**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 tracking. 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?**

**b. Should other project types also be prioritized?**

SWEB recommends an expansion of incentives specifically for projects integrating solar photovoltaics with energy storage technologies. By providing additional incentives for energy storage, smaller late-stage projects become viable. This targeted approach will enhance the economic viability of solar projects, ensuring they contribute to grid reliability and stability, particularly during periods of intermittent renewable energy generation. With high costs of energy storage projects, economics are very tight and often lead to dead-end projects.

**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?**

SWEB would like to see the DOER propose an updated declining block model so that we can provide more feedback. However, SWEB urges the DOER to consider a more efficient block model structure that involves transitioning to a greater number of smaller blocks, with a smaller decline in between blocks, as many projects have issues with long interconnection timelines. This updated block structure approach will better accommodate the delays in interconnection timelines and promote fair competition among developers and project owners.

**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?**

**SWEB has completed a review of our projects currently under development and has identified the mandatory Energy Storage Requirement for projects over 500 kW is a, if not the largest, barrier to participation in the SMART program.** As mentioned in the answer above, the high cost for energy storage makes project economics difficult, and nearly impossible for projects between the 501 – 2000 kW size. Furthermore, SWEB is witnessing firsthand that energy storage solution pricing is not trending down in the form that the DOER assumed. Therefore, the declining adder incentive is no longer financially viable to cover the costs of the equipment, rendering projects with storage infeasible. SWEB strongly recommends additional incentive payments for energy storage projects.

Please also see our answer to Question 13 for a review of specific land-use and Commonwealth policies as a significant barrier to participation.

**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.**

The current SMART reservation period of 12 months is not adequate. There are several factors which make development, construction, and commissioning not possible within this limited timeframe. The long lead times on several key pieces of equipment have grown exponentially since the COVID-19 pandemic began. An example of this would be 54+ week lead times for transformers, which are an integral part of a project’s interconnection equipment. In this example, a single piece of equipment which is vital to the project has made the 12-month reservation period impossible to meet. Developers and construction suppliers are hesitant to order bespoke, expensive equipment until projects have received their preliminary Statement of Qualification. Additionally, as new restrictions on domestic content come into effect this further extends timelines and narrows cost margins, not allowing projects to move forward.

Another factor which makes the 12-month SMART reservation period inadequate is the timeline that is required for utility upgrades. Due to the increased complexity of the distribution grid with the influx of solar projects throughout all Local Distribution Company territories, the timeline for projects to interconnect, and the timelines for design and upgrades required to the grid (System Modification Construction Schedules) have increased. A recent concrete example of this is a System Modification Construction Schedule SWEB recently received in an ISA which noted a duration of 100 weeks. This 23-month timeline is almost double the length of the current SMART reservation period and is a best-case scenario. SWEB has witnessed several cases in which the timelines outlined in the ISA have not been met.

Developers and project owners are hesitant to begin construction on projects too early, and for good reasons. Having projects which are mechanically complete but not operating would place substantial unnecessary economic and logistic burdens on projects as equipment will degrade. The solution to ensure that this equipment continues to function well would be to bring a generator to site every so often to cycle power and heat up equipment. This is not an ideal solution as it not only adds additional financial and resource-intensive pressures to projects, but it is also counter-intuitive to what the SMART program hopes to achieve.

All major equipment which sits outside exposed to the elements while waiting for the grid upgrades to be completed, will require recommissioning works and testing which will also draw further power from the grid. After the commissioning and testing, if the project does not produce power, a battery will have to be kept charged in the logic controller, or the unit will have to be recommissioned as the programming will be lost after such a long period of time. Each test or recommission draws more power from the grid.

SWEB recommends adjusting the reservation period to align with the typical project timeline, factoring in key milestones such as procurement, and interconnection.If reservation periods were granted in conjunction with the projected timelines from the utility, as outlined in the ISA, many developers will be able to effectively proceed with projects in a minimal-risk environment.

**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.**

SWEB would like to see the DOER promote the exploration of emerging technologies, specifically advanced solar tracking systems and bifacial solar panels. These technologies have the potential to significantly improve energy yields and overall project performance. An example of this is at one of SWEB’s currently operating solar projects we installed a string of monofacial modules directly adjacent to a string of bi-facial modules. The project has been operating for a few years now, and we have seen an increase in energy yields of ~5% in the bifacial string. While the energy yield increase is a benefit, these emerging technologies also come at a higher cost. As such**,** SWEB recommends that the DOER add additional incentives for projects which utilize these emerging technologies.

**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?**

Clearer compliance requirements and streamlined documentation processes are particularly crucial for energy storage projects and current SMART projects. Our proposal includes providing standardized templates for compliance documentation, specifically tailored to energy storage specifications and simplifying the submission process for developers; the ability to have staff that can assist with templates and provide presentations would further streamline the process.

**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.**

SWEB believes that the application process and requirements are clear. There are instances where project-specific issues or concerns arise that need to be dealt with on a case-by-case basis with staff from the DOER. During these instances, better clarity would be appealing, but SWEB also recognizes that some of the situations we find the projects in, may not have been experienced or addressed previously.

SWEB also proposes quarterly stakeholder meetings to discuss program performance, address challenges, and suggest actionable improvements. This will also maintain transparency between developers, project owners, and the DOER.

**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.**

No comment – solar canopies are not within SWEB’s business model due to their exorbitant costs.

**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.**

**SWEB** proposes adopting specific dual-use agrivoltaics policies that align with Massachusetts' objectives. This includes incorporating policies put forward from the federal Office of Energy Efficiency & Renewable Energy, where dual-use solar installations on agricultural land are successfully balancing agricultural production and renewable energy generation. As the requirement for renewable energy increases, the conflict with open farmland will also increase, making dual-use agrivoltaic policies extremely pertinent. However, there is limited space for both agriculture and solar production in Massachusetts. Higher incentives could facilitate the development of more agrivoltaic projects. Additionally, countries in Europe such as Germany, Austria, and Italy, have been adopting solar fence lines, and wide table spacing to allow larger farming equipment to work between solar tables.

**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.**

Please see above answers to Questions 1, 3, and 5 for SWEB’s feedback to this question.

**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.**

Designing mechanisms to insulate projects from unforeseen market circumstances involves proposing a built-in adjustment mechanism for incentive rates tied to key market indices. This ensures that our projects remain financially viable despite fluctuations in market conditions. Additionally, if projected revenues and timelines were assumed there may be an opportunity for SMART to support portions of incentives if some milestones were delayed. Furthermore, projects that are delayed due to utility driven circumstances where state and federal regulations require utilities to upgrade infrastructure, outside of the developer or project owner’s control, should be awarded compensation for having met all readiness criteria.

**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?**

Strengthening consumer protection measures involves specifically addressing low to moderate income customers' concerns. We propose implementing an outreach program to educate low to moderate income consumers about the benefits of community solar and offering extended customer support services. As stated above in our answer to Question 11, state and federal regulations are requiring utilities to upgrade infrastructure which is pushing costs on to developers and rate payers to subsidize the mechanical and technical infrastructure. To protect this, the DOER needs to work with the Local Distribution Companies to not put the upgrade costs on low to moderate income communities as well as the developers.

**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.**

SWEB understands the importance of protecting Priority Habitat, Core Habitat, or Critical Natural Landscapes within the State. However, the provisions enforced by 225 CRM 20.05(5)(e)(7)(c) are extremely restrictive and do not incentivize constructive land use siting.

There are significant issues in terms of the availability of appropriate land for solar generation within the State that developers are currently facing. There is physically not enough appropriate Category 1 Agricultural and Category 1 Non-Agricultural land available for solar generation within the State to meet the solar installation goals. Furthermore, many Municipalities have stringent zoning constraints which make solar development even more challenging when added to the physical lack of Category 1 land. This means that developers must greenfield projects throughout the State in Category 2 and 3 Land Uses.

Through 225 CRM 20.05(5)(e)(7)(c), the DOER further restricts the land availability for solar development. These provisions also do not take siting for interconnection into consideration. There is a dichotomy between the land the DOER is compelling the developers to use and the sites which are appropriate for solar development with minimal interconnection costs.

Please see below for two screenshots of the BioMap2 from the Natural Heritage and Endangered Species Program (NHESP) which provides an overview of the Core Habitat and Critical Natural Landscape of the Southeast Region of Massachusetts (SEMA).

A close up of a map

Description automatically generated

Figure 1 - BioMap2 Overview - SEMA

A picture containing text, map, sign

Description automatically generated

Figure 2 - BioMap2 Concentrated Area of SEMA

As can be seen from the larger area screenshot, a significant portion of land in SEMA is covered by Priority Habitat, Core Habitat, or Critical Natural Landscapes. Moreover, as can been seen from the more concentrated screenshot, the areas which are not covered by Priority Habitat, Core Habitat, or Critical Natural Landscapes in SEMA are residential or urban areas that will have more stringent zoning or would not be appropriate for solar development, specifically ground mounts.

As stated, in enacting the provisions of 225 CRM 20.05(5)(e)(7)(c), the DOER is restricting land use siting to a degree that is prohibitive for further solar development. This is especially true in SEMA, where generation and solar development are desperately needed. Furthermore, the Eversource MA East territory which overlaps with SEMA is the least allocated Electric Distribution Company territory.

The third provision in 225 CRM 20.05(5)(e)(7)(c) is deficient as it does not correctly take parcel sizing into consideration. The provision states that “*Solar Tariff 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*” will be deemed ineligible for a Statement of Qualification. To illuminate this provision’s deficiency, take the example of two parcels into consideration; one is 40 acres in size, the other is 120 acres in size. The parcels have the same Priority Habitat area which covers them. The Priority Habitat area covers 5 acres of the 40 acre parcel, and another 65 acres of the 120 acre parcel. Based on the third provision in 225 CRM 20.05(5)(e)(7)(c), there are no issues with the 40 acre parcel, but the 120 acre parcel would be deemed ineligible land despite still having 55 acres of useable land to develop a project, more than the entirety of the 40 acre parcel.

The Critical Natural Landscape coverage comprises over 1.9 million acres. Massachusetts is only comprised of 6.76 million acres. As such, the Critical Natural Landscape covers over 28% of the State. SEIA estimates that over 475 MW of projects would be obsolete if 225 CRM 20.05(5)(e)(7)(c) were to remain in regulation. The BioMap2 layers also overrule Municipal zoning and regulation of solar projects, and hurt Massachusetts landowners and Towns that heavily rely on lease and tax payments from solar projects.

The BioMap2 layers were never intended to be used as a regulatory tool for development. There are several issues with using GIS shapefiles in regulation. There are often significant differences between what is shown on a shapefile and what occurs within the landscape and environments in reality. The added hurdle the DOER has implemented to clear the errors in using a flawed GIS system in regulation has added additional costs, time, and resources to already very tight economic and temporal projects. Furthermore, the DOER did not include these ineligible land use criteria in their STRAW proposal, nor did the DOER provide any stakeholder engagement, working or technical sessions, or comment periods prior to publishing these land use regulations which have a substantial impact on the development of numerous projects across the state, and barred even more projects from being eligible to participate in the SMART program.

SWEB recommends that the second and third provisions from 225 CRM 20.05(5)(e)(7)(c) be removed and replaced with a provision that states that if STGU parcels fall within a Priority Habitat, Core Habitat and/or Critical Natural Landscape zone, they will be evaluated on a case-by-case basis. SWEB also recommends that an additional provision be added which states that projects which have been granted No-Take or No-Take with Conditions Determinations from the NHESP prior to the should be immediately grandfathered into the original Land Use and Siting Criteria and be eligible for Statements of Qualification.

SWEB understands that a case by case review of STGU parcels which fall within a Priority Habitat, Core Habitat and/or Critical Natural Landscape zone can be burdensome on the DOER and Solar Program Administrator. As an alternative, SWEB recommends that a new subtractor be established. However, if the DOER opts for this recommendation, SWEB recommends that an additional provision be added which states that projects which have been granted No-Take or No-Take with Conditions Determinations from the NHESP should be immediately grandfathered into the original Land Use and Siting Criteria and be eligible for Statements of Qualification.

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

SWEB commends the DOER for enacting regulations that drive developers to promote Community Shared Solar (CSS). However, SWEB strongly recommends that the CSS Adder Tranche sizes are either significantly increased, or the decrease in compensation rates between CSS Adder Tranches is eliminated.

Furthermore, CSS sales have taken a significant hit due to the COVID-19 pandemic. To ensure that CSS customer acquisition continues, more time and resource intensive methods must be employed. Developers are now competing with CSS Adder rates that will not be sufficient for the additional costs of CSS customer acquisition and maintenance and will cause future projects that wish to provide CSS to not pencil out.