



Solar Energy Business Association of New England

Commissioner Sylvia
MA Department of Energy Resources (DOER)
100 Cambridge Street, Suite 1020
Boston, MA 02114

August 26, 2013

Re: Comments – RPS Solar Carve-Out II, Updated Proposed Design Presented 08/12/13

Dear Commissioner Sylvia:

SEBANE is grateful for DOER's efforts to create a robust solar market in the Commonwealth, appreciates the opportunity to comment on the RPS Solar Carve-Out II (SREC2), and congratulates the DOER staff team for their speed and innovation in policy making as we work to transition to the SREC2 program.

SEBANE is the original business association of solar energy companies based or doing business in New England and was founded by some of the world's leading solar energy professionals who have also led the creation of solar markets in our region. **SEBANE's** member companies are industry leaders and comprise all sectors of the solar electric and solar thermal industries, including photovoltaic ("PV") cell and module manufacturers, component manufacturers, project developers, system designers and installers, and financial investors. **SEBANE** works to promote the use of solar energy and the development of the solar industry in New England.

As stated in prior comments, **SEBANE** again applauds the Patrick Administration and the DOER, not only for the creation of solar policies, including the Solar Carve Out program that made the Commonwealth the 6th largest solar market in America in 2012, but also for the effort to create a smooth transition between the end of the current 400 MW program and the implementation of the post-400 MW incentive program. Not all in the Commonwealth's solar market today are aware of what happened when Commonwealth solar incentive funds evaporated in 2009 and the industry was without state incentives for multiple months. As then, a recurrence of such a gap in program continuity will be devastating to SEBANE members and non-members alike in the current market. We understand that DOER's authority to create a post 400 MW market is constrained and support DOER's desire to maintain program continuity. Importantly, we encourage DOER to take every step available to it within the confines of its existing authority to strengthen the program in ways that:

- Accelerate the deployment of significant amounts of solar power on the grid in the Commonwealth as cost effectively as possible,
- Promote opportunities for ownership of renewable energy by the citizens of the Commonwealth, and;
- Protect renewable energy investments made by the Commonwealth's ratepayers and taxpayers, assuring the delivery of clean power onto the grid for decades.

As contained in earlier comments, SEBANE supports policies that are as simple and transparent as possible. (See SEBANE's comments of April 8, 2013 and the footnotes below^{1 2 3}).

Global View: Given the amount of disinformation and misinformation about the cost of solar power and the effect of solar power on the grid, it is imperative for all stakeholders to recognize two simple facts:

1. Solar Power is now cost competitive and saves ratepayers money in markets around the world. In fact, PV power is driving down peak power costs in both Germany and the US, saving all ratepayers money whether they have solar rooftops or not, &;

¹ <http://www.treehugger.com/renewable-energy/over-half-germany-renewable-energy-owned-citizens-not-utility-companies.html>

² <http://cleantechnica.com/2012/03/23/german-solar-bringing-down-price-of-afternoon-electricity-big-time-more-charts-facts/>

³ <http://www.reuters.com/article/2012/05/26/us-climate-germany-solar-idUSBRE84P0FI20120526>

2. The grid can handle significant amounts of renewable power without endangering grid stability. In fact, studies by Dr.'s Hoff & Perez have shown that more PV in many parts of the US could strengthen the grid and help to prevent blackouts.

Solar is becoming increasingly recognized as the most dominant force in the electric power market place, as articulated recently by FERC Chair John Wellinghoff.⁴ This sentiment is being born out in Germany, the largest economy in the EU, where over 35 GW of PV is reliably delivering clean power to an 80 GW-peak-load grid at the time of peak in a country with the solar resource equivalent of southern Alaska. Data is now readily available from the German Power Exchange showing that on certain days, PV is meeting between 50 and 100% of daytime demand, forcing generators to seek protection from revenues that are falling at precipitous, unanticipated rates. Further, advanced storage technologies also promise lower costs. As Chairman Wellinghoff said,

“Once it is more cost-effective to build [solar with storage](#) than to build a combustion turbine or wind for power at night, that is *game over*. At that point, it will be all about consumer-driven markets.”

This situation will require the distribution companies to come to the table to determine how the grid can be strengthened in this century-long transition to clean power, lest they be seen as hurdles to progress. SEBANE believes that at its core, by virtue of the state-franchise structure for power delivery, the grid is essentially a public asset that has value to all ratepayers and to all solar systems. SEBANE believes that the solar power and the grid system are complimentary systems. Due to the natural correlation of peak sunlight and peak load in most northeast markets, PV systems can provide needed power to the grid at the time of peak demand. Alternatively, through balanced net metering arrangements, the grid serves as a 100% efficient battery bank to solar system owners and operators, allowing them to pull back power placed on the grid when it is not needed, and use it during nights and cloudy periods.

In this context, it is important to point out that while SEBANE supports further cost reductions, turnkey PV costs are already and increasingly being documented as being *lower than* the costs of new nuclear and coal plants. Further, as documented in our comments of March 22, the value of PV power delivered to the grid in neighboring states is greater than the cost of solar power to ratepayers, even at today's prices⁵. As indicated in our March 25th comments, SEBANE believes that while awareness of the near- to medium-term ratepayer benefits of solar policy is little-known, ratepayers of the Commonwealth will be enjoying the benefits of existing solar policy now and in the future, thanks to the Patrick Administration's foresight.

Finally, as humanity lives with the constant presence of the dramatic effects of climate change, it becomes harder and harder to ignore the effect it is having on our weather patterns, our electric grid, and, most of all, elements of civil society such as transportation and communication infrastructure as well as food and water distribution systems. As such, the smooth continuation of the SREC2 program is needed as a vital weapon in the effort to control rising atmospheric carbon dioxide levels, rising global temperatures, rising sea levels, and melting global ice caps that accompany spiking CO2.

In Response to the DOER's August 12th Request for Comments

The SEBANE Board held two member conference calls to discuss the issues on which DOER requested comment for the SREC2 Program: Incentive Levels, Managed Growth, SREC Factor Modification, Forward Pricing & the Technical Session by Consultants. In addition, individual members submitted draft comments in advance of and after each call. In an attempt to summarize the results and message of these calls and member input, SEBANE's board and members have prepared Table 1 below. Table 1 does not purport to be an in-depth discussion of these items or others that individual SEBANE members will be separately filing with the DOER on Monday 8/26/13. The following narrative provides some greater context to the information contained in Table 1.

Where there is Unanimity Among SEBANE Members

With respect to the Technical Session, SEBANE members unanimously support a consultant-led technical session to allow the consultants to present their analysis to the stakeholders. SEBANE members on the call also unanimously

⁴ <http://www.greentechmedia.com/articles/read/ferc-chair-wellinghoff-sees-a-solar-future-and-a-utility-of-the-future>

⁵ <http://ascr.albany.edu/people/faculty/perez/2012b/MSEIA.pdf>

support limiting the FM option to citizen owned solar systems (See below for more on FM). Further, because of the importance of the FM proposal in achieving its goals of simplifying the SREC monetization process for citizen-owned (not Third Party-Owned (TPO)) systems, SEBANE members also unanimously request that a significant portion of this meeting be dedicated to the FM concept – specifically, how to explain it to customers and how it will result in monetized SREC's that can be used to facilitate citizen ownership.

SEBANE members also unanimously agree that community solar projects of any size and application should, at a minimum, be removed from the managed growth component and treated like brownfields and landfills or even considered to be citizen-owned systems and treated with the same SREC factor as rooftop systems.

As indicated in our comments of 04/08/13, SEBANE would support a separate stakeholders meeting that focuses on this issue if DOER and its consultants did not feel it could be covered within the time limits of the technical session.

Finally, SEBANE members unanimously request that, given the complexity of the new program, DOER provide a transition plan with a portal that allows for the delivery of an updated timeline to industry and consumers as various milestones in the policy development process are achieved. Within this transition plan, SEBANE members unanimously request that the CEC residential rebate program be continued for one more year to assure continuity in the residential market place as the SREC 2 program is rolled out.

DOER's Requested Comments

Are the incentive levels acceptable? SEBANE agrees with the overall intent of the DOER's proposal to channel PV development to the built environment (i.e. rooftops and dual purpose land applications) and away from open spaces. In addition, SEBANE members believe:

- Policy initiatives to encourage residential ownership should be addressed with a higher SREC Factor and not with forward minting. FM still does not address the uncertainty of price and ability to monetize the SREC's, which is the key element to being able to use them to buy down the system costs. See others notes below.
- While the structure of the Green Communities Act limits DOER's discretion in creating new solar incentives, there should be a clear transition plan provided that outlines how the Commonwealth will move to the new program.

Managed Growth Sector: SEBANE Members express general concern about the effectiveness of the reverse auction structure proposed for Managed Growth solicitations. This concern is based, in part, on the experience in Connecticut's ZREC program where projects have been awarded but do not appear to be in construction.

- To address this, DOER needs to assure the validity of the bids and the bidders. This could be achieved by requiring substantial cash deposits at the time of bid submission. The deposit would be reimbursed to unsuccessful bidders and used as collateral for successful bids to assure timely completion.
- If the program does move forward, there should be quarterly solicitations.
- Non-price considerations are an important tool for achieving public policy objectives and should be part of the program design. However, the non-price factors should be articulated in advance of the solicitation process so bidders understand what is expected and so that decisions are transparent to all stakeholders.
- As stated earlier, there should be a reconsideration of community solar of any size to be treated like brownfields and landfills and the > 500 kW community solar projects should be removed from the Managed Growth sector,
- SEBANE Members support DOER's offer to provide a model solicitation for comment.
- Many SEBANE members are recommending the creation of a Feed-in Tariff program. While FIT's are responsible for 90% of the world's deployed PV, SEBANE understands that legislation or, at a minimum, strong executive action would be required for a FIT program to be realized in the Commonwealth. Such action is unlikely, especially without a multi-year effort by multiple parties, including the distribution companies, and that would also include a unified position from the solar industry.

SREC Factor Modification: While DOER has effectively managed the Solar Carve out program to date, the adjustment of SREC factors will be a major area of uncertainty. At a minimum, SREC factors should not be modified without significant advance notice, as much as 15 months.

Forward Minting (FM): In its April 8 2013 comments, SEBANE supported a technical session to explore the concept of FM as a means for advancing citizen ownership of renewable power systems. The need for an ownership based policy objective and a technical session to explore whether FM will work is clear. In the past 5 years, the global PV market has changed dramatically, both in technology costs (which have plummeted due to the global glut of silicon) and incentive policies (at both the federal and state level). Still, when combined with the global economic downturn during this period, the typical residential consumer did not have the discretionary income to buy a solar system. Conventional financing vehicles, like those used to purchase consumer items of similar cost, such as an automobile, did not exist for solar. When combined with rapid federal solar policy changes since 2005, this void in consumer finance has been swiftly filled by the 3rd Party Ownership companies which have grown from non-existent to as much as 80% of the marketplace in less than 10 years. SEBANE is not opposed to TPO and celebrates the rapid deployment reality that the residential TPO industry has brought to bear. Nevertheless, it is important to recognize that residential TPO represents the purchase of solar on a credit card, already represents a disproportionate share of the marketplace and, if we are serious about maximizing solar deployment, it should not be the only option available to consumers.

- Arguments for and against Extending FM to TPO: While SEBANE does not oppose TPO, the purpose of FM was to enable citizen ownership of PV in the context of a market place that makes ownership difficult. The benefits of targeting a special incentive to citizen owned systems are that the ratepayer and tax payer incentive money would remain within the Commonwealth rather than being exported to the Wall St. economy⁶. While TPO has created a commanding presence in the marketplace, the disadvantages of TPO solar leases to consumers and the local economy are clear. Finally, by limiting availability of any ownership based incentive strategy to citizen owners, DOER will minimize the impact that FM or any similar option would have on the SREC2 market fundamentals by reducing if not eliminating the potential for FM'ed SREC's to swamp the market, especially in the early years.
- How would FM'ing to TPO Benefit MA Homeowners? The intent of introducing a FM'ing concept was to enable ownership opportunities to Commonwealth residents without the necessary liquidity. SEBANE believes that extending this option to TPO's will dilute benefits to both MA homeowners and ratepayers alike. SEBANE members unanimously oppose extending the benefits of any mechanism, such as FM, that is intended to promote citizen ownership of renewable energy systems to absentee owners. The possible and complicating exception to this position is that there may be room to expand forward minting eligibility to leased systems if the residential lessee is both the host customer and, by contract, has direct ownership of the SREC's. In any event, a supported floor mechanism that delivers price certainty would be required.
- Concurrently, SEBANE asks "How would FM'ing to Citizen Owned Projects Benefit MA Homeowners?" SEBANE members were of mixed opinion as to whether FM would achieve the desired goal. Opinions ranged from a limited number of members who thought FM could create arbitrage opportunities that could allow residential customers to monetize their SREC's and use these funds to buy solar. No members were confident it would work and most members were very confident it would not. There was unanimity among SEBANE members that if FM goes forward, DOER should address the primary, post-monetization challenge of FM of how to guarantee that the systems will continue to operate once the FM payment is made. As presented in SEBANE's April 8th comments, to accomplish that, perhaps upfront crediting could be done for an initial period of years, for example for 5

⁶ See this short video clip for more on the benefits of ownership: <http://www.ustream.tv/recorded/31902831>

years, and with a subsequent, second crediting period, such as for 5 more years, with the amount of additional credit adjusted upward or downward based on metered data from the initial 5-year crediting period. As discussed, if FM is adopted, it should only be for citizen owned systems and it should be discussed in a Technical session for stakeholders.

- If not FM, then what? SEBANE believes that a simple policy of price certainty that is targeted for and limited to citizen-owned renewable systems is the best means of empowering citizen ownership and would present a limited political risk to the DOER and limited functional risk to the SREC2 market place. SEBANE believes the program promoted by Sungage presents a realistic and practical means of achieving the goal, while also leveraging local, private capital. A Standardized 10-Year Residential Ownership plan offered by Sungage would be a simpler model to implement. The Sungage Standardized 10-Year Residential Ownership model has an opt-in plan administered by MassCEC where DOER would agree to purchase the SREC's at the auction floor price. Perhaps the forward minting concept could be used as a mechanism to underwrite and capitalize the Standardized 10-Year Plan. Forward Minting would provide a source of funds to make payments 3-years in advance with the balance SREC payments being made quarterly to support continuing debt for the remaining seven years. This concept may remove DOER from having to directly fund the program. Banks could take assignment of funds on both the forward minted income and continuing SREC income stream. A greater regulatory understanding of DOER policy hurdle rates, policy implementation and more stakeholder input is needed. This approach also provides the DOER with the most desirable and viable exit strategy; as the local banking industry grows more comfortable with loaning to solar, they will alleviate the need for a government backstop.

On behalf of its membership, the SEBANE Board of Directors thanks the DOER for this opportunity and looks forward to continued dialogue in the creation of a robust SREC2 marketplace.

SEBANE Board of Directors & Members

Table 1: SEBANE summary of the salient issues facing the DOER and CEC

Issue/proposal	Pros	Cons	Ambiguities needing clarity	SEBANE position
Forward Minting (FM) for citizen owned PV projects	Potential but not certain to enable citizen ownership, reduce SREC uncertainty	Too much PV seeking FM could cause SREC oversupply, destabilizing the market	Rules & perf. assurance need clarity; Default calc. to set perf. standard?	SEBANE may support a workable, cit.-owned, non-TPO FM model
TPO participation in forward minting	Would make TPO's more profitable at expense of local economy & citizen ownership	Accelerate exodus of rate/taxpayer \$\$ out of MA. Create SREC glut in early yrs. Hurt local EPC co's.	None	Limit elig. to PV systems owned by citizens of MA
DOER 10-year Std. contract for SREC purchase from small PV projects (Sungage proposal)	Addresses barriers limiting direct ownership..." Facilitate resi customer loans	Additional incentive program for DOER to administer in support of state-wide goals	Details to be addressed; should the CEC administer and manage this?	Broad support; increases price certainty, lower ratepayer costs; (see Sungage)
SREC factor adjustments announced with sufficient lead time	12 month advance notice allows the market to adjust to the new values	-	-	Support 12 month advance notice
Managed Growth Sector I: recognize non-price factors	Addresses a project's externalities	Could invite litigation	DOER should be as explicit as is practicable in this area	Defined non-price factors should be inc'd in project selection
Managed Growth Sector II: exempt community solar projects	Serves the public good	-	None	Remove all community solar projects from this sector
Managed Growth Sector III: hold quarterly solicitations	Reduces costly project development delays	Increased management required	Details to be addressed inc. verifying bid & bidder validity	Support quarterly solicitation
MA CEC incentive program to be terminated as SREC II is launched	Termination simplifies the solar incentive bureaucracy	Termination adds to market confusion as SREC II regulations are implemented	none	Continue the CEC incentive program until the end of 2014
Technical meeting with DOER consultants	-	-	-	SEBANE strongly supports this