



1133 15th Street, NW | 12th Floor
Washington, DC, 20005
202-888-6252
info@communitysolaraccess.org
communitysolaraccess.org

October 28, 2016

VIA ELECTRONIC SERVICE

Michael Judge, Director
Kaitlin Kelly, Renewable Energy Program Coordinator
Department of Energy Resources
100 Cambridge Street
Suite 1020
Boston, MA 02114
DOER.SREC@state.ma.us

Re: Comments on the Proposed Incentive Program Design

Dear Mr. Judge and Ms. Kelly:

Attached for your consideration in the above-referenced matter, please find the comments of the Coalition for Community Solar Access.

If you have any questions, please contact me at 202-524-8805, or via email at jeff@communitysolaraccess.org.

Respectfully submitted,

COALITION FOR COMMUNITY SOLAR ACCESS

A handwritten signature in black ink, appearing to read "Jeff Cramer".

Jeff Cramer, Executive Director

**COMMENTS OF THE COALITION FOR COMMUNITY SOLAR ACCESS
ON THE MASSACHUSETTS DEPARTMENT OF ENERGY RESOURCES'
NEXT GENERATION SOLAR INCENTIVE STRAW PROPOSAL**

A. Introduction

The Coalition for Community Solar Access (“CCSA”) thanks the Massachusetts Department of Energy Resources (“DOER”) for its leadership as it works to design a new solar incentive program pursuant to Chapter 75 of the Acts of 2016 (the “Act”), signed by Governor Baker in April 2016.¹ Helping DOER meet the requirements of the Act in general, and in particular to design a program that differentiates incentive levels to support “diverse installation types and sizes that provide unique benefits, including, but not limited to, community-shared solar facilities” is of the utmost importance to us. While we are encouraged by the DOER’s initial *Next Generation Solar Incentive Straw Proposal*, there is much work to be done to define the details of the program that will ultimately determine its success.

CCSA is a business-led trade organization that works to expand access to clean, local affordable energy nationwide through community solar. Our mission is to empower energy consumers, including homeowners, renters and households of all socio-economic levels, by increasing their access to affordable, reliable clean energy. CCSA members are active in community solar markets nationwide and have experience developing community solar projects in towns across Massachusetts. Having led community solar project development and customer engagement efforts across the country, our members are uniquely positioned to comment on the challenges and opportunities for community solar in the Commonwealth.

Our comments are focused on the aspects of the DOER’s *Next Generation Solar Incentive Straw Proposal* (“Straw Proposal”) most relevant to community shared solar. Accordingly, CCSA’s comments advance the following primary recommendations:

1. Community shared solar (“CSS”) projects should have a 20-year tariff term.
2. The CSS adder is based on analysis that overlooked critical components of these projects’ costs. The adder on an absolute basis is not high enough to encourage the development of CSS projects and on a relative basis, compared to other asset classes, is not high enough to encourage “diverse installation types ... including, but not limited to, community solar.”
3. A third-party administrator should facilitate the program, both to manage the application intake process side and incentive payments to developers, and to facilitate on-bill credits for customers, which is essential for a healthy CSS market.
4. The proposed siting prohibitions are onerous and overly stringent and present a significant threat to program success, and must be improved.

¹ See: <https://malegislature.gov/Laws/SessionLaws/Acts/2016/Chapter75>

While we are not submitting comments on all aspects of the proposed tariff program, our lack of comment on certain aspects of the Straw Proposal does not represent support for, or against, any particular issue. We are actively engaged in the DOER's working groups and general solar stakeholder meetings, and look forward to working collaboratively to develop the next generation solar incentive program.

B. The Importance of Maintaining a Healthy Market for Community Solar in Massachusetts

CSS represents an exceptional opportunity for customers who are not in a position to install onsite solar to benefit from solar energy through a collective option. CSS is not just a way for Massachusetts to expedite its renewable energy goals; it also represents a key enabler to providing all consumers the choice to directly participate in and benefit from renewable energy. The Legislature recognized the unique value of community shared solar when it instructed the DOER to design a program that differentiates incentive levels to support "diverse installation types and sizes that provide unique benefits, including, but not limited to, community-shared solar facilities."

The development of this new incentive program is an inflection point for Massachusetts to solidify its status as a national leader in community solar, and continue to support energy justice and equal access to clean energy opportunities for families across the Commonwealth.

C. General Comments on the Next Generation Solar Program

On September 23, 2016, DOER issued its Straw Proposal. CCSA appreciates the thought, time and effort that went into this initial straw. We are supportive of DOER's objectives to not only maintain robust growth across all sectors, but to ensure widespread access to incentives for all ratepayers and enable continued solar market growth in the event that the legislature fails to raise net metering caps. While CCSA is generally supportive of the declining block incentive structure and provides specific feedback on the details of this approach here within, we reiterate our concern regarding the looming gap between the SREC II program and the proposed solar tariff, which will impact the community solar market segment in particular. We support the comments of the Solar Energy Industries Association on this subject. A bridge program that extends SREC II eligibility through the effective date of the new program is necessary to keep the market from stalling, a reality that has already begun to take effect.

Multiple solar-related policy levers are currently being pushed and pulled simultaneously in Massachusetts, and the effects of these maneuvers are not yet apparent or fully understood. Not only is the solar industry facing uncertainty with this solar incentive program – which represents a fundamental shift from the existing SREC-based incentive program – we are managing the transition to market net metering credits and the lack of availability of net metering/market net metering in National Grid's service territory, as well as uncertainty surrounding the monthly minimum reliability contribution ("MMRC") and potential rate changes resulting from distribution company rate cases. For an emerging market sector like CSS

in Massachusetts, this regulatory uncertainty is especially worrisome and can undermine both customer and investor confidence. CSS as we know it today in the Commonwealth only emerged with the implementation of SREC II, in April 2014. CSS has only benefitted from two years of SREC II policy stability and has operated in an environment of continual uncertainty due to the availability (or lack thereof) of capacity under net metering. Today, there are only approximately 30 MWs of CSS projects installed and operating,² which represent 2% of the 1,281 MWs of solar installed in the Commonwealth.³ With the goal of making community solar an option for all Massachusetts electricity customers, it is critical to provide a stable business environment to strengthen and expand the community solar market in the Commonwealth.

D. Community Solar Tariff Program Design Details

CCSA recommends that the following elements be incorporated into the community solar tariff program design. Each recommendation is discussed in more detail below.

1. 20-year tariff term
2. Increased CSS adder so that it is high enough to encourage CSS projects, both on an absolute basis and on a relative basis compared to incentive levels for other asset classes
3. Third-party administration of the program, both in terms of managing applications and incentive payments to developers, as well as facilitating on-bill credits for customers
4. Reasonable siting criteria

1. 20-Year Term

The Act requires DOER to design an incentive program that “promotes investor confidence through long-term incentive revenue certainty and market stability”.⁴ One way to help achieve that outcome is by setting the base tariff term to a minimum 20 years for systems greater than 25 kW-AC, rather than only 15 years as indicated in the straw. This is necessary for all projects to secure competitive, lower-cost of capital project financing given that the capital markets are designed around a market standard of 20 years of certain cash flow, but is especially crucial for CSS projects given the inherent added investor risk associated with customer turnover and higher credit risk compared to other similar-size projects, as at least half of the participating subscribers of any given project are typically residential customers.⁵ For CSS projects without

² IREC Shared Solar Catalog, See: <http://www.irecusa.org/2015/11/shared-solar-program-catalog-3/>; and DOER’s October 6, 2016 RPS Solar Carve-Out II Qualified and Operational Renewable Generation Units, See: <http://www.mass.gov/eea/docs/doer/rps-aps/solar-carve-out-ii-qualified-units.xlsx>

³ See DOER: <http://www.mass.gov/eea/docs/doer/renewables/installed-solar.pdf>

⁴ See: <https://malegislature.gov/Laws/SessionLaws/Acts/2016/Chapter75>

⁵ The Definition of a Community Shared Solar Facility is one in which “No more than two participants may receive net metering credits in excess of those produced annually by 25 kW of nameplate DC capacity, and the combined share of said participants’ capacity shall not exceed 50% of the total capacity of the Generation Unit.” See: 225 CMR 14.02 <http://www.mass.gov/courts/docs/lib/220->

net metering (due to the statutory cap being reached in a utility service territory), the end of the tariff term will mark the end of predictable revenue stream, meaning that investors would interpret the out year revenue to be only at the value of uncontracted wholesale energy, which could make it extremely difficult to secure project financing. In the event that base incentive levels were increased enough to permit financing with a 15-year tariff term, it may not make economic sense for projects to continue operating after the 15 years, which could result in decommissioning well before the useful life of the project, which is not an efficient outcome. Given solar modules typically carry production warranties of 25 years, and CSS facilities can easily remain operational for 30-35 years, a 20-year term would strike a better balance for ensuring CSS facilities attract cost-efficient financing and are not prematurely decommissioned.

In addition, the analysis conducted in the Consultant Report,⁶ from which the proposed tariff values in the Straw Proposal were derived, does not account for any future changes in the retail rate structure. The Consultant Report specifically states, “No minimum bill or other change such as demand or monthly access charges are assumed.”⁷ Yet, the Act authorizes the consideration of a MMRC, and there is an open stakeholder proceeding discussing this topic at this time. There is also at least one upcoming distribution company rate case that could result in new charges. While there is no way to predict the outcome of these proceedings, the uncertainty posed by a possible MMRC or other new fees or charges that could harm the financial viability of CSS projects further justifies a longer tariff term.

2. Higher Incentive Levels for CSS

Widespread Support for a CSS Adder Has Been Demonstrated

There is demonstrated support and precedent for differentiating CSS from other market segments in the Commonwealth. While the ability to assign net metering credits to offsite customers has existed in the Commonwealth since 2008,⁸ the specific structure of CSS did not exist until 2014, when SREC II incorporated CSS into its incentive structure. By including CSS as part of “Market Sector A” and enabling CSS to receive an SREC Factor of 1.0, DOER laid the foundation for establishing a CSS market.

In April 2015, one year after SREC II launched, the Massachusetts Net Metering and Solar Task Force, which brought together state agency officials, legislators, utilities, the solar industry, ratepayer advocates, and others, affirmed this support for CSS, calling it foundational to enabling access to solar. The final report to the legislature stated:

[229cmr/225cmr14.pdf](#)

⁶ See: <http://www.mass.gov/eea/docs/doer/rps-aps/developing-a-post-1600-mw-solar-incentive-program.pdf>

⁷ See Consultant Report, page 28.

⁸ The Green Communities Act, See: <https://malegislature.gov/Laws/SessionLaws/Acts/2008/Chapter169>

One of the primary principles of the Task Force consensus is that equitable access to solar, where feasible, is an important goal. Community shared solar and access to solar by low-income communities are foundational pieces of enabling this equitable access, and should be supported with policy structure and incentives as necessary to enable these emerging segments to offer the ability to participate in solar to the eight in ten residents who do not have a good roof for established solar offerings.⁹

Indeed, this demonstrated support for CSS is also clearly spelled out in the Act. The Act gives DOER twelve mandates for developing a new incentive program, among which include specifically requiring DOER to design a program that differentiates incentive levels to support “diverse installation types and sizes that provide unique benefits, including, but not limited to, community-shared solar facilities...”¹⁰

A Higher CSS Adder Is Justified

The Straw Proposal includes a \$0.04/kWh adder for CSS. Based on our analysis of the Consultant Report¹¹ upon which the proposed tariff values in DOER’s straw proposal were derived, as well as our observations regarding the proposed “non-NEM” adder, a higher adder value for CSS is justified.

There are multiple areas in which the Consultant Report appears to have failed to properly value the unique benefits of CSS or consider its unique cost structure. CCSA respectfully argues that, taken together, these limitations merit an upward adjustment in the CSS incentive level.

First, when accounting for project costs, the Consultant Report does not appear to account for the initial CSS-specific customer acquisition costs (marketing and sales), or the costs associated with managing onboarding of the customer, specifically contract verification and sizing of the subscription, when accounting for project costs. According to the report, it surveyed market participants and asked them about the total project costs, where these costs were defined as “the total expected all-in project cost exclusive of interconnection, including all hardware, balance of plant, design, construction, permitting, development (including development fees), interest during construction, financing costs and reserves.”¹² This analysis appears to omit a major cost differential between CSS and other project types with a smaller number of participating customers.

⁹ Massachusetts Net Metering and Solar Task Force Final Report to the Legislature, April 30, 2015. See: <http://www.mass.gov/eea/docs/doer/renewables/final-net-metering-and-solar-task-force-report.pdf>

¹⁰ See: <https://malegislature.gov/Laws/SessionLaws/Acts/2016/Chapter75>,

¹¹ See: <http://www.mass.gov/eea/docs/doer/rps-aps/developing-a-post-1600-mw-solar-incentive-program.pdf>

¹² See Consultant Report, page 21. <http://www.mass.gov/eea/docs/doer/rps-aps/developing-a-post-1600-mw-solar-incentive-program.pdf>

Second, the Consultant Report makes unclear adjustments to the installed costs and the interconnection costs data collected from a limited survey of solar market participants. The quantitative dataset consisted of 21 usable responses from a survey of ~100 organizations.¹³ Instead of using the mean of those 21 usable responses, the Consultant elected to use the mean of the 1st quartile of the low-end of the range and the 1st quartile of the high-end of the range as the default base cost estimates in their analysis. The result of that conservative assumption, as seen from the Consultant Report (Figure 1¹⁴) below, is that the default base case cost estimates for both the installed costs and interconnection costs data are lower than the reported means, leading to an underestimate of the required incentive.

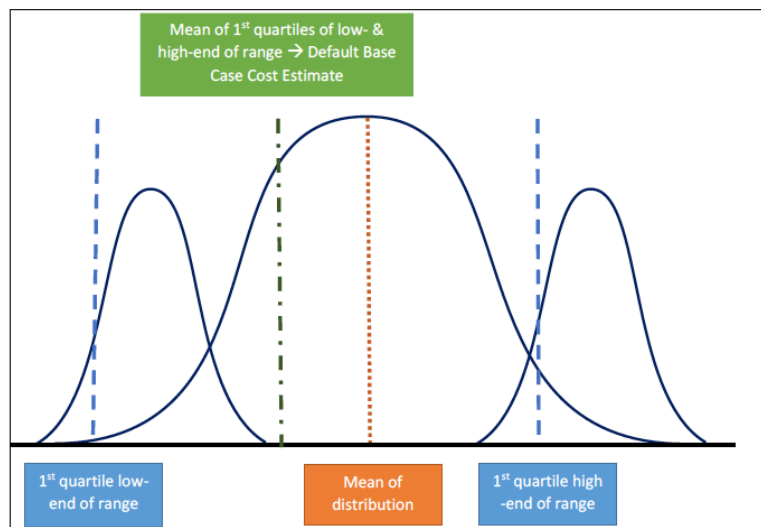


Figure 1. Consultant Report Distribution of Cost Estimates and Calculation Default Base Cost Estimate

Apparently, this decision was made because of a concern with sample bias. Specifically the Consultant Report states that because respondents were primarily market participants, their own self-interest “coincided with higher reported costs that could result in higher policy incentives.” We respectfully argue that concern with sample bias is unwarranted; CCSA members responded to the survey in good faith and provided an accurate picture of their projects’ costs. Moreover, this adjustment will be a self-fulfilling prophecy: By making this adjustment, the consultants are signaling to market participants that they must over-report costs in future surveys in order to ensure that the final estimates are accurate. This will undermine future data collection efforts.

Furthermore, the Consultant made further adjustments to the default base costs “[a]s felt

¹³ See Consultant Report, page 12. Results start on page 20.

¹⁴ See Consultant Report, Figure 12, page 28.

necessary,”¹⁵ but does not specify which costs were adjusted, the magnitude for the adjustments, or the reasoning behind why the Consultant decided the cost adjustment was needed in the specific case. This prevents a transparent and meaningful review by stakeholders.

Third, the Consultant Report may have underestimated O&M costs for CSS, which are higher than non-CSS projects of comparative size given with the costs associated with ongoing communications, servicing, accounting and crediting an entire community of customers – not just a single customer – as well as replacing project participants, and accounting. The Consultant Report acknowledges this, but is not clear which costs were used. The survey results indicate that O&M costs ranged from \$0.04/W-DC/year to \$0.08/W-DC/year for CSS projects 250 kW – 1 MW and \$0.05/W-DC/year to \$0.09/W-DC/year for CSS projects > 1 MW.¹⁶ But, it is not clear which costs from within that range were used. This prevents a transparent and meaningful review by stakeholders.

Fourth, given that the proposed incentive would step down over time, it is essential that DOER establish initial incentive levels that are high enough in the beginning to withstand successive reductions over time as each block gets filled up. The Consultant Report does not provide detailed justification for the proposed 5% step-down.

Finally, the Consultant Report excluded “policy transition costs.” The Report defines these “frictional” costs as, “the potentially significant (but difficult to quantify) costs to solar market stakeholders and other participants associated with broad-scale solar policy change.”¹⁷ The Report notes that the potential transitional costs imposed relate to an increased cost of financing when transitioning away from a SREC structure and goes on to consider possible scenarios in which investors leave the market permanently and are not replaced, investors depart and are replaced, and the transition means less overall development making Massachusetts market unappealing. The Report counters these fears of the transition by noting that fixed price contracts (compared to the SREC structure) via long-term contracting with utilities will ultimately bring down financing costs. While we agree it is difficult to quantify the cost impacts related to this issue, CCSA believes that these policy transition costs are especially burdensome for the CSS emerging market, which is relatively new compared to the other market segments and for which investors are particularly cautious.

Aside from these issues identified in the Consultant Report, we also seek clarity as to the rationale for providing non-net metering projects a higher adder (proposed at \$0.05/kWh) than the proposed CSS adder (currently proposed at \$0.04/kWh). As proposed, this appears to create a strong financial disincentive to build traditional CSS projects. Developers would not be able to justify incurring additional costs to acquire and serve community solar customers when

¹⁵ See Consultant Report, page 28. See also page 39, “SEA adjusted the base cost assumptions using our judgment in some circumstances, as well as in setting the low and high cost cases...”

¹⁶ See Consultant Report, Table 10, Results for Third-Party-Owned Systems, page 24.

¹⁷ See Consultant Report, page 73.

they could receive a higher incentive payment for building the same project as a wholesale facility. This will in turn make it even harder for community solar providers to site CSS projects, given the resulting siting competition from similarly sized non-net metered, non-CSS projects. It could also result in the majority of the incentive blocks being taken up by large non-net-metered, non-CSS projects with single or a small number of offtakers, limiting the number of customers who are able to participate in the incentive program. To encourage CSS development, which is specifically prioritized in the Act, the adder for CSS projects should be at least on par, or higher than the adder for non-net metered projects. Put simply, unless the CSS adder is increased not only on an absolute basis, but on a relative basis compared to other asset classes, Massachusetts will not get the diversity of projects the Act envisions, and a large segment of residents who don't have roofs suitable for solar will once again not have access to participate in and benefit from local renewable energy.

CSS Adder Step-Downs

The Straw Proposal suggests that the block base incentive step-down in increments of 5%,¹⁸ but the Straw Proposal does not address what happens to the adders. During a working group meeting held since the Straw Proposal's issuance,¹⁹ it was suggested that the adders should step down in tandem with the base incentive blocks. However, other than keeping step-downs uniform, there is no rationale for that approach. The reason for stepping down the base incentive is to reduce payments as solar equipment costs come down. While we believe the 5% step-down per block (translating to a 30% reduction over five years) is overly aggressive, the step-down structure as a concept is reasonable, as cost declines are well documented and can both be verified and somewhat predicted. However, the adders were based on estimates of costs that are unlikely to follow the same trajectory as technology cost declines (e.g., the additional customer acquisition and customer service costs associated with CSS). Furthermore, the CSS and other adders are intended achieve a specific policy objective, and any change to the adders should take into account whether or not policy objectives are being met. It cannot be assumed that an incentive adder should step down in tandem with the base incentive, or even if it should step down at all.

Instead, we propose that the CSS adder should remain fixed and not step down along with the base incentive. If DOER incorporates a review and reset of the incentive levels based on uptake of the first few blocks, this would also be an appropriate time to revisit whether the CSS adder should be changed.

¹⁸ We also seek clarity on this proposed step-down, specifically is it a 5 percentage point step down or 5% annual reduction? For example, does it decline 100-95-90-85-80, etc. (5 percentage points) or 100-95-90.25-85.74-81.45, etc. (5 percent reduction annually, obtained by multiplying the current year incentive by 0.95)?

¹⁹ Working Group #3 First Meeting, October 20, 2016.

Low-Income Community Solar Adder

CCSA strongly supports the Draft Straw Proposal's adder for low-income community shared solar participants. Providing an additional incentive to low-income customers is paramount to garnering robust low-income customer participation in CSS programs and directly addresses some of the most pressing barriers that have resulted in lower levels of low-income customer participation in other solar programs.

According to solar and low-income advocates, all low-income solar programs should address both accessibility and affordability: "*An effective low-income solar program combines opportunities to participate with **real financial benefits** through a combination of **deep energy cost savings** and **direct support** to overcome some of the financial and other challenges to access*" [emphasis added].²⁰

3. Third-Party Program Administration

While not initially proposed in the DOER straw, the idea of a third-party administrator has received attention at multiple stakeholder meetings held over the last month. CCSA members embrace this administrative model. As discussed at meetings, we agree that the third-party administrator should review applications and verify eligibility for the incentive program, verify production data for NEPOOL GIS, calculate incentive payments, and process and issue incentive payments.

In addition, we propose that the third-party administrator facilitate on-bill crediting for a portion of the total tariff compensation, including net metering credits and appropriate on-bill credits for non-net-metered projects. We believe that there will be significant added value, administrative efficiency, and cost savings associated with both roles.

On-Bill Crediting of a Portion of Tariff Compensation

One of the guiding principles of community solar is that subscribers should receive tangible economic benefits in exchange for their participation.^{21,22} CSS under today's net metering construct in Massachusetts provides the mechanism for achieving this principle – consumers participating in community solar projects are able to reduce their energy bills in a simple, easy-to-understand way. In an environment where net metering may no longer be available, we propose that this same principle remains critical to the success of community solar, and that

²⁰ GRID Alternatives, Vote Solar and the Center for Social Inclusion. *Low-Income Solar Policy Guide*, 2016, See: <http://www.lowincomesolar.org/guiding-principles/>

²¹ Model Rules for Shared Renewable Energy Programs, Interstate Renewable Energy Council, Inc., June 2013. See: <http://www.irecusa.org/publications/model-rules-for-shared-renewable-energy-programs/>

²² Coalition for Community Solar Access Core Principles, 2016. See: <http://www.communitysolaraccess.org/about-us/>

on-bill crediting is essential to enable viable, customer-friendly community shared solar offerings in Massachusetts. The utility bill is often the center of a customer's experience with their energy usage and energy choices; therefore it is appropriate that the benefits of their decision to participate in a community solar project be delivered through the platform of the utility bill.²³ Such a structure can also help avoid tax and securities law complications associated with alternative means of distributing benefits to customers participating in community shared solar projects.

This approach would also eliminate the need for a retail supplier partnership in order to continue to offer CSS in Massachusetts in the event that net metering is not available (although that model could still be explored and developed as a parallel option, as we discuss in the last section of our comments).

Also discussed in stakeholder meetings has been the concept of consolidated billing, such that utilities could both apply on-bill credits to CSS subscribers as well as collect subscription fees and remit those payments to the organization managing the CSS project. This is a promising concept that could result in improved customer experience, especially for low-income customers, and lower transaction costs, and should be explored further.

This proposal requires additional development and may require additional modifications to the Straw Proposal, such as to the definition of Community Shared Solar Generation Unit (e.g. replacing the term "net metering credits" with "bill credits"), or may require additional modifications to related tariffs and/or regulations.

Timely and Accurate On-Bill Crediting is Critical for the Customer Experience

We envision that a third-party administrator could facilitate this on-bill crediting – and importantly, make improvements to the existing Schedule Z process under net metering as well. The existing manual Schedule Z process has proven extremely problematic – customers have reported late and inaccurate bill credits, and the twice per year limitation on updating subscriber lists has resulted in challenges financing community shared solar projects, especially with low income participation.

Under the new incentive program, the identification, verification, and ongoing management of and bill crediting for community shared solar customers must be accomplished through an efficient electronic process, such that both developers and utilities can ensure timely and accurate bill crediting to support a positive customer experience. Instead of twice per year updates to subscriber lists, the minimum permitted under Schedule Z, we propose that a third-party administrator be required to process monthly updates to subscriber allocation lists. Monthly updates to subscriber lists are now standard in community solar programs in other

²³ Model Rules for Shared Renewable Energy Programs, Interstate Renewable Energy Council, Inc., June 2013. See: <http://www.irecusa.org/publications/model-rules-for-shared-renewable-energy-programs/>

states, including New York, Minnesota, and Maryland. By allowing monthly updates, CSS hosts gain the flexibility to substitute new customers if old customers move out of utility service territory or otherwise terminate their contract for CSS. This flexibility, in turn, improves the CSS provider's ability to manage customer churn and enables CSS hosts to offer more consumer-friendly contract terms to all customers because it minimizes the financial risk of being stuck with a delinquent or terminated account. It also ensures that if customers move within the territory, or make other changes, that the customer continues to receive timely and accurate credits.

The third-party administrator would be responsible for interfacing with the CSS hosts to process updates to the subscriber lists, verify the customer billing information, and work with the utilities to facilitate proper application of on-bill credits for each customer; all of which can be accomplished via a secure online database with significant improvements in efficiency and accuracy over today's manual process.

4. Reasonable Siting Criteria

As an organization comprised of industry leaders devoted to providing clean, renewable energy, CCSA appreciates and supports DOER's long-standing commitment to ensure environmentally responsible, sustainable development in the Commonwealth. CCSA appreciates and respects the need to protect sensitive land, species, and historically important areas. We have, and will continue, to following all existing laws, regulations and programs in the Commonwealth with regards to land use and development. To the extent that gaps in the existing land use and siting framework are identified, we are committed to working to close those gaps and ensure development continues responsibly.

Under the DOER draft proposal, ground-mounted solar projects are prohibited from qualifying if sited in any of the following areas:²⁴

- MassDEP Wetlands
- Prime Farmland Soils²⁵
- Prime Forest Land
- BioMap2 Core Habitat and Critical Natural Landscape
- Designated Priority Habitat of state-listed rare species
- Permanently Protected Open Space
- Land designated as "Forest Land" under Chapter 61
- Any Archaeological site listed in the State Register of Historic Places or Inventory of Historic and Archaeological Assets of the Commonwealth

²⁴ DOER Solar Incentive Proposal, September 23, 2016, at slide 10.

²⁵ The definition of Prime Farmland Soils includes Prime Farmland, Farmland of Unique Importance, and Farmland of Statewide Importance. See: EEA, "Land Types for Solar Development," <http://www.mass.gov/eea/docs/doer/rps-aps/solar-land-use-guidance-and-information.pdf>

These land-use prohibitions, when taken together, appear to place the vast majority of land area in Massachusetts effectively off-limits to solar development (initial estimates are close to 99%). These restrictions would drive up costs astronomically to develop on the remaining usable land and would likely not leave enough acreage to allow the additional 1600 MW of solar development targeted under the new incentive. These sweeping land-use prohibitions specifically undermine the statutory requirements that the program “support diverse installation types and sizes that provide unique benefits, including, but not limited to, community-shared solar facilities ...” and “encourages solar generation where it can provide benefits to the distribution system.”²⁶ They also undermine a private landowner’s right to monetize – within the boundaries of current law and permitting processes – his or her property for its highest and best use.

The Land-Use Prohibitions in the Straw Proposal are Unnecessary and/or Duplicative

As siting authority for solar projects is generally controlled at the local level in Massachusetts,²⁷ DOER should avoid imposing additional siting restrictions on solar development. Local jurisdictions are best capable of weighing the benefits of various types of development and determining where within its jurisdiction such development is appropriate. Moreover, Massachusetts has a robust system in place to protect the environment, species, and their habitats. In addition, some of the extensive environmental regulations that the solar industry already complies with when siting solar facilities include:

- The Massachusetts Natural Heritage and Endangered Species Program (“NEHSP”) was created under the Massachusetts Endangered Species Act (“MESA”) and protects rare animal and plant species and their habitats in the Commonwealth. Solar facilities that propose to alter more than two acres of *Priority Habitat* under this program are subject to substantial NHESP regulatory review and approval.²⁸
- Massachusetts Wetlands Protection Act (“WPA”) protects wetlands, lands subject to flooding (100-year floodplains), the riverfront area (added by the Rivers Protection Act), and land under water bodies, waterways, salt ponds, fish runs, and the ocean through careful review of proposed work that may alter wetlands. If a solar facility is proposed in one of these areas, it must comply with the Wetlands Protection Act by filing a notice of intent (or application to work in wetland areas) with the local Conservation Commission. Solar facilities sited near wetlands are required to protect the functions of wetlands and minimize impacts from associated activities such as access and maintenance.²⁹

²⁶ Chapter 75 of the Acts of 2016, See:

<https://malegislature.gov/Laws/SessionLaws/Acts/2016/Chapter75>

²⁷ p. 4, <http://www.mass.gov/eea/docs/doer/renewables/solar/solar-pv-guide.pdf>

²⁸ Ibid., at 23.

²⁹ Ibid., at 20.

These and other existing environmental regulations and programs provide strong protections to the Commonwealth's natural resources. We believe these existing programs provide a better forum to handle these issues, and that adding duplicative requirements to the incentive program is unnecessary. If the incentive program does include land-use restrictions, they should be carefully tailored to avoid conflict or redundancy with existing regulations and should be balanced with the legislative priorities of supporting continued development of diverse types of solar projects, including community shared solar.

The Land-Use Prohibitions Add Barriers to Community Solar

The Solar Incentive's enabling legislation directed DOER to design a program that "minimizes direct and indirect program costs and barriers."³⁰ The blanket land-use prohibitions proposed contravene this statutory requirement by effectively halting ground-mount solar development in 99% of the state. While the DOER straw proposal suggests that exceptions may be allowed, the consideration of exceptions on a case-by-case basis creates a major barrier for solar development across vast areas of the Commonwealth (for an illustrative image, see Figure 2, below³¹). Furthermore, the inherent uncertainty provided by a regulatory scheme prohibiting development unless granted an exception through an unknown process adds significant risk, time, and cost to a project. Rather than endure the risk, time, and expense inherent in obtaining an exception for a project on these lands, developers will be far more likely to look for opportunities in other states.

³⁰ Chapter 75 of Session Laws 2016 – An Act Relative to Solar Energy, Section 11(b)(v)

³¹ See: Massachusetts Office of GIS, http://maps.massgis.state.ma.us/map_ol/oliver.php

Active data layers are (1) protected Openspace (selected via the following pathway: Conservation/Recreation --> Openspace--> Outlines protected), (2) NHESP Priority Habitats of Rare Species, (3) BioMap2 Critical Natural Landscape, and (4) BioMap2 Core Habitat. Active layers that are selected but not visible at the scale shown above (as denoted by the yellow "!" in the "Active Data Layers" key) are DEP Wetlands, Prime Farmland Soils, and Prime Forest Land. Note that proposed restrictions for land designated as "Forest Land" under Chapter 61 and listed archeological sites have not been selected, nor have layers indicating existing infrastructure or other siting restrictions that would further restrict site availability.

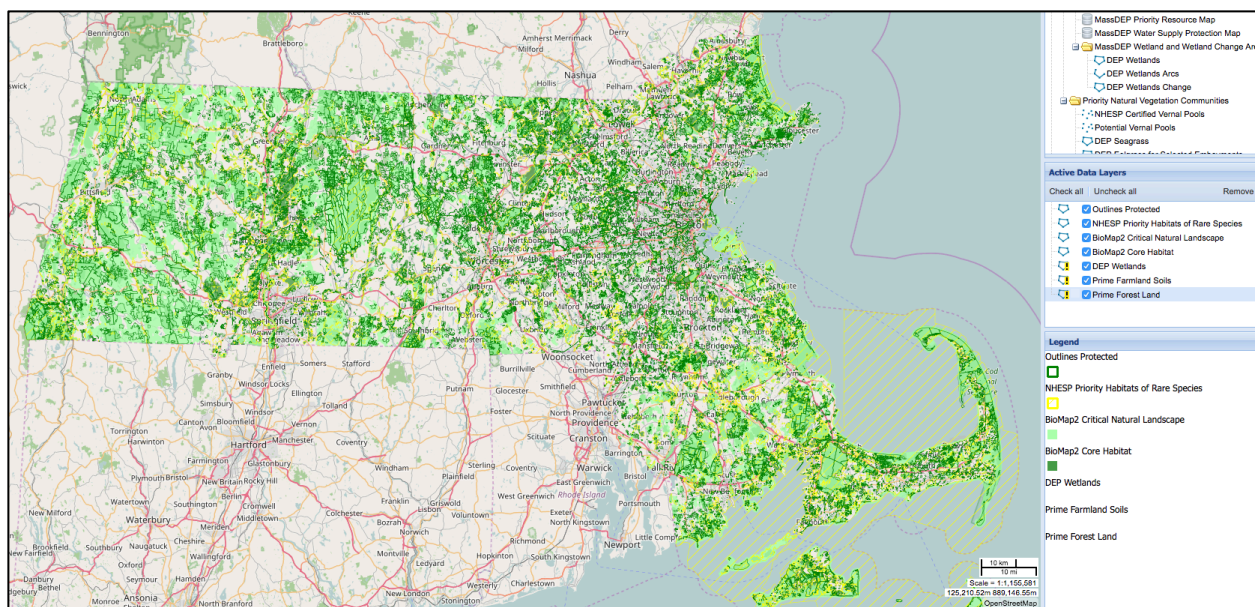


Figure 2. This map of selected proposed restricted areas is illustrative only and actually *underrepresents* the amount of land currently excluded under the Straw Proposal.

Rather than impose restrictive land-use eligibility requirements for the solar incentive, CCSA believes that location-based adders proposed by DOER, such as those proposed for facilities located on landfills and brownfields, provide the appropriate mechanism to encourage siting solar facilities in particular areas without preventing solar development from being sited in other areas.

BioMap2 Core Habitat and Critical Natural Landscape

BioMap2 is a guidance overlay for planners interested in acquiring and protecting open space. The usage guidance provided on the website explicitly states, “This datalayer is intended for conservation planning purposes only. It should not be used for regulatory purposes.”³² Furthermore, BioMap2 datalayers were created in 2010 and actually includes many already developed areas. For example, in Amherst, the BioMap2 overlay includes extensive developed areas including industrial parks and a large portion of the University of Massachusetts campus. Given these deficiencies, including this restriction is unjustified and overly burdensome.

Prime Farmland Soil Prohibition

The Straw Proposal prohibits ground-mounted solar projects from qualifying for the tariff if sited on “prime farmland soils.” The definition of prime farmland soils includes, “Land that has the best combination of physical and chemical characteristics for economically producing sustained high yields of food, feed, forage, fiber, and oilseed crops, when treated and managed

³² See: <http://www.mass.gov/anf/research-and-tech/it-serv-and-support/application-serv/office-of-geographic-information-massgis/datalayers/biomap2.html>

according to acceptable farming methods.”³³ Yet, the presence of prime farmland soils does not mean that the land is currently being used for agriculture. Utilization of prime farmland soils for solar generation therefore does not directly translate into conversion of agricultural land. As such, installing solar on prime farmland soils provides a “banking” conservation value since solar facilities can be constructed, operated and decommissioned in a manner that maintains the integrity of the soil.

The Land-Use Prohibition Could Undermine Agricultural and Forest Land Protection

The impact of solar on prime farmland soils or forested land in Massachusetts has not, to our knowledge, been studied. Furthermore, it is not clear if solar development represents a noteworthy factor in the loss of prime farmland soils that are actively being utilized for agriculture in the state or in the loss of forested land in the state.

As noted by the American Farmland Trust (“AFT”) in its initial June 2016 comments, precise data on solar-related agricultural lands conversion are not available.³⁴ Responsible solar development can provide a net benefit to the preservation of agricultural land in many instances.

Solar facilities provide a financially beneficial arrangement to farmland property owners through generating stable, predictable revenues that can offset risk from other crops or provide the necessary income to keep the farm from being sold. Indeed, AFT³⁵ comments:

The landowners who have decided install commercial solar on farmland – typically under long-term leases – were presumably at a decision point where they did not plan to continue farming and were seeking greater-than-agricultural financial returns. The alternatives they considered were likely to have been other, more-destructive forms of residential or commercial development. Solar was therefore not the worst possible outcome, and large-scale ground-mount solar has in effect secured 25-year+ restrictions on some unknown acreage of Massachusetts farmland.

Solar facilities therefore offer at least two key conservation advantages relative to most other types of agricultural or forested land development conversion. First, solar facilities are not permanent structures and as long as the development proceeds responsibly in a manner that maintains the topography by minimal grading and maintains the topsoil, a solar facility can be decommissioned with the land restored at the end of system life. The land is not lost, but temporarily converted to another productive and beneficial use. Second, ground-mounted

³³ See: EEA, “Land Types for Solar Development,” <http://www.mass.gov/eea/docs/doer/rps-aps/solar-land-use-guidance-and-information.pdf>

³⁴ Ibid. at 1.

³⁵ Ibid, at 2.

solar facilities can preserve many of the environmental benefits of the farmland and forested land. This includes preserving permeable land surfaces and soil quality. As a clean, renewable energy source, solar facilities also displace energy generated from other energy sources that involve substantial environmental destruction and air, water, and land pollution. In addition, as proposed, the incentive program is limited to solar facilities sized 5 MW-AC or less, which translates to approximately 35 acres of land use for a maximum-sized, ground-mount solar facility. This allows many landowners to utilize only a portion of the land for solar development, while continuing farming operations or forested land on the remainder.

A blanket prohibition of ground-mount solar facilities on “prime farmland soils” or “prime forest” therefore represents a “penny-wise, pound-foolish” approach – protecting a few dozen acres from a minimal-impact solar development at the cost of possibly later losing to development what could be hundreds of acres if the property can no longer remain financially viable for the landowner.

Prime Forest Land Prohibition

In addition to the above, it should be noted that there are multiple categories of “prime” forest land, including Prime 1, Prime 2, Prime 3 among others.³⁶ Based on conversations with foresters, Prime 1 represents the best producing forest land in the Commonwealth. We recommend additional scrutiny and revision to this prohibition and look forward to the continued conversation in the Land Use working group.

“Forest Land” Under Chapter 61 Prohibition

Land classified in Chapter 61 “Classification and Taxation of Forest Lands and Forest Products” of the General Laws³⁷ should not be subject to further regulation under DOER’s proposed solar incentive program. Private landowners seek this classification to receive preferential tax treatment in order to incentivize them to maintain their property as forest land. Landowners must meet multiple criteria in order to qualify and maintain classification and are subject to tax penalties for withdrawal. They are also required to notify the local municipality of the intent to sell or convert the land to other use and the town has the right of first refusal to buy the land or to transfer that right of first refusal to an eligible conservation organization. Private landowners managing forest land per Chapter 61 guidance are able to exercise their rights to sell or convert their lands at any time to any type of development. Private landowners are faced by hard choices when considering options for using, selling or converting their lands, and by excluding them from eligibility under this program, private landowner’s may instead opt for a more permanent and destructive option.

³⁶ See: <http://www.mass.gov/anf/research-and-tech/it-serv-and-support/application-serv/office-of-geographic-information-massgis/datalayers/primeforest.html>

³⁷ See: <https://malegislature.gov/Laws/GeneralLaws/PartI/TitleIX/Chapter61>

E. Additional Considerations

Pairing CSS with Retail Energy Suppliers

CCSA addressed the Non-NEM/retail supply model in our initial comments filed in June. We appreciate the opportunity to work with DOER and other stakeholders to develop this new construct, and are participating actively in the working group on this topic. CCSA appreciates DOER's efforts to create an option for CSS that does not rely on net metering and could break the market out of the start-stop cycle created by the net metering caps. However, we note that there are not yet any proven business models in Massachusetts for CSS without net metering. There are major obstacles that must be overcome to develop new business models and retail supply partnerships, including the short duration of retail supply contracts, the fact that most competitive retail suppliers do not have investment-grade credit, and potential tax implications of monetary payments that are not utility bill credits. CCSA is participating actively in the working group and is optimistic that creative solutions can emerge. However, at this point in the discussion, we would welcome more-specific proposals from DOER on this topic, including information on what structures or other support may be available beyond the incentive payment (e.g., a mechanism to backstop short-term contracts with retail suppliers). Given the complexities and questions relating to retail supply partnerships in particular, we believe it should not be the only option available to continue to offer CSS in the state independent of the availability of net metering.

Soft Cost Reduction

While the focus of these comments is on incentive program design, we urge DOER to consider approaches that can be taken in parallel to the incentive program to help bring down the "soft costs" associated with solar project development. Soft cost reduction does not necessarily happen with market scale in the way that module cost reduction, for example, can. It takes focused effort and leadership particularly by government agencies. Without those efforts, projects would require significantly higher incentive levels than proposed by DOER. Providing best practices and guidance to towns on civil costs and requirements, payment in lieu of tax (PILOT) arrangements, and permitting for solar projects can go a long way toward standardizing practices and lowering costs to developers; cost savings can then be passed through to community solar customers in the form of lower subscription costs. We also encourage DOER to work with utilities to streamline interconnection processes and lower interconnection costs.

F. Conclusion

CCSA appreciates the opportunity to offer these comments and looks forward to working with DOER and other stakeholders to ensure a solar incentive program that supports energy justice and expanded access for all customers to have the option to benefit from the Commonwealth's solar initiatives through community solar.