

Post-400 MW Policymaking for Maintenance and Growth of the Massachusetts Solar Photovoltaic Markets

The Department of Energy Resources (“Department”) has requested written comments on its March 22, 2013 stakeholder meeting presentation on “Post-400 MW Solar Program Policy Design”¹ by April 8, 2013. The Attorney General’s Office hereby submits these comments in response.

The Massachusetts solar photovoltaic (“PV”) market is currently supported by a carve-out (“Solar Carve-Out Program”) of the Class I renewable energy requirements under the Massachusetts Renewable Energy Portfolio Standard (“RPS”), established pursuant to G.L. c. 25A, § 11F and 225 C.M.R. 14.00 *et seq.* The Department, as authorized by statute, established the Solar Carve-Out Program in early 2010. By design, the Solar Carve-Out Program requires Retail Electricity Suppliers, and ultimately their customers, either to subsidize the development of solar PV through purchase of solar renewable energy certificates (“S-RECs”), or to pay alternative compliance payments (“ACP”) to a fund held by the Massachusetts Clean Energy Center and overseen by the Department. No new solar generation will qualify for the Solar Carve-Out Program once the Department determines that 400 megawatts (“MW”) of Solar Carve-Out Generation Units have been installed.

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The Department is now considering a significant expansion of solar policy in Massachusetts for the period after the 400 MW cap is met. Policy options under consideration include increasing the Solar Carve-Out Program beyond the 400 MW cap, establishing a second solar carve-out program, or adopting a Central Procurement framework for solar.

II. Current Solar-Carve Out Program Design

Massachusetts General Laws, Chapter 25A, Section 11F(g) authorizes the Department to establish a carve-out of the RPS Class I program for small scale, on-site generation. The RPS Class I program, established by G.L. c. 25A, §11F(a), imposes a statutory requirement on Massachusetts Retail Energy Suppliers to obtain a percentage of electricity sold to Massachusetts retail customers from qualifying renewable energy generation units. The carve-out provision of G.L. c. 25A permits the Department to require energy suppliers to meet a minimum percentage of its kilowatt-hour (“kWh”) sales with “new on-site renewable energy generating sources located in the commonwealth and having a power production capacity of not more than 6 megawatts which began commercial operation after December 31, 2007 . . .”.² It also provides that the Department “may specify that a certain percentage of these requirements shall be met through energy generated from a specific technology or fuel type.”³

The Department invoked its authority under G.L. c. 25A §11F(g) to establish a carve-out for solar by amended the regulations implementing the RPS Class I program (225 C.M.R. § 14.00 *et seq.*) in early January of 2010. The Department defined its goals and objectives for the Solar Carve-Out Program as follows:

² G.L. c. 25A, §11F(g).

³ *Id.*

- Cultivate solar development through varied generator sizes across multiple sectors (residential, commercial, and utility-scale);
- Develop a sustainable solar market that reduces dependence on state subsidies and has long-term growth potential;
- Create a smooth transition from up front, rebate-only incentives to production-based, market-priced S-RECs), and;
- Minimize impact on ratepayers.⁴

In establishing the Solar Carve-Out Program, the Department sought to facilitate the development of a finite amount of solar generation – 400 MW of solar photovoltaic (PV) – across the Commonwealth. When the Department determines that 400 MW of Solar Carve-Out Generation Units have been installed, no new solar will be allowed to qualify for the Solar Carve-Out Program.⁵ Once the cap is met, new solar units may still seek to qualify for the RPS Class I program.⁶ Under a range of growth scenarios evaluated in the rulemaking process, the Department explained that the optimal growth of the program would be at 30% growth rate with the cap met in 2017; however, the Department acknowledged that the growth rate could vary and the cap could be reached earlier or later than 2017.⁷ As to the specifics of the Solar Carve-Out Program, the

⁴ Massachusetts Department of Energy Resources Webpage, About the Solar Carve-Out Program, <http://www.mass.gov/eea/energy-utilities-clean-tech/renewable-energy/solar/rps-solar-carve-out/about-the-rps-solar-carve-out-program.html>; *see also* Massachusetts Department of Energy Resources Presentation, Solar RPS Carve-Out, Straw Proposal (August 26, 2009) (“Straw Proposal Presentation”), at 3 *available at*: <http://www.mass.gov/eea/energy-utilities-clean-tech/renewable-energy/solar/rps-solar-carve-out/historical-development-of-the-rps-solar-carve-out.html>.

⁵ 225 C.M.R. §14.05(4)(j).

⁶ *Id.*

⁷ Massachusetts Department of Energy Resources Presentation, Solar RPS Carve-Out Price Support Mechanism, at 18-22 (October 23, 2009) *available at*: <http://www.mass.gov/eea/docs/doer/renewables/solar/ma-solar-rps-carve-out-price-support-mechanism-stakeholder-mtg-102309-doer.pdf>.

Department annually determines the minimum percentage of RPS Class I generating sources that must come from small, on-site solar generation pursuant to a preset formula.⁸ The minimum percentage for any year will never be smaller than the previous year. Solar PV owners may sell each S-REC generated from a qualified solar facility through an auction with a floor price of \$300 per megawatt hour (“MWh”).

A Retail Energy Supplier may discharge some or all of its obligations by making an Alternative Compliance Payment.⁹ In 2010, the Department set the S-REC ACP at \$600 per MWh. It remains fixed at \$550 per MWh in Compliance Years 2011, 2012, and 2013, and is set to decline by 5% annually thereafter.¹⁰

III. Overview of the Department’s Post-400MW Policy Objectives and Options

The Department seeks stakeholder input to develop policy to maintain the growth of the solar PV market in Massachusetts after the 400 MW cap of the current Solar Carve-Out Program is met. To facilitate stakeholder involvement in the process, the Department provided a presentation that makes a number of observations on the status and progress of the Solar Carve-Out, and provides policy objectives (“Policy Presentation”).¹¹ The Policy Presentation explains that the Department is considering two primary policy options.¹² One option is a new central procurement framework for

⁸ 225 C.M.R. §14.07(2)(d); DOER has commenced a formal rulemaking to amend the RPS Solar Carve-Out program. If adopted, the changes would amend the preset formula to establish the minimum standard. See Track Changes to RPS Class I Regulations, DOER’s Webpage for Regulatory Proceedings for RPS and APS, at 34 *available at*: <http://www.mass.gov/eea/energy-utilities-clean-tech/renewable-energy/rps-aps/regulatory-proceedings-for-rps-and-aps.html>.

⁹ 225 C.M.R. §14.08(3).

¹⁰ Massachusetts Department of Energy Resources RPS Guideline on the Forward Schedule of the Solar Carve-Out Alternative Compliance Payment (ACP) Rate, (December 28, 2011) *available at*: <http://www.mass.gov/eea/docs/doer/rps-aps/forward-solar-acp-rate-guideline.pdf>.

¹¹ Policy Presentation, at 4-10.

¹² *Id.*, at 11.

solar through long-term contract solicitations, or a feed-in tariff.¹³ Another option is to maintain and expand, with revisions, the RPS Solar Carve-Out Framework.¹⁴ The Department recognizes that a central procurement framework will likely require passage of legislation, whereas the extension of the Solar Carve-Out Program will not.¹⁵

IV. Comments

A. Solar Policy Objectives Should Continue to Be to Achieve Market-Based Support for Sustained Growth Rather Than Relying on a Carve-Out

The Department's goals and objectives for the Solar Carve-Out Program focused on sustainability, long-term growth potential, and diversity of the solar PV market in Massachusetts while minimizing ratepayer impacts caused by its limited Solar Carve-Out Program.¹⁶ Before expanding the solar policy for the period after the 400 MW cap is met, the Department should take steps to fully evaluate the results of the Solar Carve-Out Program and to conduct a market analysis of the solar PV market in Massachusetts to determine the least-cost approach to Massachusetts' solar policy.

1. The Department Should Evaluate the Success of the Solar Carve-Out Program in Meeting Program Objectives

The Department's inquiry presumes that it must expand the Solar Carve-Out Program beyond the 400 MW cap, or establish a coordinated procurement framework for solar PV to support the solar PV development. However, when the Department established the Solar Carve-Out Program, it defined a number of goals for the program: *to develop a sustainable solar market that reduces dependence on state subsidies and has*

¹³ *Id.*

¹⁴ *Id.*

¹⁵ *Id.*, at 12.

¹⁶ Massachusetts Department of Energy Resources Webpage, About the Solar Carve-Out Program, <http://www.mass.gov/eea/energy-utilities-clean-tech/renewable-energy/solar/rps-solar-carve-out/about-the-rps-solar-carve-out-program.html>.

*long-term growth potential.*¹⁷ The Department also sought to *cultivate solar development across multiple sectors and generator sizes* and to *develop smooth transition from upfront rebate-only incentives to production-based market priced S-RECs.*¹⁸ It sought to achieve these objectives while *minimizing ratepayer impacts.*¹⁹

If the program was well-designed, the objectives of the Solar Carve-Out Program would have been achieved within the original program confines, *e.g.* within the 400 MW program cap. The Solar Carve-Out regulations did not contemplate an expansion of the Solar Carve-Out Program, but instead recognized that solar energy generation would be eligible for the RPS Class 1 program once the cap was hit.²⁰ Before solar policy is expanded in furtherance of the Solar Carve-Out Program objectives and additional similar objectives, the Department should first evaluate to what degree the program objectives have been met if at all.

The Department designed the Solar Carve-Out Program to facilitate installation of solar energy generation at a preferred rate of 30% growth per year to reach 400 MW in 2017.²¹ The Solar Carve-Out Program has now been in place for just over three years. Under optimal conditions, the 400 MW cap would not be hit for another three plus years. If the 400 MW cap is reached too soon, this indicates that the program design is potentially flawed. Therefore, the Department must carefully evaluate whether the solar PV market has grown at a sustainable rate while minimizing ratepayer impacts.

¹⁷ *Id.*

¹⁸ *Id.*

¹⁹ *Id.*

²⁰ 225 C.M.R. §14.05(4)(j).

²¹ See Massachusetts Department of Energy Resources Presentation, Solar RPS Carve-Out Price Support Mechanism, at 18-22 (October 23, 2009) *available at*: <http://www.mass.gov/eea/docs/doer/renewables/solar/ma-solar-rps-carve-out-price-support-mechanism-stakeholder-mtg-102309-doer.pdf>.

Although the Department has made general observations in the context of stakeholder meetings that the Solar Carve-Out Program has been successful in aggressively growing solar installations and businesses in Massachusetts across the solar markets, neither the observations and preliminary analysis provided in the Policy Presentation nor the report on the Solar Carve-Out Program's results for 2010 fully evaluate the program objectives.²² Therefore, the Department should first evaluate whether the Solar Carve-Out Program achieved program objectives before it seeks to establish new policy in furtherance of those objectives.²³ It should provide an evaluation of whether the Solar Carve-Out Program has made significant progress in meeting its program objectives including minimization of ratepayer impacts. It should include in its analysis a progress report on achievement of the 250 MW target for solar installations, and the 400 MW cap. The evaluation should also include an economic assessment of the progress made towards development of a sustainable solar PV market in Massachusetts.

2. The Department Should Set Clear Targets for Future Solar Policy Based on Economic Analysis of the Solar PV Market to Avoid Creating a Perpetual Carve-Out

The Governor stated a goal of achieving the installation of 250 MW of solar energy generation in Massachusetts by 2017. The Department designed the Solar Carve-Out Program to facilitate 400 MW of solar PV installation in Massachusetts, in order to provide a sufficient and long-term market to attract solar business development.²⁴ The Department should avoid expanding these existing programs without a clear target by

²² Massachusetts Renewable and Alternative Energy Portfolio Standards, Annual Compliance Report, for 2010 (January 11, 2012).

²³ The AGO filed comments on the Proposed Amendments to DOER's regulations (225 C.M.R. § 14.00 *et seq.*) to establish the Solar Carve-Out. AGO recognized the need for ongoing monitoring and evaluation of the market to ensure the effectiveness of the program. *Comments of the Attorney General*, at 3-5 (March 9, 2010).

²⁴ RPS & APS Compliance Report for 2010, at 15.

which to measure success. To that end, the Department should first conduct an economic analysis of the solar PV industry to inform a policy decision to expand solar goals and subsidies. If the Department or the Massachusetts Clean Energy Center already has such analyses available, those studies should be provided to stakeholders.

The Department appears to be considering expansion of Solar Carve-Out Program in the absence of quantitative economic analysis of the solar PV markets. The Department's Policy Presentation considers expansion of the 400 MW Solar Carve-Out Program cap. The Department has put forth three potential new "straw caps" of 1000 MW, 1600 MW and 2000 MW.²⁵ And the Department has called for stakeholder input on the criteria that should be used to justify a new cap for the Solar Carve-Out program.²⁶ Although stakeholders may provide input on whether the Solar Carve-Out Program should be expanded, and if so what criteria should be used to identify the appropriate cap, such input does not supplant the need for transparent analysis of the solar PV market. This full analysis of the PV market is necessary to justify any level of future program caps, given the Department's observation that "heading well beyond 400 MW is only practical at costs to ratepayers (per MW) less than today."²⁷

B. The Department Should Adopt a Market-Based Solar Policy for the Post 400 MW Period

If the Department creates new programs or expands the current one, it should modify or eliminate the \$300/MWh auction floor price. Although the Department has observed that the "[o]versupplied SREC market in 2012 did not see SREC prices fall to low levels experienced in other states without 'price support mechanism'", this should

²⁵ Policy Presentation, at 29.

²⁶ *Id.*

²⁷ *Id.*, at 9.

not be viewed as a positive feature. An oversupply situation implies that solar developers can enter the market profitably with a lower level of subsidization. A floor price that provides subsidized revenues above the marginal cost of a new solar generation unit will lead to continued oversupply and social welfare losses under classical economic theory. Reducing or eliminating the floor will allow supply to self-regulate and will achieve the goal of achieving a sustainable PV industry in the long run.

However, if the Department retains a minimum floor price for S-RECs, then it should consider the development of a mechanism that reduces the S-REC price over time. According to a recent filing by Western Massachusetts Electric Company (“WMECo”) before the Department of Public Utilities, the average installed cost of solar was \$7,000 per kW in 2009 and has decreased significantly.²⁸ Pricing for WMECo’s anticipated solar installations for 2013 are expected to fall between \$3,900 per kW and \$4,200 per kW.²⁹ This illustrates the decrease in the average installed cost of solar. As installed cost of solar falls further, or as other subsidies or tax incentives are increased, the S-REC price should be adjusted downward. In light of the fact that the installed cost of solar has declined dramatically since the Solar Carve-Out Program was established, suggests that the current \$300/MWh floor price is too high. Similarly, if the Department expands the current Solar Carve-Out Program or establishes a new solar carve-out program, the Department establish a minimum percentage obligation for S-RECs over time that phases out as the solar market positively responds to the program.³⁰

²⁸ Testimony of Carl J. Frattini, *Western Massachusetts Electric Company*, D.P.U. 13-50, at 16 (February 4, 2013).

²⁹ *Id.*

³⁰ It appears that the S-REC factor described in the Policy Presentation contemplates such a phase out. Policy Presentation, at 18.

V. Conclusion

For these reasons, the Department should first evaluate whether the Solar Carve-Out Program achieved program objectives before it seeks to establish new policy in furtherance of those objectives. The Department should also publicly provide an economic analysis of the solar PV market that will provide quantitative information needed to evaluate potential growth rates for a sustainable solar installation market at a reasonable cost to customers. Finally, any policy for the period after the Solar Carve-Out Cap is met should ensure that the impacts on ratepayers are minimized.

Respectfully submitted,

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