

SMART Regulations Stakeholder Feedback 2024

Submitted by:

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Overarching Feedback and Recommendations

In short, the current SMART regulations are outdated and support solar development that is not aligned with the Commonwealth’s climate goals nor the Commonwealth’s most recent data and reporting. Further, it is not aligned with climate science and international recommendations. The current review of the SMART regulations is an opportunity to re-think and re-design to achieve this alignment rather than tinkering around the edges. The framing of the questions asked by DOER’s consultants demonstrate the limited view DOER is taking and which needs to be broadened.

2023 produced two very significant, data-driven reports that the SMART program should align with. Failure to do so, means ignoring science and the data. One of these reports is the July 2023 DOER report, [Massachusetts Technical Potential of Solar](#), which establishes that Massachusetts has 15-18 times the needed available land to meet its climate goals. Solar siting should follow the data of this report. Equally important is the October 2023 Mass Audubon/Harvard Forest report, [Growing Solar, Protecting Nature](#) – which establishes clear recommendations that enable the Commonwealth to meet its climate goals without compromising the carbon sequestration/storage and resilience of natural lands.

DOER’s Technical Potential of Solar report states (Section 3.1) that “Massachusetts’ solar siting policies should align with the Commonwealth’s existing goals and strategies with regards to land use and natural resource management.” The report’s website further states that “Massachusetts has more than enough solar potential to support our decarbonization requirements – about 15-18 times what we likely need. Further, the best rated parcels add up to double the amount of solar called for in the 2050 Decarbonization Roadmap. Because of the amount of suitable solar potential identified, we can be aggressive with our solar policy while balancing land use priorities and protecting our natural resources.”

A review of the SMART regulations should fully take these new reports and data into account rather than making incremental changes.

An initial and crucial change in the SMART regulations should include an update to the stated Purpose section. The purpose section needs to be broadened to align with climate policies established in the [Clean Energy and Climate Plan for 2025 and 2030](#), the [Clean Energy and Climate Plan for 2050](#), and DOER’s Technical Potential of Solar report, so as to contextualize SMART as part of a multi-pronged approach that protects carbon sequestration/storage and in particular forested, agricultural, and environmentally important lands in the Commonwealth.

Without this contextualization, the program’s purpose can be construed to develop solar at the expense of or as a priority over other complementary mitigation and resiliency efforts. The current Purpose, as written is too narrow:

The purpose of 225 CMR 20.00 is to establish a statewide solar incentive program to encourage the continued use and development of generating units that use solar photovoltaic technology by residential, commercial, governmental and industrial electricity customers throughout the Commonwealth. The continued use and development of these generating units has the potential to reduce peak demand, system losses, the need for investment in new infrastructure, and distribution congestion; increase grid reliability; improve public health and safety; and diversify the Commonwealth’s energy supply. Further, it will also contribute to the Commonwealth’s environmental protection goals concerning air emissions including, but not limited to, those required by the Global Warming Solutions Act, M.G.L. c. 21N, §§ 1-9, by displacing non- renewable generating resources.

Responses

1. The SMART program currently provides added incentives for certain project types, including building mounted, canopy mounted, landfill, brownfield, agricultural, floating, community solar, and projects serving low income or public entities, projects with energy storage, and axis racking. DOER seeks additional feedback on changes or improvements that will advance achievement of the Commonwealth’s 2050 GWSA mandates while balancing land use, equity, and economic considerations.

a. What project type incentive changes could improve program outcomes?

The Growing Solar, Protecting Nature report states that “A loophole in SMART provides state funding to ground-mount projects on high biodiversity lands as long as they are community solar.” This explains why, despite preferences in the regulations, thousands of acres of forest have been or are being lost to SMART-subsidized solar. As the report documents, “From 2010-2020, nearly half of ground mount arrays (3,753 of 7,900 acres) were sited in forested areas.” Similarly, SMART-subsidized solar has dramatically reduced active agricultural land, another priority for the Commonwealth. The Growing Solar, Protecting Nature report states that “To date, nearly 1,600 acres of Massachusetts prime farmland has been converted to host ground-mount solar arrays.”

The community-solar loophole must be removed.

The Growing Solar, Protecting Nature also makes several policy recommendations that SMART incentives should align with. These are:

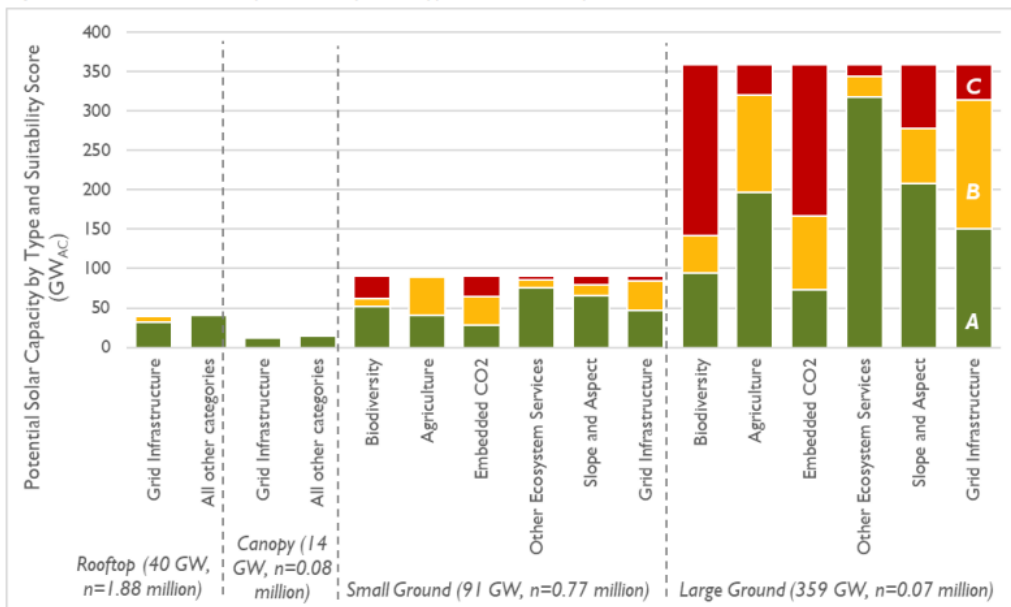
- Eliminate state incentives for solar projects on valuable natural and working lands while increasing incentives for solar on rooftops and developed lands
- Invest in reducing the labor and permitting costs of rooftop and canopy solar projects [can be achieved through effective Adder rates]

- Support large-scale landowners in building solar on rooftops and near existing transmission infrastructure

Projects on disturbed land and the built environment must be prioritized consistent with 2023 Massachusetts Technical Potential of Solar Report, the Clean Energy and Climate Plan for 2050 and the Massachusetts Clean Energy and Climate Plan for 2025 and 2030. In particular, deployment on forested land and active agriculture, should not be incentivized or even, subsidized. Similarly, the higher costs of developing on rooftops and developed land including canopies must be addressed by incentivizing through SMART program Adders for these projects.

The Technical Potential of Solar Report indicates that in terms of biodiversity and embedded carbon, large scale solar gets the lowest rating, “C”, in terms of suitability.

Figure 7. Share of technical potential by solar type and suitability score



Specifically, the following Adders should be removed:

The Community Shared Solar – per the Growing Solar, Protecting Nature report, this is a key loophole that allows for SMART projects to be built on forested land and active agriculture – presumably negating related Subtractors for this siting.

The Public Entity Adder should be removed from the Adders since this allows for development in BioMap land, contrary to regular SMART restrictions and allows for granting a subsidy prior to local permitting – key exemptions that developers have tried to exploit.

Current Adders

Community Shared Solar Tariff Generation Unit	\$0.05
Low Income Property Solar Tariff Generation Unit	\$0.03
Low Income Community Shared Solar Tariff Generation Unit	\$0.06
Public Entity Solar Tariff Generation Unit	\$0.04

Energy Storage System adder. While not listed in the table in the regulations, projects with Energy Storage Systems currently get adders. Given the risks of lithium-ion batteries and given the fact that SMART subsidies now require ESS, this adder should be removed.

(c) Energy Storage Adder. A Solar Tariff Generation Unit that co-locates with an Energy Storage System shall be eligible to receive a variable adder to its Base Compensation Rate.

1. Energy Storage Adder Multiplier. The energy storage adder multiplier shall be \$0.045/kWh and shall decline pursuant to 225 CMR 20.07(2).

The Low-Income Adder – while laudable, this Adder needs improvement in terms of accountability, required documentation, and effectiveness. More about this later.

Adders to incentivize the preferred solar deployment approaches, as documented in the DOER Technical Potential of Solar report and the Growing Solar, Protecting Nature report, should be included in updated regulations. The level of Adder should be sufficient to actually achieve the incentivization needed to shift business plan calculations.

- Adder for canopies
- Adder for building on disturbed land, especially brownfields and landfills
- Adder for building rooftops

Subtractors

The level of the current subtractors are clearly insufficient to adequately disincentivize development in places that the SMART regulations and the Commonwealth's climate reports identify as bad siting. The subtractors need to outweigh the Adders. What seems to be happening is that a project can be sited on forested or agricultural land but claim an Adder, such as Low-Income, and still retain a competitive standing.

Greenfield Subtractors (g)

A Solar Tariff Generation Unit that is classified as Category 2 Land Use or Category 3 Land Use, as prescribed in 225 CMR 20.05(5)(e)2. or 3., shall have value subtracted from its Base Compensation Rate as follows:

- 1. Category 2 Land Use Solar Tariff Generation Units. A Solar Tariff Generation Unit that is classified as a Category 2 Land Use, as prescribed in 225 CMR 20.05(5)(e)3. or that meets the exception established in 20.05(5)(e)1.c, shall have its Base Compensation Rate reduced by a Greenfield Subtractor of \$0.0005/kWh per acre of land that the Solar Tariff Generation Unit occupies.*
- 2. Post Publication Date Category 2 Land Use Solar Tariff Generation Units. A Solar Tariff Generation Unit that is classified as a Category 2 Land Use, as prescribed in 225 CMR 20.05(5)(e)3 and 20.05(5)(e)7.b, after the Publication Date shall have*

- its Base Compensation Rate reduced by a Greenfield Subtractor of \$0.00125/kWh per acre of land that the Solar Tariff Generation Unit occupies.*
3. *Category 3 Land Use Solar Tariff Generation Units. A Solar Tariff Generation Unit that is classified as a Category 3 Land Use, as prescribed in 225 CMR 20.05(5)(e)4., or that meets the exception established in 20.05(5)(e)1.c , shall have its Base Compensation Rate reduced by a Greenfield Subtractor of \$0.001/kWh per acre of land that the Solar Tariff Generation Unit occupies.*
 4. *Post Publication Date Category 3 Land Use Solar Tariff Generation Units. A Solar Tariff Generation Unit that is classified as a Category 3 Land Use, as prescribed in 225 CMR 20.05(5)(e)4 after the Publication Date shall have its Base Compensation Rate reduced by a Greenfield Subtractor of \$0.0025/kWh per acre of land that the Solar Tariff Generation Unit occupies.*

The Exception for “good cause” (5b) should be removed.

Additionally, Adders and subtractors should be objective not subjective:

5. *Exceptions to Greenfield Subtractors. A Solar Tariff Generation Unit that is classified as Category 2 Land Use or Category 3 Land Use, as prescribed in 225 CMR 20.05(5)(e)3. or 4., or 225 CMR 20.05(5)(e)7 shall not have its Base Compensation Rate reduced by a Greenfield Subtractor, as prescribed in 225 CMR 20.07(4)(g), if it can demonstrate to the Department’s satisfaction that:*
 - a. *documentation required to meet the criteria set forth in 225 CMR 20.06(1)(c) was obtained prior to June 5, 2017; or*
 - b. *it should be granted an exception to the provisions of 225 CMR 20.07(4)(g) for good cause.*

b. Should other project types also be prioritized?

Based on the recommendations of the Growing Solar, Protecting Nature report, the DOER Technical Potential of Solar report, the Commonwealth’s Clean Energy and Climate Plans for 2025 and 2030, and the Clean Energy and Climate Plan for 2050, I would suggest the following goals, which SMART can directly impact.

SMART should strongly incentivize (create Adders and regulations) so that every flat commercial roof in the Commonwealth has rooftop solar. Notably, the SMART subsidy should allow for costs related to retrofitting existing structures to support the added weight of roof tops. There should also be Adder points for co-located canopies.

Small-scale microgrids can help establish true resiliency; those owned by municipal or nonprofit ownership of the Solar Tariff Generation Units should be encouraged [again DOER needs to avoid the pitfalls of the Public Entity model where private development on private land pretend to be public]. Similarly, currently allowing, if not incentivizing, the linking of current solar installations into a local, neighborhood based microgrid that includes residential rooftops, to increase energy resiliency, should occur.

2. The current SMART program structure includes a declining block model. Is a structure with fewer blocks and a greater decline between blocks preferable to a greater number of blocks with a smaller decline between blocks? Are there any other modifications to the declining block model structure that could more effectively support solar development?

DOER should focus on the desired outcome rather than that process. I would suggest that the desired outcome is incentivizing the projects that best align with the Commonwealth's siting priorities using data from the Technical Potential of Solar report. Specifically, siting solar in a way that is complementary to carbon sequestration/storage, true environmental resilience and protection with focus on building on disturbed land and via canopies.

The current approach of declining blocks encourages a wild west approach – developers trying to get their foot in the door early to secure their project and maximize revenue by getting a higher rate of subsidy. High quality developments likely take more time to develop since siting should be thoughtful to ensure minimal environmental impact and increased safety, as well as meaningful community engagement. The current process that pushes quick application discourages community engagement, thoughtful siting, etc.

Approval of blocks should be based on an assessment of quality using a variety of criteria (including community engagement, preservation of carbon sequestration/storage, safety, environmental impact, as well as energy output). As noted below, the current regulations do not include criteria for quality of siting, safety, or community engagement – ranking is limited to price.

20.07 Compensation Rates

5. Selection Process.

Proposals that meet the eligibility criteria in 225 CMR 20.07(3)(a)2. shall be ranked by requested Base Compensation Rate, with proposals requesting lower Base Compensation Rates being given preference over those requesting higher Base Compensation Rates. After proposals have been ranked by price, each Distribution Company shall select any eligible proposals up to the amount of MW being solicited by the Distribution Company, which will be eligible to receive a Base Compensation Rate equal to the Clearing Price.

3. Are any eligibility criteria in the SMART program a barrier to participation? What are they, and how would you address these barriers? How would you streamline these eligibility criteria?

Municipalities are currently unable to participate in the SMART program in a meaningful way since the subsidies don't currently benefit them nor do they have the capital to develop large scale solar. The Public Entity approach, while well-intended to support municipal participation in SMART, is misguided and creates a dangerous loophole through which developers can get subsidies that go against the siting priorities otherwise identified in the SMART regs.

Municipalities should be able to own the subsidized solar installations, i.e. the Solar Tariff Generation Units. Funds for the subsidy could be allocated to the state's Green Bank with the value of the subsidy earmarked for the municipality's climate related developments (rather than being reliant on competitive MVP or META grants). This would enable municipalities to increase their solar deployment and create additional climate mitigation projects such as stormwater control, flooding mitigation, heat and drought mitigation, etc. without being dependent on taxation, bonding or competitive grants.

4. Is the current SMART reservation period (excluding any blanket extensions) adequate given current development and construction timelines? If possible, please provide a representative project timeline inclusive of key project milestones, such as permitting, procurement, and interconnection, to help inform DOER's understanding of the development process and current project timelines.

No comment

5. Are there any emerging technologies or project types that are not currently eligible for SMART that DOER should consider making eligible for the program? Please describe potential project applications, any suggestions for eligibility requirements, and what level of incentives if any would be needed spur project development of the project type.

As mentioned above, there are several projects types that should be allowed, if not incentivized by SMART. These include:

- Municipalities should be able to own the subsidized solar installations, ie the Solar Tariff Generation Units. Funds for the subsidy could be allocated to the state's Green Bank with the value of the subsidy earmarked for the municipality's climate related developments (rather than being reliant on competitive MVP or META grants). This would enable municipalities to increase their solar deployment and create additional climate mitigation projects such as stormwater control, flooding mitigation, heat and drought mitigation, etc.
- Small-scale microgrids to establish true sustainability should be encouraged with municipal or nonprofit ownership of the Solar Tariff Generation Units. Similarly, currently allowing, if not incentivizing, the linking of current solar installations, including residential rooftops, to increase energy resiliency, should occur.

6. Are program compliance requirements clear prior to program enrollment? What are the key challenges with satisfying the data and/or documentation requirements for various program compliance checks, such as compliance with the energy storage, low-income, or community solar requirements? Are there any modifications you would suggest to DOER's compliance processes, or alternative data/documentation you believe could satisfy the requirements?

In my opinion, SMART documentation processes and requirements are weak and data sharing; especially with host municipalities and the public, they are non-existent. This needs to change.

Address deficiencies regarding Low-Income Elements

Being able to claim that a project serves a Low-Income Community is an easy way for a developer to get an Adder that can compensate for a Subtractor due to poor siting. This seems like a preferred route for projects in forested or agricultural land to remain competitive. Also the requirement that only 5% of the energy goes to a low income community is a small commitment for developers; especially when the reward is an Adder that could be used to offset a poor siting Subtractor.

(d) Set-aside for Low Income Community Shared and Low Income Property Solar Tariff Generation Units.

Each Capacity Block, starting with the first full capacity block after the Publication Date, shall have a minimum of 5% of its total available capacity reserved for Low Income Community Shared and Low Income Property Solar Tariff Generation Units.

This Low-Income Community loophole is made worse by my sense that documenting that a project actually ends up providing discounted energy to a low income community is weak. In my experience, one SMART application was allowed to be submitted to DOER with the developer not required to have an already identified community but rather claiming the Adder based on a “low-income community to be named later”.

Furthermore, it is not clear what oversight is really in place to ensure low income communities are getting the benefit and what the accountability is if they are not? And what agency is responsible for making sure that the same low-income communities are not being cited multiple times?

I would suggest that it would be better to de-link the siting and development of solar generation with the important policy of the Commonwealth subsidizing low-income customers. There are more direct, more clearly documented approaches to achieve the goal of delivering lower cost energy to low-income customers.

Finally, this provision regarding the Low-Income Community approach is not clear. Do low income customers need to enroll with a contract in order to actually benefit?

(k) Special Provision for Serving Low Income Customers. After the Publication Date, a Solar Tariff Generation Unit that services eligible Low Income Customers must demonstrate to the Department's satisfaction that any such customers shall receive a net savings by enrolling in the solar contract, as detailed in the Department's Guideline Regarding Low Income Generation Units.

7. Are SMART application processes and requirements clear? Is communication between applicants, the Solar Program Administrator, and DOER clear and effective? Please describe any improvements you believe could be made to the SMART application process.

The entire SMART process from application through to approval process is opaque to the public and to host municipalities. The SMART program is distributing large amounts of public money to private entities yet public access to data is minimal.

The SMART program needs to administered to intentionally increase public access and transparency. Likely many other parts of the Massachusetts government, there needs to be a public facing, easy to access website for the entire SMART process. All applications should be listed within 30 days of receipt by DOER along with communications and decisions made through to approval. Since proprietary information is paramount for the developers, the application process and documents should be redesigned so that the small percentage of truly proprietary information can be withheld but the majority of information is available to the public, including local permitting boards. Similar to the requirement with Open Meeting Law, a reasonable person must be able to understand the project in meaningful detail.

As part of this effort, the regulations should be modified regarding confidentiality. This should be balanced with public's right to know. Regulations currently are:

Confidentiality (10)

The Distribution Company and the Department, to the extent authorized by law, will treat all proposals received from prospective Solar Tariff Generation Units in a confidential manner and will use reasonable efforts, except as required by law, not to disclose such information to any third party or use such information for any purpose other than in connection with the evaluation of a Solar Tariff Generation Unit's participation in the procurement process described in 225 CMR 20.07(3).

In addition, since there are permitting needs and risks associated with solar siting, host municipalities need access to timely and detailed information. In particular, the reporting requirements in the SMART regulations should be expanded to include sharing the following information with the host municipality:

- Site safety information and information associated with possible health and safety risks for residents of the municipality
- Information about site work that is scheduled or that has occurred so the municipality can be aware of site-based activities and plans

In particular, sharing of information should be as follows:

- This information should be required to be sent to the municipality's fire department, executive body, board of health, planning board and zoning board of appeals.
20.06: Qualification and Block Reservation Process for Solar Tariff Generation Units, (1) Statement of Qualification Application (a) Authorization to Interconnect.
- An Executed Contract to be sent to the municipality's fire department, executive body, board of health, planning board and zoning board of appeals.

Expand Required Documentation for Solar Tariff Generation Units with Rated Capacities of 25 kW or Less (b)

- Expand the notification process to include host municipality. The Application Review Procedures (2) currently reads:
 - a. *The Solar Program Administrator will notify the applicant when the Statement of Qualification Application is administratively complete or if additional information is required pursuant to 225 CMR 20.06(2).*

Current requirement should be changed regarding notification to include host municipality

(3) Issuance or Non-issuance of a Statement of Qualification

- a. *If the Department finds that a Generation Unit meets the requirements for eligibility as a Solar Tariff Generation Unit pursuant to 225 CMR 20.00, the Solar Program Administrator will provide the Owner of such Unit or the Authorized Agent of the Owner with a Statement of Qualification.*
- b. *The Statement of Qualification shall include any applicable restrictions and conditions that the Department deems necessary to ensure compliance by a particular Solar Tariff Generation Unit with the provisions of 225 CMR 20.00.*
- c. *If a Generation Unit does not meet the requirements for eligibility as a Solar Tariff Generation Unit under 225 CMR 20.00, the Solar Program Administrator shall provide written notice to the Owner or to the Authorized Agent of the Owner, including the reasons for such finding*

Current requirement should be changed regarding notification from the owner to the Solar Administrator to include host municipality:

Notification Requirements for Change in Ownership, Generation Capacity, or Contact Information (6)

The Owner or Authorized Agent of a Solar Tariff Generation Unit shall notify the Solar Program Administrator of any changes in the ownership, capacity, or contact information for the Solar Tariff Generation Unit. The Owner or Authorized Agent shall submit the notification to the Solar Program Administrator no later than five days following the end of the month during which such changes were implemented. .

8. Are there solar canopy project types that currently fall outside the SMART program's definition of Solar Canopy that you believe should be eligible for the Canopy adder? Please provide example project types and describe their benefits.

All canopy projects should be eligible. That should be a blanket eligibility. Importantly there should be an Adder for all Canopies in order to incentivize them given the additional cost of development.

In addition, given the expansive amount of developable land along publicly owned roadways, including the Mass Pike and state highways, roadside canopies should be specifically incentivized. The current regs state only:

2. The Solar Tariff Generation Unit will have 100% of its nameplate capacity of the solar photovoltaic modules used for generating power installed over certain roadways or highways or adjacent parcels owned or controlled by the Massachusetts Department of Transportation;

9. Are there examples of dual use agrivoltaics policies in other jurisdictions that align with Massachusetts’ solar and agricultural objectives? Please provide citations and summaries of those policies.

Dual use should be limited to grazing or on land along the perimeter of active growing land. Any solar development that creates shade on growing areas should be deemed ineligible. Reducing the Commonwealth’s growing capacity goes against other initiatives seeking to promote food sustainability in the state.

A priority of the Commonwealth is to grow our agricultural base for increased resiliency in the face of climate change. The Growing Solar, Protecting Nature report, references the New England Food Vision of 50 by 60” – that 50% of New Englanders’ food would be grown locally by 2060. The 2 million acres of farmland in New England provide only 12% of our food, while 10 to 15% of households report not having enough to eat. New England has the capacity to expand its farmland from 2 million acres to 6 million acres, accomplishing the 50 by ’60 goal while simultaneously reducing our “farm footprint,” leaving 70% of the region forested, reconnecting people with the land, and enhancing wildlife habitat. “The current SMART regulations in relation to agrivoltaics do not align with the idea of growing resilient agricultural land in the Commonwealth.

Particular changes to the SMART regs should be made to make evaluation of the impact on agriculture by solar canopies more objective. The bar now, “*not to interfere*” is vague and open to exploitation and can lead to legal challenges. The current regulations, read:

Regarding Special Provisions for Agricultural Solar Tariff Generation Units (d)
Needs more objective measures...

1. the Solar Tariff Generation Unit will not interfere with the continued use of the land beneath the canopy for agricultural purposes;

More importantly, however, the SMART regs create bad policy by allowing large scale solar development on agriculture with no prior data that shows its effectiveness or has demonstrated mitigation of potential harms. No solar development should be allowed without prior documentation that objectively based, “non-interference” can be achieved. Currently the SMART regs basically allow for a large scale, publicly subsidized experiment with the potential for significant impact; rather this should be a small pilot program. The regs allow this situation by the following:

5. annual reporting to the Department and MDAR of the productivity of the crop(s) and herd, including pounds harvested and/or grazed, herd size growth, success of the crop, potential changes, etc., shall be provided after project implementation and throughout the SMART incentive period;

10. What modifications to SMART incentive payment calculations, as currently set forth in 225 CMR 20.08, if any, are needed? Please provide examples formulas or calculations for DOER review.

No comment

11. How could the program be designed to insulate projects and participants from unforeseen market circumstances that materially impact the value of the SMART program incentive? For example, global events impact supply chain and energy costs.

No comment

12. What additional consumer protection measures or modifications to existing measures should the SMART program incorporate to ensure such protections are achieving their objectives, especially as they pertain to low-income customers?

Low-Income Accountability. Specifically, there seems to be a lack of oversight and accountability related to the Low-Income Community initiative which can result in the initiative sounding good on paper and in talking points but likely not bringing material benefit to low income residents of the Commonwealth. Stronger protections, documentation of financial benefits at the residential level, and stronger accountability should likely be put in place.

A clear example of where the SMART regulations need to be improved and strengthened is in the Auditing section. Rather than a non-compliant project which does not provide DOER with sufficient Low-Income related documentation after 3 warnings, being barred from new applications, it should permanently or temporarily lose access to its subsidy, providing an financially sufficient penalty. The current regulations read:

(m) Auditing of Customer Disclosure Forms. The Department shall conduct periodic audits of the customer disclosure forms submitted subject to the requirements of 225 CMR 20.06(1)(b)3, 225 CMR 20.06(1)(f) and 225 CMR 20.06(1)(h) pursuant to the Guideline on SMART Consumer Protection. If the Department audit identifies material defects in the information provided, including, but not limited to, discrepancies between the information provided on the customer disclosure form and the customer contract, or if the audit finds the application does not meet the criteria for a Low Income Solar Tariff Generation Unit or a Low Income Community Shared Solar Generation Unit, the applicant shall be issued a warning by the Department. If a single applicant is issued three warnings by the Department, the Department shall notify the applicant that, effective upon date of issuance of the third warning, that applicant may not submit any further Statement of Qualification Applications for a period of 12 months.

Public Health, Safety and Welfare Provisions

More broadly, there are no consumer protections in the regulations for residents of either the host or neighboring municipalities of SMART projects. Most dramatically, the SMART regulations

do not mention and certainly don't currently require any safety, environmental protection, or quality of life measures. Since the Supreme Judicial Court and the Attorney General have dramatically limited municipalities' ability to regulate solar, the protection of public health, safety and welfare, needs to be explicitly established in the SMART regulations. Examples include:

- If energy storage systems are required for a SMART subsidy, there needs to be protection against the high risk of fire and the resulting forest fires, air contamination and water contamination
- No protection against erosion and degradation of water supplies resulting from significant forest cutting or earth disturbance, including earth removal as occurs in Southeastern Mass.
- Some solar panels include a PFAS coating that comes in direct contact with rain and snow. There is no prohibition on the use of PFAS in solar arrays subsidized by SMART

Public Access as Consumer Protection

Additionally, the SMART regulations provide the public and host municipalities little or no information about a SMART-subsidized project – either during the application process or after its approval and operation. It is impossible to provide consumer protections without requiring the sharing of information. In short, the SMART regulations need to include a requirement and DOER must establish an easy to use process for sharing information with the public. Specific recommendations in the regulations should include the requirement that:

- Completed applications should be posted on a public website. Similar to the Mass. Court docket system, all relevant materials associated with an application should be posted in a timely manner to allow stakeholders and interested parties to act, as needed.
- Notifications of application, completion and key milestones be sent to the host municipality
- Key risk/safety related information be publicly posted

The SMART regulations must also be strengthened to require public engagement and official public comment, especially prior to the approval of a SMART subsidy. Currently there is no process available to consumers or host/neighborhood municipalities to comment on decisions regarding the awarding of a Statement of Qualification Application. This is especially important since the Mass. courts and Attorney General have limited the ability for municipalities to regulate via zoning – the usual way for residents and municipalities to ensure protections.

The current regulations are as follows:

The Application Review Procedures (2)

- b. *The Department may, at its sole discretion, provide an opportunity for public comment on any Statement of Qualification Application.*

13. Are there any Commonwealth policies (e.g., renewable energy goals, land use priorities, housing policy) that you believe the SMART program inadvertently conflicts with? Please describe any potential modifications to SMART that would alleviate these conflicts.

YES! In **practice**, the SMART program conflicts with:

- The Massachusetts Technical Potential of Solar Report which, as of 2023, documents that there is 15-18 times the available land for the Commonwealth to meet its climate goals and creates a system based on suitability for where siting of solar should occur. The SMART regs should align with this approach.
- The Massachusetts Clean Energy and Climate Plan for 2025 and 2030. For example, on page 91, the report states that “Natural and working lands’ ability to sequester emissions will be a critical component of achieving net zero GHG emissions in Massachusetts”. Further, it states that “To retain NWL [Natural Working Lands] carbon sequestration capacity for 2050 and prevent further emissions, the Commonwealth is committing, through state conservation efforts, to the goal of increasing permanent conservation of undeveloped land and water (including wetlands) in Massachusetts to at least 28% and 30% by 2025 and 2030, respectively.”
- The Massachusetts Clean Energy and Climate Plan for 2050. In terms of protection of forests and agriculture, the Plan states that “climate-intensified ecological disturbances, the conversion of forests to other land uses, and a slowdown in the growth of Massachusetts’ aging forests present considerable risks and challenges to maintaining current levels of carbon sequestration through 2050. In terms of community engagement, the Plan states that “EEA will increase engagement with cities and towns across the Commonwealth to help communities build and implement town-specific climate mitigation plans while ensuring that available data and implementation approaches are consistent across the Commonwealth.”
- The BioMap program. This longstanding program, established by MassWildlife and The Nature Conservancy with support from the Executive Office of Energy & Environmental Affairs needs further protection from SMART projects. While current regulations ostensibly protect BioMap land, in practice, this does not happen and loophole exist, created by 1) the various Categories of eligibility and related exemptions and 2) the Adder/Subtractor system, whereby land on BioMap can occur with the claiming of Adders.
- Various environmental protections that seek to prevent contamination of drinking water/water supply. Two examples that exist via SMART projects are the risk of contamination from lithium-ion energy storage systems (ESS) and the use of PFAS on solar arrays.

14. Is there any additional feedback you wish to provide to DOER?

A. Change land use eligibility

General improvements that are needed:

- The categorization of eligible and ineligible land is not clear and makes convoluted references between pre-publication status and post-publication status. There should only be one set of categories.
- Categories should be re-designed to align with the Massachusetts Technical Potential of Solar Report and the Growing Solar, Protecting Nature reports.
- Eligibility and ineligibility should be made clear with no exemptions.

Specific changes should be made including the following:

1. Remove the backwards references to land use pre-publication and re-write so there is one active status and these are clear. Current regulations read:
A Solar Tariff Generation Unit must meet the performance standards and will be placed into one of three categories with respect to the land or property on which it is sited as enumerated in 225 CMR 20.05(5)(e) 1 through 6, except as noted herein.
2. Remove reference to Public Entity exemption in Category 1 Non-Agricultural.
Category 1 Non-Agricultural. Solar Tariff Generation Units not located on Land in Agricultural Use or Important Agricultural Farmland that are a Public Entity Solar Tariff Generation Unit will be designated as Category 1 Non-Agricultural
3. Given the limitations on municipal zoning and local regulation of solar established by the Supreme Judicial Court and the Attorney General, Category 2 Land Use should be rewritten since the courts have limited the effectiveness of local zoning in regards to solar. Current regs read:
Category 2 Land Use. Solar Tariff Generation Units not otherwise designated Category 1 that are ground-mounted with a capacity greater than 500 kW and less than or equal to 5,000 kW that are sited within a solar overlay district or that comply with established local zoning that explicitly addresses solar or power generation, shall be designated as Category 2 Land Use as in 20.05(5)(e)3.

Ineligible Land Use needs to be strengthened so that loopholes do not allow for development on ineligible land such as BioMap. Current regs result in building on BioMap land if they are deemed Category 1 which include agricultural land or that comply with local zoning (but notably local zoning cannot prohibit development on BioMap so this is circular logic). Current regulations state:

- *Solar photovoltaic Generation Units sited on land designated as Priority Habitat or Core Habitat, that do not meet the criteria of Category 1 Land Use; or*
- *Solar photovoltaic Generation Units sited on a parcel with 50% or more of its area designated as Priority Habitat and/or Core Habitat, that do not meet the criteria of Category 1 Land Use.*

- *Solar photovoltaic Generation Units sited on land designated as Critical Natural Landscape that do not meet the criteria of Category 1 Land Use; or*
- *Solar photovoltaic Generation Units sited on a parcel with 50% or more of its area designated as Priority Habitat, Core Habitat, and/or Critical Natural Landscape, that do not meet the criteria of Category 1 Land Use.*

B. Delete or modify Public Entity

The status of Public Entity is a misguided effort to support municipal involvement in the SMART program. Rather than open the door to meaningful involvement by municipalities to develop solar, it creates a loophole that private developers have attempted to exploit to get preferential rates (jumping to front of the line), avoiding permitting before being granted a Statement of Qualification, and building on lands, such as BioMap, that is otherwise ineligible. This loophole should be removed and a more effective approach to supporting the municipal development of solar established in its place.

If the Public Entity is retained or a replacement established, the SMART regulations must require more documentation of evidence between a private developer and a public entity to be more substantial to include a detailed executed contract including the scope of the project, the scope and specific responsibilities of the parties, the terms of compensation, the terms of liability terms, etc. Currently only requires:

(1) Special Provisions for Public Entity Solar Tariff Generation Units.

A Public Entity Solar Tariff Generation Unit may apply for a Statement of Qualification pursuant to 225 CMR 20.06 (1)(c) by providing satisfactory evidence to the Department that a Municipality or Other Governmental Entity has awarded a contract to develop a Solar Tariff Generation Unit.

C. Allow for appropriate PILOT

Municipalities that host SMART subsidized installations should be free of Department of Revenue constraints whereby PILOT agreements are based on the value of the real property on site (the steel and solar panels of the project) and rather be allowed to negotiate a SMART PILOT that is based on estimated revenue. Currently private developers claim that solar projects financially assist municipalities, but the relatively smaller DOR PILOT does not reflect the larger financial gains the private developers are reaping via the publicly funded SMART subsidy. Additional funds can be directed to climate mitigation projects by the municipalities.

Additionally, the SMART regs must require developers to share the revenue estimates provided to DOER with municipalities rather than claim this is proprietary information. If a private firm wants to get a significant public subsidy, it is only reasonable to expect that some financial data is made available to the public.

D. Increase Set-aside for Solar Tariff Generation Units Less than or Equal to 25 kW in each block to encourage small scale development.

Using the Massachusetts Technical Potential of Solar and the Growing Solar, Protecting Nature reports as a guide, the SMART regulations should encourage more small-scale, under

25kw solar development which would be more distributed throughout the Commonwealth and with the appropriate protections, have less of a footprint and impact on other priority land such as forests and agriculture.

E. Keep maximum of 5MW per parcel to protect about ever-increasing acreage of industrial scale solar

There is an increasing push to expand the footprint of large-scale solar development to make the investment in a project more efficient and cost effective. This can be seen both nationally and in Massachusetts. Given the Massachusetts Technical Potential of Solar findings that the Commonwealth has 15-18 times the needed land for solar development, there is no need to expand the acreage of SMART-subsidized solar projects. Since energy capacity (megawatts) is correlated to acreage, even with assumed future efficiencies, this MW limit should be maintained.

5) General Eligibility Criteria for Solar Tariff Generation Units.

(a) *General Eligibility Requirements. The Solar Tariff Generation Unit must use solar photovoltaic technology and be interconnected with the electric grid in the Commonwealth of Massachusetts. The aggregate maximum capacity of Solar Tariff Generation Units located on a single parcel of land shall be five MW and shall not be inclusive of any solar photovoltaic generating capacity that is not qualified under 225 CMR 20.00.*

F. Change Following Performance Standards

The current environmental performance standards are woefully vague and in practice do not provide adequate protection to soil disturbance, erosion, water contamination, etc. More objective and scientifically-based measures should be explicitly established in the regulations. This data should also be made available for public comment and review. Additionally, the current regulations only require the signoff of an engineer rather than experts with particular environmental expertise such as hydrology, environmental science, etc. Current regulations state:

g. address existing soil and water resource concerns that may be impacted to ensure the installation does not disturb an existing soil and water conservation plan or to avoid creating a negative impact to soil and water conservation best management practices, such as stimulating erosion or water run-off conditions;

i. maintain vegetative cover to prevent soil erosion.

G. Project Segmentation

Maintaining contiguous forests is important for ecological vibrance and climate resilience. The denial of a Statement of Qualification for more than one solar project on a parcel of land or on contiguous parcels is important to maintain. This should be strengthened to explicitly limit development on parcels that have been recently split to create new opportunities for solar development; perhaps a protective window of five years. Current regulations read:

(f) Project Segmentation. No more than one Solar Tariff Generation Unit on a single building, or one ground-mounted Solar Tariff Generation Unit on a single parcel or contiguous parcels of land, shall be eligible to receive a Statement of Qualification as a Solar Tariff Generation Unit.

The importance of maintaining contiguous land should require that the following exemptions be deleted. This loophole basically negates the above prohibition.

4. a Solar Tariff Generation Unit located on the same parcel or contiguous parcel of land to another Solar Tariff Generation Unit that submits a Statement of Qualification Application at least twelve months after the Commercial Operation Date of the original Solar Tariff Generation Unit and is separately metered or that can demonstrate to the Department's satisfaction that the Owners of the Solar Tariff Generation Units are unaffiliated parties;

8. a Solar Tariff Generation Unit that can demonstrate to the Department's satisfaction that it should be granted an exception to the provisions of 225 CMR 20.05(5)(f) for good cause.

H. Energy Storage Systems

Since the SMART program essentially defines how solar development will occur in the Commonwealth, this means that the SMART regulations should incentivize appropriate and safe technologies and prohibit unsafe technologies. It is internationally acknowledged that lithium-ion based energy storage systems catch fire and release toxins into the air and water as a result. While on-site storage is reasonable for solar energy, lithium-ion batteries should be a prohibited technology, with other sources of energy storage being encouraged. If no other energy storage systems are currently commercially viable, the requirement for on-site energy storage should be removed rather than require unsafe technologies, especially in sensitive areas such as forested and agricultural land.

Specifically, the regulations - (e) Special Provisions for Energy Storage Systems. Solar Tariff Generation Units co-located with an Energy Storage System - do nothing to address the documented safety concerns associated with lithium-ion energy storage systems.

- There are no safety provisions to deal with thermal runaway, battery fires, or contamination of the air and water. Similarly there are no requirements for water access that is need to contain heating of batteries to avoid thermal runaway (see California Public Utility Commission for best practice). There should also be a requirement for water containment systems since water applied to an lithium-ion battery will be contaminated and air filters or containment systems for toxic fumes resulting from combustion.
- There are no liability requirements or liability funds required to cover potential damages to private or municipal water systems, or harms resulting from toxic fumes.

Further, if energy storage is required in the regulations, there is no reason to provide an Adder since as discussed earlier, Adders can allow for siting on inappropriate lands, counterbalancing any Subtractors that may be incurred. Current regulations read:

(k) Energy Storage Requirement. Solar Tariff Generation Units greater than 500 kW applying for a Statement of Qualification for any available capacity in any capacity block available after the Publication Date must be co-located with an Energy Storage System that meets the eligibility requirements for an Energy Storage Adder pursuant to 225 CMR 20.06(1)(e).

I. Protections Regarding Floating Solar Tariff Generation Units

The SMART regulations under “(i) Special Provisions for Floating Solar Tariff Generation Units do not address or provide any environmental protections related to the potential use of PFAS on solar panels. Given the proximity of water bodies for floating solar, the danger of PFAS runoff is real and should be mitigated. This could be achieved in the SMART regulations, either in this section or others, where use of PFAS on SMART-subsidized projects is prohibited.