



October 28, 2016

Massachusetts Department of Energy Resources
100 Cambridge Street
Boston, MA 02114

DOER.SREC@state.ma.us

Re: Comment Letter Next Generation Solar Incentive Straw Proposal

Dear Commissioner Judson and Renewable Energy Division Director Judge,

However well intended, market uncertainty continues in the Next Generation Solar Incentive Straw Proposal, both in the transition to the new program and within the new program itself. With adjustments to paying for the value of solar, the new solar program represents a continuation of the solar industry in the Commonwealth. The Next Generation Solar Proposal represents an opportunity to build solar for two to three years, not a model upon which to build a business within the Commonwealth. Like the nascent solar programs before it, the new program does not envision the environmental contribution capability of solar and the attendant economic development opportunity that accompanies the transition to renewables.

The combined compliance obligations of the Green Communities Act, Kain vs. DEP, Governor Baker's Executive Order No. 569 and RGGI, create the demand for significant zero emissions resource to be built within the Commonwealth. Solar can be a decentralized zero carbon emitting source that pays for itself through system benefits and price suppression of carbon generating resources. Twenty-percent (20%) of the 48,129 GWhⁱ of Commonwealth load should be established as solar generation by 2025. This will require raising the RPS.

The State Of Charge, Massachusetts Energy Storage Initiative Study is one of the best reports I have ever read generated by a government agency. The study is loaded with system benefit analysis with energy storage providing ratepayer benefits of a ratio of 1.7 to 2.4 for every dollar spent on investment. The same kind of in depth analysis should be conducted for a value of solar study with significant attention paid to the analysis of the price suppression effects of solar. The Solar Task Force indicated a systems benefits ratio of 2.0 to 2.5 for every dollar invested that required a confirming study. With the combined benefits of solar and storage why would EEOA not accelerate the installation of zero emissions solar generation within the Commonwealth and satisfy all of the compliance obligations that pay for themselves?

We applaud and appreciate the efforts DOER is making to engage stakeholders in the Next Generation Solar process. Our specific comments are attached.

Best Regards,

A handwritten signature in blue ink, appearing to read "Doug Pope", written over a horizontal line.

Doug Pope
President

Comments on Next Solar Incentive Straw Proposal

All of the hard work and thoughtful consideration that DOER is engaging to bring a new solar program to the Commonwealth will be for naught if the uncertainty which has plagued solar businesses is not dealt with effectively.

Uncertainty exists between the transition period between the end of SREC II and the start of the new solar program. All new projects requiring municipal approvals are on hold until a new solar program is announced. Which means that firms that are in the solar business need to take their entrepreneurial energy to another state or do something else to keep their businesses viable.

Solution: Extend SREC II as currently provided under regulations and request the legislature extend or eliminate net metering to bridge the gap in program development with significant capacity to allow development for the next two-years. We agree with Beamont Solar's position that DOER adopt a bridge structure to the new tariff with ability to extend if promulgation of the new tariff takes longer than expected. The compliance obligation would need to be raised to equal the capacity of new SREC II entering the market.

Uncertainty exists in the lack of the next generation program size, which might only last two to three years. A 1,600 MW program size is not insignificant, but it is the difference between presenting opportunities to develop solar and building a business around solar development.

Solution: Raise the RPS and recognize solar generation as a significant contributor to the compliance challenges faced by the Commonwealth and establish long-term targets and then develop the solar program around that larger program through 2030.

Uncertainty exists with developers meeting varying thresholds not only in the new program but in the transition from the SREC II program to the new program. Meeting regulatory thresholds has been a major risk factor for developers, has provided an on again off again environment for solar development and consumes tremendous resources at DOER managing transitory issues from program to program.

Solution: Adopt a larger 2030 solar program to which DOER will spend its time fine tuning program cost and benefits rather than transitioning from one program to another. The program should be developed around market cost and benefits rather than a declining block.

Many aspects of the Next Generation are good except that the values of solar payments are simply not feasible to build projects. Our comments are for projects 1 MW and above.

Current Design Considerations:

A larger, market based 2030 solar program being adopted would affect none of the DOER program design considerations listed. A market based approach to pricing would be the preferred method as opposed to the declining block method, which is aspirational. The declining block and would cause more regulatory review and restructuring as block thresholds are met or the industry comes to another screeching halt. Kindly, remove thresholds to doing

business within the Commonwealth particularly when solar development provides so many environmental and economic benefits.

Tariff Program Design Details:

The concept of a tariff through the EDC's is a good one. Consider the developer having the option to choose between a fifteen and twenty-year tariff term. Longer terms may amortize more costly interconnection and site work cost as more difficult sites are developed.

We agree that even with a 2030 solar program, 20% of the program should be set aside for smaller projects.

Siting Criteria:

Under the current proposed program regarding solar siting criteria, very few solar ground mount projects would be built. Why restrict solar development when the same land could be used for housing development or a commercial venture?

Solar developers already use wild flower mixes under the solar arrays. Mitigation is the key as opposed to regulation as another threshold to development to overcome. Bee populations are struggling in part to monoculture farming development and use of chemicals. Once developed, solar fields would not be fertilized and bees would have acres of polyculture flowers from which to rebuild their colonies. Working with Mass Audubon and other groups, songbird or migratory bird habitats could be established to encourage wildlife development in the interstitial space between the solar array and adjoining woodland.

Working with wildlife groups it would be preferable for SEBANE and SEIA to establish an association standard for the northeast, which could be referenced as a standard for adoption. DOER should not be regulating siting standards as local home rule jurisdiction maintains ample control.

Tariff Project Categories:

One and two megawatt (1 & 2 MW) projects should have their own category as the entitlement and interconnection cost do not amortize as well as projects 3 MW and above.

There should be a category for west-facing arrays. Generally, the production of a west-facing array is 15.9% less than a south-facing array and will need to be incentivized accordingly. With a larger 2030 solar program, perhaps west-facing arrays would take the place of the "non-net metered" array category.

In larger 2030 solar program, non-net metered projects might be considered to require battery storage and would be incentivized at the appropriate level to be feasible.

Solar Canopies:

Solar Canopies are traditional steel or aluminum construction and cost an average of \$0.90 per watt to install at 14' above grade. Farm machinery is generally not higher than tractor-trailer height, which is at 13'6" high. If canopies are to be fully utilized they need to be fully compensated. At a fifteen year term, at 5% loan interest rate, at an average of \$0.90 per watt for a 1 MW system, utilizing the ITC with no operating cost the breakeven on installation is \$0.07 per watt.

Community Shared Solar:

Community Shared Solar should mean equal access for all. All ratepayers pay into the system and all ratepayers should have access to community solar. In a 2030 solar program, please consider adding commercial users under 300 kw to community solar. Those over 300 kW could be participants in the one or two 49% anchor credits while those under 300 kW would be eligible for participation as community solar off-takers.

Outside of those ratepayers who will seek out renewable resources as a personal mission, savings off of retail motivates most ratepayers. Which is why Community Solar should be credited at full retail. Within a 2030 solar program framework, an on-bill credit could be issued to the utility bill.

Changes in DPU regulations would need to be adopted to recognize solar generators as Solar Only Competitive Suppliers with no obligation to be an ISO-NE participant.

Energy Storage:

With the price suppression effects of solar combined with battery storage and the attendant economic multiplier benefits of such renewable energy development, DOER and the Baker/Polito Administration should be able to justify the cost savings of investing in a 2030 solar program.

Energy storage must be incentivized to accommodate the capital cost, operating cost and the real cycle generated depreciation cost requiring replacement of the current battery technology in ten-years.

We acknowledge two concepts, that energy storage technologies will go down and that the monetization of revenue sources may exist in the future that by regulatory mechanisms are not available today.

Market adjustments, not block adjustments may be the best way to deal affirmatively with unknown future conditions.

We strongly agree with the co-location 1MW – 5 MW of solar generation and storage and due to system and environmental benefits should be strongly incentivized.



Illustrative Tariff Values:

Tariff values are too low to develop projects with the cost and risk of development within the Commonwealth, a return on that investment and a constructed return of less than 10% for the investors of project.

Due to an adjudicated ruling on electricians installing solar within the Commonwealth, cost of solar construction in the Commonwealth will always be higher than states where labor can handle and install the equipment.

We would be interested in participating with DOER relative to adjusting the incentive levels to benefit development and the ratepayer.

Interconnection cost.

Within a tariff proceeding, to keep project cost at a relatively predictable level, developers could factor carrying eleven-cents (\$0.11) per watt for projects over 1 MW and should cost exceed those levels and interconnection adder would apply. In a 2030 solar program, grid modernization is going to be a factor that needs to be cooperatively overcome. This is one method.

Illustrative Tariff Adder Values:

In the instance of Community Solar, the cost of customer acquisition and the operating cost of billing, customer service, maintain customer active enrollment and the risk of non-payment in the current community solar program business plan needs to be compensated to be effective and viable.

Canopies need to be compensated properly to ensure effective deployment.

Energy Storage particularly batteries need to be compensated for capital acquisition, installation, operating cost and cycle induced replacement of components. Perhaps yet to be determined revenue sources might provide the funding to effectuate replacement of components in ten-years.

We look forward to working with DOER and other stakeholders to create a solar program that brings value to our environmental commitments and leadership and help create an energy economy within the Commonwealth.

Best Regards,

A handwritten signature in blue ink, appearing to read "Doug Pope", with a stylized flourish at the end.

Doug Pope
President

ⁱ DOER, Massachusetts RPS & APS Annual Compliance Report for 2014, dated May 4, 2016