Administration Announces Solar Milestone for Massachusetts, available at <http://www.mass.gov/eea/pr-2015/solar-milestone-for-massachusetts.html> (05/07/2015).



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Other potential areas for improvement to the SREC model include the following:

- Improving SREC market liquidity and long-term contract opportunities;
- Minimizing costs to ratepayers through stable pricing, while providing the appropriate level of economic benefit to solar project owners (related to ACP and SCCA levels);
- Increasing market transparency with clearly published supply and demand information, as well as pricing data;
- Removing a fixed megawatt solar installation target to avoid isolated programs and eliminate the increased costs associated with each fixed capacity program; and
- Encouraging competition among electricity suppliers, not only to facilitate cost-reduction pressure, but also to make the market as open and accessible as possible.

Conclusion

We urge the DOER to reconsider SREC-III, as it promises a more stable transition between programs and continued success for solar in Massachusetts. Simply reducing the ACP, SREC factors, and SCCA prices is a better path forward for the Commonwealth. This path will preserve the industry's progress, reduce costs, and provide continued benefit to those who wish to invest in renewable energy assets.

On behalf of our installer partners and our Massachusetts clients, we thank the DOER for its continued hard work, and we look forward to participating in the forthcoming proceedings for the design and implementation of the next solar incentive program.

Best Regards,

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