

Procurement Models for Public Community Shared Solar in Massachusetts

(Updated: May 2, 2017)

Introduction

Community shared solar (CSS) provides an opportunity for communities to help their residents, non-profits, and businesses that are unable to install solar on their properties to participate and receive the benefits of a shared solar project. This overview of Massachusetts procurement models covers projects sited on public properties in Investor Owned Utility (IOU) territories, and require a disposition of public property.¹

Key Considerations

- 1) **Private Net Metering Cap:** CSS projects currently require virtual net metering in which the energy benefits as measured at the utility net meter at the site are distributed to the CSS participants. Because non-public parties will be receiving at least some of the net metering credits, the project will fall under the Private net metering cap.² A net metering reservation will be required for the project, and due to the structure of the net metering rate, projects under 1 MW- AC will likely be more economically attractive than those with a capacity over this level.³
Note: per state law enacted in 2016, any new projects will receive only 60% of the full net metering credit and this may substantially affect the economic viability of a CSS project.
- 2) **Projects can be sited anywhere within a utility load zone:** CSS projects need not be located in the community they are serving, but for net metering purposes must be located in the same utility territory and load zone as the community.
- 3) **Solar Renewable Energy Certificates (SRECs):** Currently, new CSS projects receive the highest SREC multiplier available (0.7), which improves the economic viability of a project. However, only one participant can take more than a 25 kW share in the project, and this share cannot exceed 50% of the total project size. For example, a municipality could take up to half of the net metering credits, with the other credits allocated to other participants. Based on Massachusetts Department of Energy Resources (DOER) latest update, the SREC II program is scheduled to end on March 31, 2018. In order for any project to qualify for SRECs, it must be mechanically complete by that date.
- 4) **Massachusetts Solar Loan Program:** Subsidized loans are available to CSS participants if they take an “ownership share” in the project.⁴ Projects seeking to utilize this loan program should contact the Massachusetts Clean Energy Center for approval before proceeding.
- 5) **Solar Massachusetts Renewable Target (SMART):** In order to establish solar incentive stability, DOER proposed a new solar incentive framework that would replace the SREC-II program. Set to begin in the Spring of 2018, SMART would set a 10 to 20 year fixed price terms depending on project capacity. CSS projects should be eligible for valuable adders, with low income shared solar receiving the highest incentive value.⁴ Unlike under

¹ For a more detailed analysis of various CSS models, see the Massachusetts Department of Energy Resources (DOER) reports at www.mass.gov/eea/docs/doer/renewables/solar/community-shared-solar-model-frameworks-032813.pdf.

² For the current status of net metering cap in your utility area, visit www.massaca.org.

³ For a more detailed analysis of various CSS models, see the Massachusetts Department of Energy Resources (DOER) reports at www.mass.gov/eea/docs/doer/renewables/solar/community-shared-solar-model-frameworks-032813.pdf.

⁴ These adder values are based on DOER's most recent proposal and are subject to change when DOER files emergency regulations. For more information on the most recent proposal for Development of the Next Solar Incentive, visit <http://www.mass.gov/eea/energy-utilities-clean-tech/renewable-energy/rps-aps/development-of-the-next-solar-incentive.html>

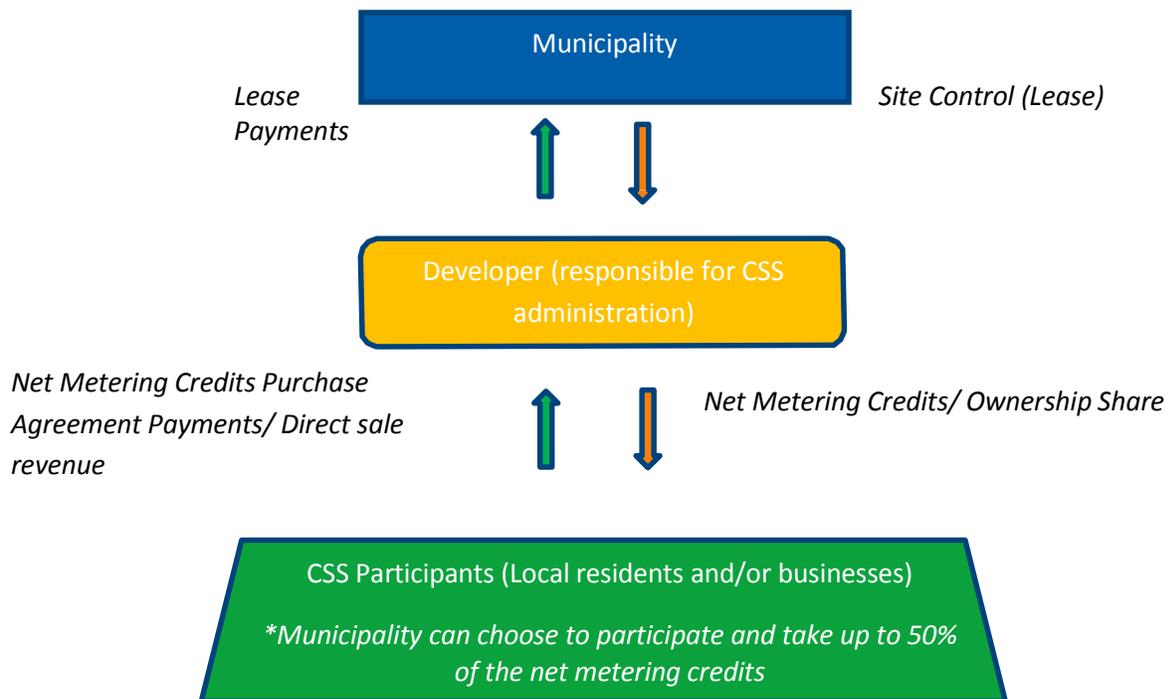
the SREC-II regime, CSS projects could pursue an alternative to virtual net metering and not be hindered by the net metering caps.

Procurement Approaches

Similar to procuring solar energy or net metering credits for municipal use, CSS project approaches can utilize M.G.L. c. 30B §16 (real property disposition) or M.G.L. c. 25A (§ 11C – RFP process for energy management services, or § 11I – RFQ process for energy management services). The figures below demonstrate how the CSS entities (e.g., municipality, CSS administrator, and CSS owners/subscribers) interact under each procurement pathway.

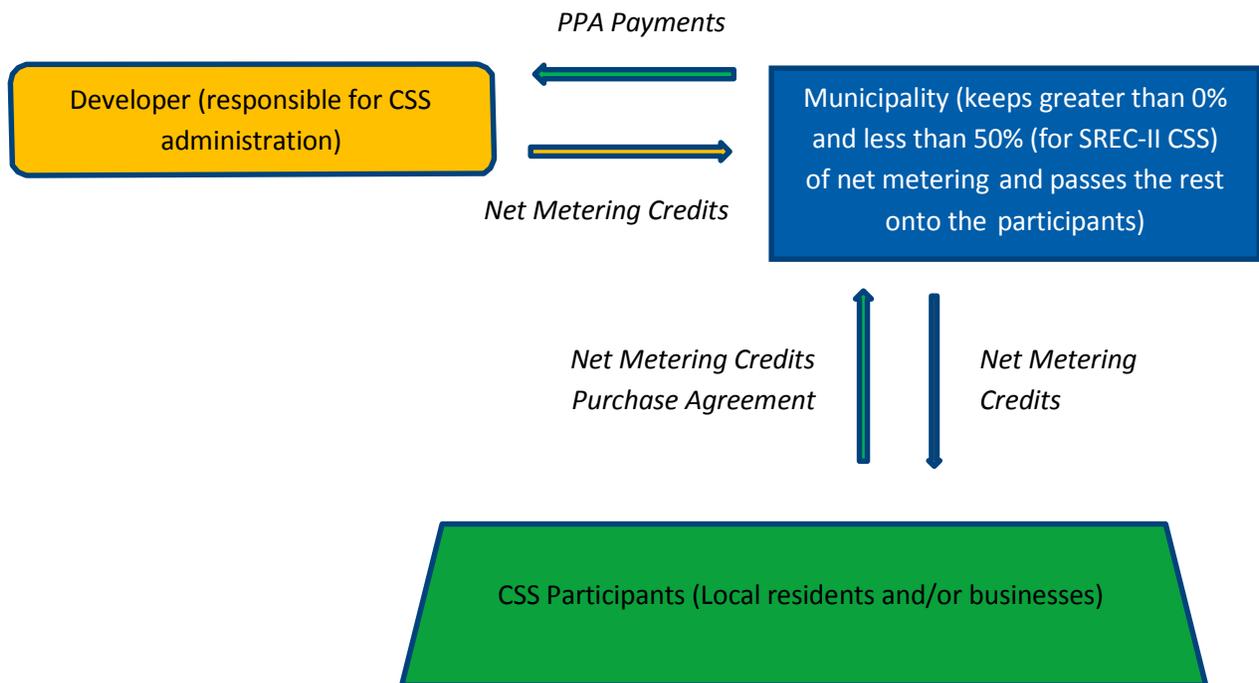
30B §16 CSS Procurement – Lease Model

Under M.G.L. c. 30B, a municipality selects a developer through an RFP process to install and maintain the shared solar system, and administer the CSS project. The developer may elect to partner with a separate CSS administrator. The developer (or its designated administrator) are responsible for customer acquisition and securing sale agreements or subscriptions. For CSS participants, participation options include purchasing net metering credit agreements from the developer, enrolling in a purchasing co-op, or direct ownership of shares in the shared solar system. A municipality would receive lease payments from the CSS administrator and has the option to sign up as a participant and purchase up to 50% of the net metering credits derived from the project under the SREC-II program. However, the municipality is not required to be a participant or purchase net metering credits.



25A § 11C or § 11I – Municipality as Hub Approach

A CSS project under M.G.L. c. 25A requires an Energy Management Service Agreement (EMSA) between the municipality and developer. The City of Newton recently established a CSS program to benefit low-income families using this approach. The municipality buys all of the net metering credits derived from the solar system, keeps some portion of these credits (anywhere from 0% and 50% to maintain the SREC-II CSS factor, or higher for other SREC-II categories) and passes the rest on to CSS participants. The developer can administer the program, but the municipality must agree to serve as a pass-through for the net metering credits. With this approach, the municipality must ensure that the developer adheres to EMSA contract requirements, such as production guarantees for the whole of the project, including that portion serving the participants. The municipality should consider any liability arising out this role. With this approach, it may not be feasible for participants to take an ownership share since they will be subscribing to net metering credits, and not owning a share directly. As a result, participants in CSS projects following this approach may not qualify for the Massachusetts Solar Loan program.



25A § 11C or § 11I – Limited EMSA Approach

As a municipality may only take up to 50% for the SREC-II CSS factor of the net metering credits generated from a CSS project, it may seek to limit the applicability of EMSA requirements to only its share of the energy generated. Under this scenario, similar to the M.G.L. c. 30B approach, the developer would directly execute agreements with the CSS participants for the participant's portion of the net metering credits, and the municipality would not serve as a pass-through for the credits. However, some terms in the EMSA—such as those impacting the lease of property, decommissioning requirements, and required insurance and bonding—may be difficult to prorate (if EMSA requirements pertain to only 50% of the leased property). It is recommended that any communities exploring this approach first consult with Massachusetts DOER on EMSA terms and conditions that can be prorated, and if there are any special requirements imposed on the net metering agreement between the developer and participants due to terms in the EMSA.

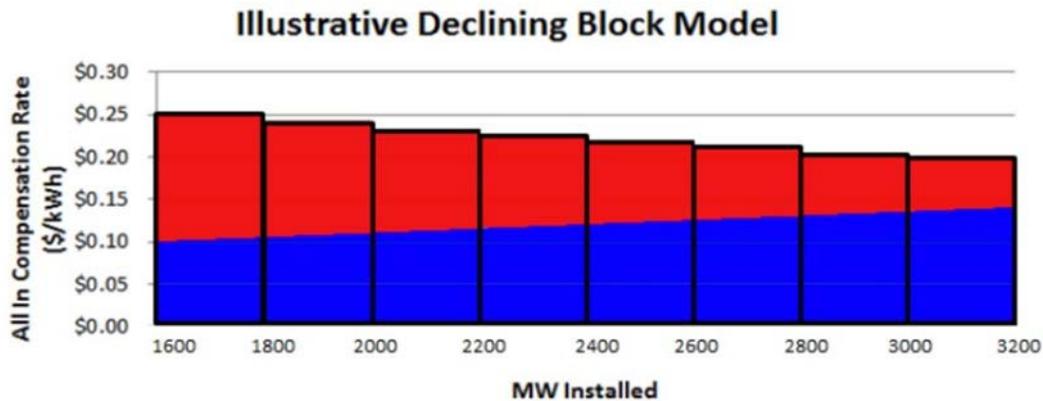
Massachusetts Solar Policy; Looking Ahead

SMART Overview

The SMART program is a 1,600 MW-AC declining block program that applies to only the five Massachusetts Investor Owned Utility territories: National Grid, National Grid Nantucket, Eversource, Eversource Western Massachusetts, and Unitil.

Unlike the current regime, compensation rates will be consistent across the state and will be fixed to 10 to 20-year terms depending on project type. The base compensation rate will be differentiated between sized to load and standalone systems, but for the purposes of CSS projects it is safe to assume the standalone rate. For projects greater than 1 MW, the typical size for CSS projects, the initial compensation rates will be set through a competitive procurement – likely during the summer of 2018. The 1,600 MW program will be divided into eight 200 MW blocks, with each block resulting in a 4% decrease in compensation value. Figure 1 shows the “all-in” incentive value by block, with red representing compensation rates and blue representing energy rates.

Figure 1 - Declining Block Model



CSS under SMART

In developing the next incentive program, it is clear that DOER values CSS as an attractive model that expands access to stakeholder otherwise unable to avail themselves of the benefits of solar. Similar to the SREC-II program, DOER determined that CSS projects would receive more valuable incentive payments in order to offset administrative costs. Table 1 through Table 3 show the proposed adders that a CSS project could receive in this new incentive regime. In order to estimate a CSS project’s economics, simply take its proposed capacity and start with the “capacity based rate” in Table 1. Understand that the rates outlined in Table 1 are estimated using a clearing price of \$0.15/kWh. From there, add either \$0.05 or \$0.06 from Table 2 depending on LMI participation and select the appropriate location based adder.

Table 1 - Declining Block Model

Capacity Based Compensation Rates (kW AC)			
Generation Unit Capacity	Capacity Based Rate Factor (% of Clearing Price)	Capacity Based Rate (\$/kWh)	Term Length
Low income less than or equal to 25 kW AC	230%	\$0.3450	10-year
Less than or equal to 25 kW AC	200%	\$0.3000	10-year
Greater than 25 kW AC to 250 kW AC	150%	\$0.2250	20-year
Greater than 250 kW	125%	\$0.1875	20-year

Capacity Based Compensation Rates (kW AC)			
Generation Unit Capacity	Capacity Based Rate Factor (% of Clearing Price)	Capacity Based Rate (\$/kWh)	Term Length
AC to 500 kW AC			
Greater than 500 kW AC to 1,000 kW AC	110%	\$0.1650	20-year
Greater than 1,000 kW AC to 2,000 kW AC	100%	\$0.1500	20-year
Greater than 2,000 kW AC to 5,000 kW AC	TBD	≤\$0.1400	20-year

Understand that the rates outlined in Table 1 are estimated using a clearing price of \$0.15/kWh. From there, add either \$0.05 or \$0.06 from Table 2 depending on LMI participation and select the appropriate location based adder.

Table 2 - SMART Off-taker Adders

Off-taker Based Adders	
Type	Adder Value (\$/kWh)
Public Entity	\$0.02
Community Shared Solar (CSS)	\$0.05
Low Income Property Owner	\$0.03
Low Income CSS*	\$0.06
<i>*Must be at least 50% R-2 customer</i>	

Table 3 - SMART Location Adders

Location Based Adders	
Type	Adder Value (\$/kWh)
Building Mounted	\$0.02
Brownfield	\$0.03
Landfill	\$0.04
Solar Canopy	\$0.06

Project economics could change substantially under the SMART program, depending on project type, location, and off taker profile. In addition to changed in project economics, systems in National Grid territory that are currently unable to net meter virtually, as there is currently no capacity available in the National Grid private cap, would be able to participate in SMART. Municipalities interested in expanding access to the benefits of solar should look for currently installed CSS projects that are looking for additional participants by contacting the Metropolitan Area Planning Council or releasing a Request for Information (RFI). An alternate approach is using the on-bill credit option under the SMART program that should enable CSS without net metering.⁵

⁵ For more information on the most recent proposal for Development of the Next Solar Incentive, visit <http://www.mass.gov/eea/energy-utilities-clean-tech/renewable-energy/rps-aps/development-of-the-next-solar-incentive.html>