



February 2, 2024

Massachusetts Department of Energy Resources  
100 Cambridge Street  
Boston, MA 02114  
Attention: Samantha Meserve, Director Renewable and Alternative Energy Division

**Re: Comments on SMART Program Review**

Dear Director Meserve:

BlueWave appreciates the opportunity to comment in response to the Department of Energy Resources' (DOER) SMART stakeholder questions issued as part of DOER's SMART Programmatic Review. Thank you for initiating this important review of the SMART program and recognizing that program adjustments are needed to ensure that robust solar development continues in Massachusetts.

BlueWave's mission is to protect our planet by transforming access to renewable energy. As a pioneering renewable energy company that develops and owns solar and battery storage projects, BlueWave has a long track record of success and is developing several gigawatts of solar and battery storage projects throughout the United States to ensure our grid is reliable and efficient in a clean energy future. BlueWave is also a certified B Corporation, which means we believe in the triple bottom line – people, places, and profit – and that we can do good business by doing good.

In recent years, distributed solar development in Massachusetts has stalled. Interconnection challenges combined with the SMART program's restrictive siting constraints and declining incentive rates have made developing viable projects extremely difficult. The siting constraints introduced after the 400 MW review leave agrivoltaics as one of the few viable pathways for groundmount solar. However, some key aspects of the April 2022 ASTGU Guideline updates have simultaneously made it extremely challenging to find eligible agrivoltaic sites, so developers have struggled to shift to these types of projects. Revisions to the SMART program are critical to ensure that Massachusetts can meet its aggressive clean energy goals and BlueWave looks forward to collaborating with DOER and other stakeholders to make these much-needed updates.

**Responses to Stakeholder Questions:**

- 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. What project type incentive changes could improve program outcomes?**

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## Community Shared Solar and Low Income Community Shared Solar Adders

Under current SMART Regulations, the combination of the Base Compensation Rate and any Adders may not exceed the Base Compensation Rate for Low Income projects less than or equal to 25 kW<sup>1</sup>. An unintended consequence of this incentive cap is that projects are forced to choose between certain Location Based Adders (i.e. Agricultural Solar Tariff Generating Unit (ASTGU) or Canopy) and providing savings to low-income customers through the Low Income Community Shared Solar (LICSS) Adder; a situation which is contrary to the Commonwealth's goals. For example, under the current incentive cap, a single project is not eligible to receive the Energy Storage Adder (which is required for projects over 500 kW), the ASTGU Adder, and the LICSS Adder because the total incentive amount exceeds the established cap. BlueWave recommends that the incentive cap be removed so that a single project can achieve multiple policy goals. The SMART program should be structured to encourage projects to pursue both innovative and preferred siting solutions and provide benefits to low-income customers.

Additionally, it is important to recognize that there is a minimum incentive level for both CSS and LICSS Adders, under which the incentive no longer covers the additional cost of customer acquisition and management. In BlueWave's experience, the currently available CSS Block 13, as well as several Blocks prior, is no longer sufficient, and it is unlikely many projects will be able to ultimately provide benefits to customers at that incentive level. We recommend that DOER establish minimum viable incentive levels for both the CSS and LICSS Adders and pause the decline of each Adder at those levels. It is important to keep in mind that the lack of a Net Crediting mechanism in Massachusetts means that customer acquisition and management costs are higher than in states like New York that offer this simplified billing solution.

- 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?**

The declining block structure is predicated on the assumption that costs will continue to decline in a linear fashion, however this has not been the case. In Massachusetts we have seen increasing interconnection costs and delays, a significant increase in the cost of capital, and equipment costs. BlueWave recommends moving from a declining block structure to an adjustable block structure and giving DOER the flexibility to adjust incentive levels in response to market conditions.

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<sup>1</sup>225 CMR 20.07(3)(f)2. "For Solar Tariff Generation Units with a capacity of greater than 25 kW AC, no combination of a Base Compensation Rate and Compensation Rate Adders can exceed the Base Compensation Rate for Low Income Solar Tariff Generation Units less than or equal to 25 kW AC established under 225 CMR 20.07(3)(b)."

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?

## **Agrivoltaic/Agricultural Solar Tariff Generating Unit (ASTGU) Adder**

Massachusetts has been a national leader in supporting the dual goals of farmland preservation and clean energy development through the SMART program's ASTGU Adder. As other states have begun exploring how to develop state-level policy support for agrivoltaics, DOER and MDAR should be proud that policymakers often look to the Massachusetts program as a potential model. However, several aspects of the current ASTGU requirements have made continued development of agrivoltaic projects in Massachusetts increasingly unviable. It is critical that DOER make adjustments to the ASTGU requirements to ensure Massachusetts continues to lead in this innovative field.

## ***Modify Section 4 of the ASTGU Guideline to Establish Clear and Reasonable Parameters for Tree Removal to Maintain and Improve Agricultural Fields***

In the April 2022 update to the ASTGU Guideline, DOER added new language in Section 4 ii regarding "Newly Created Farmland." This language combined with staff's interpretation that not a single tree may be removed from the footprint of any ASTGU is a major barrier to the continued development of agrivoltaic projects in Massachusetts. It is virtually impossible to find a suitable agrivoltaic site where not a single tree would need to be removed.

Trees are commonly found in pastures and other agricultural fields and often need to be removed as part of routine agricultural activity. Agrivoltaic projects have the same needs. Trees are often intentionally left in pastures to provide shade to grazing animals. In an agrivoltaic array, the trees need to be removed and shade will instead be provided by the solar panels. Trees around the edges of fields often need to be cut annually to restore the field following encroachment by woody or invasive species. They may also need to be cut to improve the field by reducing shading, "squaring off" an irregularly shaped field, or to provide turning areas for farming equipment cultivating higher-quality soils in the primary field area. Additionally, there is no clear definition of "forest land" or "tree", making it impossible for developers to have certainty that a project complies with the current interpretation of program requirements. It is also unclear what constitutes a tree vs sapling vs brush, etc.

BlueWave recommends that Section 4 ii of the Guideline be removed. To address concerns about clearcutting forests to create agricultural fields for ASTGUs, we suggest the following language to replace Section 4) Eligible Farmland in the current ASTGU guideline:

- a. *An ASTGU must be sited on land that is owned or leased by a farmer and meets one of the following criteria:*
  - i. *Land is currently enrolled in M.G.L. c. 61A; OR*
  - ii. *Land has been enrolled in M.G.L. c 61 A in the past five years; OR*
  - iii. *Land that is classified as Important Agricultural Farmland*
- b. *In addition to meeting the criteria above, the following restrictions apply:*

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- i. *An ASTGU may not be sited on land with 50% or greater mature forest cover<sup>2</sup> (Within last 5 years prior to PDA submission)*
- ii. *An ASTGU may be sited on land with less than 50% mature forest cover when such land is documented to be or to have been actively devoted to non-forestry agricultural uses prior to application to the SMART program.*
  1. *Such eligible uses include pasture, hay production or other cropping but do not include agricultural woodlands or maple syrup production.*

## ***Remove or Amend the Comparable Crop Requirements for Certain Hay and Grazing Projects (Section 5 ii. of current ASTGU Guideline)***

Section 5) ii of the current ASTGU Guideline requires that projects with “newly proposed grazing of animals or production of hay” on Important Agricultural Farmland must demonstrate that the proposed hay or grazing “will be in combination with concurrent growing of crops comparable to the existing operation for the first five years of the ASTGU operation.” This language poses several challenges. First, the phrases “newly-proposed” and “crops comparable to the existing operation” are unclear and reasonable questions can be asked about the “comparability” of various crops. Second, farm resilience relies on the ability to make changes to agricultural practices in response to market dynamics and environmental factors. Some desirable transitions to more sustainable agricultural practices and some farm management transition and succession plans are prevented by this requirement. Moreover, these impacts will disproportionately affect new, beginning, low-wealth, BIPOC, and other non-traditional farmer populations.

BlueWave understands the policy goal of this section to ensure that proposed agrivoltaic operations on the best farmland are both viable and economically significant. However, we do not believe that these goals can be achieved with this type of requirement, and the potential unintended consequences are more damaging than the relatively small risks involved in transitions between crops and type of operation on the limited subset of agrivoltaic acres in Massachusetts. BlueWave recommends that the comparable crops requirement be eliminated entirely.

If the requirement cannot be eliminated, BlueWave proposes the following changes to minimize the damage caused by the requirement. First, the phrase “newly-proposed” should be clarified as follows:

*“Newly proposed grazing of animals or production of hay is defined as grazing or hay production on a site that has not been used for these agricultural purposes during the 10 crop years prior to the Pre-Determination Application, when proposed to be performed by a farm operator who has less than 3 years of experience with the proposed activities.”*

Second, the phrase “crops comparable to the existing operation” should be clarified as follows:

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<sup>2</sup> “Mature forest cover” means cover from woody vegetation of any species as documented in recent aerial or on-site photography. Mature forest cover does not include cover from low-growing woody vegetation less than 20' in height such as shrubs, bushes and young trees.

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*“Comparable crops is defined as crops which by their production and harvesting, on-farm usage or processing, marketing and other factors are relatively comparable in agricultural practice, equipment requirements, economic value, environmental impact, and other factors to the crops previously grown on the site or previously grown by the proposed operator. If proposed crops are similar in some respects and different in other respects, the experience, judgement, and capacity of the proposed farm operator shall be given deference in determining suitability.”*

Finally, BlueWave recommends that Section 5) ii apply only when the ASTGU acreage of prime soils previously used for food production exceeds 30 acres. The 30-acre threshold is intended to reflect both the size of meaningfully significant crop fields as well as the acreage that is required to be retained in food crop production. A 30-acre ASTGU involving hay production would require 15 acres to remain in food cropping. Similarly, a 30-acre ASTGU involving grazing would require at least 10 acres to remain in food crop use, with 20 acres in pasture. These 10-to-15-acre food crop management unit sizes are still large enough to be agriculturally viable across a wide variety of crop types. Requiring food crop production at smaller acreages imposes operational inefficiencies and complicates management of the field areas, essentially preventing the kind of agricultural specialization that successful management requires. Similarly, linking the requirement to only prime soils, rather than the broader prime-and-statewide-important category, focuses the requirement on the very best farmland. Statewide-important soils are somewhat constrained by slope, droughtiness, wetness, rockiness, etc, and the interaction of these factors with a specific agrivoltaic array design is too complex and dynamic to be applied in a “one-size-fits-all” fashion for a specific acreage of crop food production.

## ***Remove or Amend the “Waiver for Decreased Yield” Process***

In the April 2022 update to the ASTGU Guideline, a new section, “Waiver for Decreased Yield” (Section 6. 1.), was added. It requires that a project must request a waiver from the Department if its agricultural yield in any given year is lower than stated in the agricultural plan or the previous year’s annual report. In our comments on the draft Guideline, BlueWave and many other stakeholders opposed the addition of this requirement, arguing that requiring a waiver for decreased yield implies that projects must have a specific level of productivity to remain qualified, which is not specified in the SMART regulations. We maintain that position and now bring real world experience with the challenges of navigating this requirement with farmers who are interested in partnering on an ASTGU project.

In our experience, farmers are not willing to sign agreements with the risk imposed by the current waiver for decreased yield language. First, we request that DOER clarify that there is no requirement for farmers to pre-emptively request approval from MDAR or DOER prior to making operational adjustments like changing crops or farming practices. As written, the waiver for decreased yield indicates to many farmers that they may be required to seek approval to change crop types or farming practices, and most are unwilling to agree to that type of restriction.

Second, we request that the language be amended to clarify that the waiver for decreased yield is only necessary when agricultural production falls below 50% of historical typical yield or 70%



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of planned/anticipated yield. The current requirement to request a waiver if crop production in any year is lower than the previous year's annual report is not compatible with the realities of agriculture. Annual crop yields vary due to a variety of environmental and market factors and a farmer should not be expected to consistently maintain or increase production year over year.

BlueWave recommends amending Section 6.1. of the ASTGU Guideline to say:

*“Due to unforeseen circumstances, such as but not limited to weather events, pests, or change in crops, the projected agricultural yield for any given year may be substantially lower than anticipated in the agricultural plan. While no pre-approval of crop changes or production practices is required, continuous, good-faith efforts at commercial agricultural or horticultural production is a requirement for continued ASTGU incentive eligibility. In circumstances when production of planned crops falls below 70% of anticipated yields, or below 50% of typical yields for the soils and production practices under open-field conditions in the case of a new agrivoltaic crop, an applicant can request a waiver from the Department for decreased yields. The applicant must demonstrate to the satisfaction of the Department, in consultation with MDAR, that a waiver is warranted for good cause.”*

## ***Remove “Each Square Foot” Language from Exception Request for Max Direct Sunlight Reduction Requirements (change this wording)***

Section C of the ASTGU Pre-Determination Form, outlines the documentation required for a project to request an exception to any of the ASTGU design requirements. Projects requesting an exception to the Maximum Direct Sunlight Reduction Requirements, are required to “demonstrate how each square foot of land will be used for agricultural production.” This requirement creates a technical impossibility for mechanized commercial agriculture due to the inherent limitations of how close agricultural equipment can physically get to the posts of a solar array. BlueWave recommends replacing this language with: *“demonstrate how the majority of the area directly beneath the solar modules will be used for agricultural production and/or demonstrate the improved overall agricultural productivity across the entire field that will result from the proposed design.”*

## ***Clarify System Design Parameters to Allow 8-Foot Trackers with Agricultural Tilt Controls***

The ASTGU System Design Parameters require a 10-foot horizontal-position height for single axis trackers, but only an 8-foot lower edge height for fixed-tilt systems. The 8-foot panel edge height is a recognized and reasonable minimum for safe grazing of cattle during estrus or breeding when cattle may be engaged in mounting activity. However, the software and hardware controls of modern PV tracker systems allow for non-structural solutions that can reduce system costs and provide additional agricultural functionality. We recommend the following language for Panel Height Requirements for tracker systems (Section 3 b) i. 2 of the ASTGU Guideline):

*“For tracking ASTGUs, the minimum height of the panel at its horizontal position shall be 10 feet above ground. This minimum height may be reduced to 8 feet above the ground if the tracker control system is within the functional control of the farm operator and able*

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*to implement horizontal stow of modules for rotational grazing of cattle, planting and harvest operations, and similar discrete agricultural activities.”*

## **Land Use and Siting Criteria**

BlueWave commends Governor Healey for establishing the Commission on Clean Energy Infrastructure Siting and Permitting, which is tasked with making recommendations to streamline clean energy siting by March 2024. We are encouraged by the productive conversations that are occurring as a result of the Commission’s work and look forward to reviewing how its recommendations can be integrated into streamlining the SMART program’s complex and restrictive land use and siting criteria. In the meantime, we highlight several key aspects of the current land use and siting criteria that are creating significant barriers to solar deployment.

### ***The SMART Program’s Use of Critical Natural Landscape as a Land Use and Siting Criteria is Overly Restrictive***

BlueWave recognizes the importance of biodiversity conservation and habitat preservation, particularly given the impacts of climate change on the Commonwealth’s ecosystems. We strongly believe that conservation and responsible solar development can co-exist and that, when designed with appropriate standards, groundmount solar projects can serve as a conservation tool to protect habitat from permanent forms of development, such as commercial development. However, the SMART program’s current use of the BioMap, and particularly the Critical Natural Landscape (CNL) Layer, imposes blunt restrictions on solar development and, in combination with myriad other siting challenges including interconnection, local permitting, landowner interest, etc., has significantly restricted the industry’s ability to continue developing projects in the state. BlueWave has conducted initial GIS analysis that shows approximately 1,500 parcels remain available for solar development after filtering out land that is unusable due to SMART siting restrictions, protected areas, slope, and other factors. This analysis did not take into account interconnection feasibility, landowner interest, or sites that already have solar developed, which would significantly reduce the number of available sites further. We would be happy to share details of this analysis with DOER.

The purpose of the CNL layer is to create a buffer around other regulated land use categories, such as Core Habitat, but in many cases it overlaps with developed areas, residential areas, and pastureland, including many sites that would seem objectively suitable for solar development. Well-designed and well-managed solar arrays can provide habitat for a variety of species and can serve as a significantly more wildlife-friendly buffer than other forms of development (including low-density rural housing). Additionally, the process and timeline for updating the CNL layer is not transparent. This is especially problematic given the multi-year long development process for solar projects in Massachusetts. A project may be sited on land that is not designated as CNL at the beginning of the development process but when additional acres are added to the CNL layer through subsequent BioMap updates, the project can suddenly be ineligible after several years of development and investment. For example, since the CNL was added as part of the SMART land

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use and siting criteria in 2020, the BioMap was updated in 2022, adding 307,000 acres to the CNL layer that were previously undesignated<sup>3</sup>.

First, at minimum it is critical that any restrictions related to BioMap layers be limited only to land that is actually designated as Priority Habitat, Core Habitat or CNL. The current requirement restricts development on an entire parcel if 50% or more of its area is designated as Priority Habitat, Core Habitat or CNL. If 51% of a 300 acre parcel is designated as CNL, the remaining 149 acres that do not have a BioMap designation should not be subject to any solar development restrictions.

Second, rather than the current prohibition on most groundmount solar on BioMap-designated land, the SMART program should instead establish guardrails for solar development in these areas. These guardrails could include:

- Design and construction standards to ensure solar sites continue to provide habitat for critical species that are documented to be present or nearby the site.
- Partnership with an approved conservation organization to develop and implement a site-specific conservation plan.

## ***Create a Pathway for Projects that Incorporate Sheep Grazing, but Choose not to Pursue an ASTGU Adder, to Qualify as Category 1 Agricultural Land Use***

Under current program rules, projects that incorporate sheep grazing and meet all ASTGU requirements may qualify for the ASTGU Adder. BlueWave strongly believes that this should continue to be an option. However, not all projects that incorporate sheep grazing need panels to be raised as high as 10 feet or meet the ASTGU Adder's 50% max shade requirement to be successful. Currently, the only pathway for these projects to qualify for the SMART program is to unnecessarily increase project costs to meet the ASTGU system design requirements and qualify for the ASTGU Adder or qualify as Category 3 Land Use and be subject to the full greenfield subtractor (which renders most projects economically unviable).

Projects that incorporate sheep grazing maintain farmland in agricultural production and provide additional ecological benefits by supporting multifunctional, diverse vegetation, but do not require the height and sunlight requirements, and corresponding financial incentive, that other types of agrivoltaic projects need. Therefore, we recommend that DOER create an additional pathway for projects that incorporate sheep grazing but do not require designs that meet the 10-foot height and 50% max shade requirements for the ASTGU Adder. We recommend adding a new type of eligible project under Category 1 Agricultural Land Use for projects that have an approved plan to incorporate sheep grazing but do not meet the ASTGU requirements. These projects would not receive an ASTGU Adder but would also not be subject to the Greenfield subtractor.

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<sup>3</sup> Calculation based on 1,783,000 acres of CNL identified in the 2010 version of BioMap (<https://www.terrain.org/2013/unsprawl/biomap2-conservation-road-map/>) and 2,090,000 acres of CNL identified in the 2022 update of BioMap (<https://storymaps.arcgis.com/collections/7ced005b87864d32987c11b48a6339d7?item=2>)



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BlueWave suggests that Category 1 sheep-focused single axis tracker projects be required to meet an 85% maximum shade threshold using the Dual Use Shading Analysis Tool. From a functional perspective, this requirement would also result in appropriate row spacing and panel height. Fixed-tilt projects should be required to use clear backsheet modules with a maximum row width of two modules in portrait or four modules in landscape, a minimum drip edge height of 36 inches and a minimum inter-row spacing equal to the array row width. All Category 1 sheep projects should be required to include sheep-friendly vegetation with a diverse variety of appropriate grasses, legumes and forbs.

## **Energy Storage Requirement**

Energy storage paired with solar can provide important benefits to the grid and ratepayers. BlueWave commends DOER for encouraging solar paired with storage through the Energy Storage Adder and is supportive of the spirit of the requirement that all projects over 500 kW must be co-located with storage. However, co-locating storage with solar can be particularly challenging on agricultural land and floating solar sites. Co-locating storage with an ASTGU project often requires the use of additional agricultural land (which will not remain in agricultural use). It also requires the use of bigger equipment moving in and out of the site during construction which can present additional challenges when trying to minimize construction impact on agricultural soils. We recommend that DOER implement a standard waiver process to the energy storage requirement for projects that are qualified as ASTGUs or Floating PV and demonstrate that co-locating storage would cause significant siting and/or construction challenges.

## **Low Income Community Shared Solar**

BlueWave is working closely with the Coalition for Community Solar Access (CCSA) on their comments regarding the Community Shared Solar and Low Income Community Shared Solar Adders and support CCSA's comments on this topic. One specific issue regarding LICSS eligibility that we want to highlight is that DOER could open up additional investment from project developers seeking the federal ITC Low-Income bonus by allowing self-attestation for customer eligibility. Federal rules for the Low-Income bonus tax credit allow self-attestation for qualifying low-income customers if it is allowed by the relevant state program.

## **Floating Solar Adder**

BlueWave requests that DOER clarify the application process for the Floating Solar Adder. We recommend establishing a simplified Pre-determination Application with review by the Department of Environmental Protection to provide a clear determination that a site qualifies as a manmade body of water.

- 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.**

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BlueWave appreciates DOER's recognition that project development timelines in Massachusetts have significantly increased and was pleased to see the blanket extensions announced in June 2023. It is clear that given current project development timelines, a one-year SMART reservation period is not sufficient. We recommend incorporating the June 2023 blanket extensions into the standard SMART reservation period for projects over 1 MW to allow for a two-year initial SMART reservation period, plus opportunity for a 12-month CIP extension, additional 12-month fee-based extension, and request for Department review of additional extensions.

One additional consideration is that good environmental practices can often extend construction timelines. For example, ensuring that vegetation is established prior to the start of construction is valuable from an environmental perspective but extends timelines by 3 – 4 months. We suggest offering an automatic 6-month extension for projects that request additional time for preconstruction seeding and vegetation establishment.

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.**

Please see our responses to Question 3 regarding creating a pathway for non-ASTGU projects that incorporate sheep grazing and Question 8 regarding expanding eligibility for the Solar Canopy Adder.

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?**

Please see our response to Question 3 for recommendations regarding compliance requirements for the ASTGU Adder.

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.**

In general, BlueWave has experienced good communication with DOER and the Solar Program Administrator. We especially appreciate DOER staff's responsiveness and willingness to discuss and clarify program requirements and their timely review of extension and exception requests. We would recommend improved visibility for applicants into application review status and timelines. There have been several instances where submitted applications and application change requests have been waiting for months before being accepted. Improved transparency on

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project application status would help applicants determine if their application is being reviewed in the typical timeline and process or if additional follow-up or information needs to be provided.

**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.**

BlueWave recommends that the definition of Solar Canopy be expanded beyond the current definition of a system “installed on top of a parking surface, pedestrian walkway, or canal in a manner that maintains the function of the area beneath the canopy,” to include systems that are built over a wider variety of developed lands. One example is to allow canopies over outdoor farmyard areas not used for parking, such as livestock yards. Other areas might include grounds used for flea-markets, farmer’s markets, and fairs, as well as playgrounds, dog parks, etc. Such areas are often covered with gravel, concrete or other wholly- or partially-impervious surfaces, and solar canopies could provide additional shade and stormwater management benefits in addition to PV energy production. Greenhouse-integrated PV systems where semi-transparent solar modules are used as the glazing of a horticultural greenhouse should also qualify for the canopy adder as these systems are more expensive than other building-mounted systems. BlueWave suggests the following definition:

*Canopy Solar Tariff Generation Unit. A Solar Tariff Generation Unit with 100% of the nameplate capacity of the solar photovoltaic modules used for generating power installed ~~on~~ top of over a parking surface, pedestrian walkway, farmyard, or other partially- or wholly-impervious ground surface, or over a canal or other manmade water body, in a manner that maintains the function of the area beneath the canopy. A greenhouse-integrated photovoltaic system using semi-transparent modules as roof or wall glazing may qualify as a Canopy Solar Tariff Generation Unit.*

**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.**

While a number of states are actively developing state-level policies/programs to support agrivoltaics, Massachusetts has been a national leader in this field with the ASTGU component of the SMART program. The ASTGU Adder is a first of its kind state-level incentive for agrivoltaics and can provide important lessons both for other states and for upcoming changes to the SMART program. Please see our response to Question 3 for detailed recommendations on critical changes needed to the ASTGU requirements.

**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.**

BlueWave has no specific comments on this question.

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**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.**

Please see our response to Question 2. It is critical that DOER have the flexibility to adjust SMART incentives in response to significant market changes, without triggering an extended DPU approval process.

**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?**

BlueWave is working closely with the Coalition for Community Solar Access (CCSA) on their response to this question and supports CCSA's comments on this topic.

**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.**

The SMART program has attempted to balance the goals of land conservation and renewable energy deployment. However, as discussed in our response to Question 3, the SMART program's current use of the BioMap as a blunt regulatory tool, is severely constraining DG solar development in the Commonwealth and does not reflect that fact that when designed with appropriate standards, groundmount solar projects can serve as a conservation tool. BlueWave strongly believes that conservation and solar development do not have to be at odds and urges DOER to update the SMART land use and siting criteria.

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

SMART program rules need to be simplified and written using clear, defined terms. There are many instances in the Guidelines where key terms used in eligibility criteria are not defined, leading to considerable confusion when trying to navigate the already complex and confusing program rules.

Thank you for your consideration and the opportunity to provide comments on the SMART programmatic review. We look forward to continuing to work with DOER on improving the SMART program and ensuring that Massachusetts meets its clean energy goals.

Sincerely,

Liz Curran  
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