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To: DOER.SMART@mass.gov

CC: CBrown@SEAdvantage.com; tmichelman@seadvantage.com

Subject: SMART Review Comments

2024 SMART Review 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.

We appreciate DOER's recognition that added incentives are needed for solar projects on buildings and disturbed lands of different types. Massachusetts is building a robust renewable energy infrastructure. But to the extent possible such development should not be at the expense of irreplaceable forests and natural lands, which provide carbon sequestration, clean water, flood and erosion control and a good quality of life for Massachusetts residents.

The economies of scale and deployment costs favor solar development on large greenfield sites over small and medium size projects on roofs and disturbed land.

Revised incentives are needed to make medium and small size solar projects on commercial buildings and disturbed land able to obtain financing and become economically viable.

The changes to SMART summarized in the bullets below and discussed later are essential for achieving the Massachusetts solar goals for 2030 and 2050 by siting solar projects where they have the least environmental impact (on buildings and disturbed lands) and to foster a stable Massachusetts solar industry working to achieve our climate goals:

- For solar projects on buildings and disturbed land eliminate the declining incentive block structure and eliminate any aggregate caps which are less than the Commonwealth's solar GW ambition for 2050. We need all the solar we can get from locations where solar belongs. Increasing aggregate deployment will never eliminate the cost differential with large greenfield solar projects. Declining incentives and caps are contrary to developing a stable solar workforce and meeting our solar goals in a responsible fashion.
- In setting the incentive rates for projects on buildings and disturbed land, the goal should always be to have such projects have the same or better financial appeal to developers as projects on greenfield sites and be adequate to obtain financing. A major strength of SMART is its framework that can be used to achieve this goal by taking into account the various building and disturbed land project types, locations and sizes.
 - The ratepayer cost of incentives for projects on buildings and disturbed land is mitigated because such projects, especially if combined with storage, can

significantly alleviate peak capacity constraints of existing substations and thus avoid or delay the need for costly substation upgrades, new substations or distribution infrastructure.

- o Many projects in close-to-load locations are not blocked by grid or interconnection issues meaning that the incentives to enable such projects lead to more rapid solar deployment against our 2030 10GW solar goal in parallel with grid upgrades.
- DOER should be able to review and revise the incentive rates on an annual basis to reflect changes in the economic factors that affect the cost of solar projects. There needs to be a balance between providing solar developers with a stable set of incentives and the need to respond to market conditions. To achieve this the revised SMART policy should limit the permissible annual change of an incentive to a fixed, small percentage.
- Create new incentives for building and disturbed land projects on roadway cuts or that serve behind the meter load. Many of the building and disturbed land potential sites are close to load, in or close to urban settings where there is a more robust electrical infrastructure than in rural sites. The goal of 10GW of solar by 2030 requires a large ramp up in the next 6 years. We need to encourage building and disturbed land solar projects removing strain on our grid.

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

Today there is an ongoing residential solar industry in Massachusetts because there is 100% net metering credit and because there is no aggregate cap or phase-out of the net metering as the residential solar market expands. (The federal 30% credit also helps.)

There is very little solar development on commercial roofs or on small or medium size disturbed land sites (other than landfills) because the incentives required to make such projects economically possible or attractive do not exist. Other than residential rooftops, the only other solar projects of any significance are large greenfield projects as shown in this table from the DOER Technical Potential of Solar study:

Table 6. Recent rate of solar installations in Massachusetts

Solar type	Total installed solar, Aug 2005 to Aug 2022 (GW _{AC})	Total installed solar, Jan 2018 to Aug 2022 (GW _{AC})	Capacity installed per year, Jan 2018 to Aug 2022 (GW _{AC} per year)
Ground-mounted (small, <1MW)	0.148	0.034	0.009
Ground-mounted (large, ≥1MW)	1.228	0.618	0.155
Rooftop	1.137	0.541	0.135
Canopy	0.038	0.028	0.007
Other	0.229	0.061	0.015
Total	2.779	1.283	0.321



This must change. To achieve our solar goals we must end our *de facto* reliance on ever more environmentally destructive greenfield projects and we cannot expect to meet our goals by a ramp up in residential solar alone. We need a much broader participation of solar project types, specifically those that do not impact our natural and working lands.

The incentive rates for commercial rooftops (e.g. greater than 25kW) and all types of disturbed land projects need to be increased, and these incentives must not be subject to phase out or aggregate caps. In particular we call attention to the following:

- The parking lot canopy adder needs to be at least twice what it is today.
- The current battery storage adder is too low to provide any meaningful incentive. Solar plus storage plays a huge role in our transition to renewable energy and deserves to be incented so that storage is a natural choice for solar projects on buildings and disturbed land.
- The adder for community shared solar should be higher, as long as the net metering rate for projects on disturbed lands does not change.

b. Should other project types also be prioritized?

All types of disturbed land projects should be prioritized. In particular, we call attention to:

- Community solar projects on disturbed land and buildings where the off-takers are low income or environmental justice ratepayers. We support any adder that will encourage community solar projects benefitting environmental justice communities while also avoiding barriers to access whenever possible.
- Roadway cuts should be encouraged with an incentive that makes them economically viable and no more expensive than greenfield projects.
- Solar projects on buildings that require roof repair or replacement should receive a “re-roofing” adder. Combined with the standard roof adder this might double the total incentive.
- Similarly, solar projects on buildings that require structural enhancement should receive a special adder.
- Uncapped landfills should be prioritized by an additional incentive to cover the additional cost of capping the landfill.
- More generally, different incentive levels may be needed for other types of disturbed land, potentially with different constraints. See question 7 below. The goal is for the cost of a disturbed land project to have the same or better financial appeal to developers as projects on greenfield sites and be adequate to obtain financing.

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?

Yes, as identified above, the declining block model for solar projects on buildings and disturbed land should be removed and is contrary to the Commonwealth’s solar goals on several levels:

- The declining block model hurts our ability to meet aggregate 10GW by 2030 and GWSA mandated goals by 2050. DOER has seen SMART incentives phased out in western Massachusetts. Solar development there **has** been sharply curtailed, hurting, not helping, the achievement of our goals. Revising the declining block model is not the needed fix. Effective solar incentives and development are needed for the next several decades. We need stable incentives.
- The goal of achieving our aggregate solar deployment without unnecessary harm to our natural and working lands is a related and important goal. If a future declining model should once again disincentivize solar projects on roofs and disturbed land **then** SMART would be encouraging development on greenfield sites where the economics are better. This must be avoided.
- Workforce development is harmed by a declining block model. Over the years the state has seen several cycles of solar industry ramp-up followed by solar industry decline – hire then fire. Our efforts to train a renewable energy workforce will fall flat if potential participants see unstable employment opportunities after training. There will always be a workforce differential (and thus cost differential) for roofs and disturbed land projects. The numbers below from the Solar Foundation Solar Jobs Census show the large difference in solar jobs per MW between large greenfield projects and smaller projects:

Residential solar

38.7 Jobs / MW of solar installed

Non-residential solar (small DG and community solar / commercial scale solar 100 KW - 2MW)

21.9 Jobs / MW of solar installed

Utility Scale Solar (5MW - 100MW)

3.3 jobs / MW of solar installed

REFERENCE

From The Solar Foundation Solar Jobs Census

Type	Jobs/MW
Residential	38.7
Non-residential	21.9
Utility-scale	3.3

Resi

Small DG (40 kW)

Commercial-scale / Community Solar (100 KW - 2 MW)

Utility-Scale (5MW - 100 MW)

Reaching some artificial aggregate amount is not an indication that a roof or disturbed land incentive can be phased out.

A declining block model for greenfields may be an effective means to shift our solar development from large greenfield projects to buildings and disturbed land by phasing out incentives for the large greenfield projects. On the other hand, these large projects may not need or rely on SMART incentives and so may be unaffected by declining blocks.

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?

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.

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.

See the discussion under 1b above.

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?

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.

An important requirement is to be clear about which projects qualify as disturbed land projects. In a general sense, disturbed land refers to land that has been altered by humans. To make this clear: "Disturbed land" refers to parking lots over which a solar canopy can be installed, structures, brownfields, landfills, roadway cuts, land containing pavement, compacted urban soils, gravel pits, and other land that is barren of native plant growth due to human activity prior to January 1, 2023 and land that is part of a parcel containing a building and is not and has not been forest or tree covered or used for agriculture or zoned for agriculture since January 1, 2012.

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. SMART Stakeholder Questions 12/21/23

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.



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.

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.

DOER should be able to review and revise the incentive rates on an annual basis to reflect changes in the economic factors that affect the cost of solar projects. There needs to be a balance between providing solar developers with a stable set of incentives and the need to respond to market conditions. To achieve this the revised SMART policy should limit the permissible annual change of an incentive to a fixed, small percentage.

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?

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.

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

Thank you for your efforts to review and improve the program.

Sincerely,

Jess Nahigian
State Political Director

Vick Mohanka
Acting Chapter Director