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BY ELECTRONIC MAIL ONLY

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Subject: SMART 3.0 Program Emergency Regulations

From: Solar Design Associates, Trees as a Public Good Network, Our Revolution Massachusetts, Sierra Club Massachusetts, The Enviro Show, Pipeline Awareness Network of the Northeast, Mass Solar

We submit these comments as a cross-interest collection of organizations.

We take the position that Massachusetts needs forests, farms, solar, and community empowerment. We cannot heal the climate crisis without forests to provide clean air, water, and livable temperatures. We cannot survive without rainfall from forests and without farms to feed us. We cannot heal the climate crisis without clean energy, and in the current political situation, that's solar. We need to support solar deployment and end our reliance on polluting infrastructure, especially in light of federal threats to solar and all clean energy.

We advocate for making it easier to build small-scale distributed solar projects and environmentally responsible siting of solar and battery storage, prioritizing the already built and disturbed environment. We need to address interconnection issues without damaging our critical green and natural infrastructure and without putting extraordinary burdens on environmental justice and rural communities.

Identifying Ineligible and Priority Sites

(relating to 225 CMR 28.08 Land Use)

Solar and battery-storage siting should be environmentally responsible. The Commonwealth should designate *ineligible* (no-go) areas and *priority* (go) areas for siting that are consistent across SMART, EFSB, and DOER regulations. No mitigation should be allowed for ineligible areas. Our goal is that any substantial loss of solar project potential be compensated by incentivizing other, responsibly sited projects, including through state financial support. Massachusetts needs to invest in meeting our climate goals with responsibly sited solar.

- INELIGIBLE (excluded, no-go) AREAS:

- SMART-proposed Categories (these are NOT sufficient)
 - For all projects:
 - Wetland resource areas including buffer zones (310 CMR 10.04)
 - Article 97 protected open space (unless Locational Compensation Rate Adders)
 - Properties included in the State Register (950 CMR 71.03), except as authorized by regulatory bodies
 - For ground mount projects > 250kW:
 - BioMap Core Habitat or Top 20% of forests for carbon storage statewide
- **Our Proposed Additional Ineligible Categories** (to be added to the SMART proposed categories)
 - All mature forests¹ (which supply nearly 50% of our on-land rainfall)
 - Mature forests should be defined by independent, peer-reviewed and published research, for example, defining mature forests in New England as 35 years and older.²
 - All Article 97 protected open space
 - Critical Natural Landscapes
 - Prime farmland
 - Steep slopes in natural landscapes (grades of 15% or higher)
 - Filtration buffers around rivers and public drinking-water sources such as reservoirs and aquifers
- PRIORITIZED (incentivized, go) AREAS:
 - Categories (identified AFTER removing ineligible areas)
 - Existing degraded or disturbed land,
 - including parking lots, quarries, gravel pits, landfills, brownfields, and tornado-damaged land
 - Building rooftops, both residential and commercial
 - Grid interconnection zones within 2 miles of a substation *where there are lines with capacity*:
 - Lines with current capacity
 - Lines that could have capacity once a substation is upgraded

¹ See the Woodwell Climate Research Center's endorsed Forest Maturity map, <https://www.matureforests.org/forest-maturity-map>.

² Birdsey et al., 2023, "Assessing carbon stocks and accumulation potential of mature forests and larger trees in U.S. federal lands," <https://doi.org/10.3389/ffgc.2022.1074508>. Lead author, Dr. Richard Birdsey, is Senior Scientist at Woodwell Climate Research Center and was appointed to Governor Healey's 2023 Massachusetts Climate Forestry Committee.

Mitigation for solar developments greater than 250 kW outside priority and ineligible sites:

As outlined above, we request more ineligible sites be added to the state's list. These include:

- All mature forests³ (which supply nearly 50% of our on-land rainfall)
 - Mature forests should be defined by independent, peer-reviewed and published research, for example, defining mature forests in New England as 35 years and older.⁴
- All Article 97 protected open space
- Critical Natural Landscapes
- prime farmland
- Steep slopes in natural landscapes (grades of 15% or higher)
- Filtration buffers around rivers and public drinking-water sources such as reservoirs and aquifers

The [draft regulations](#) propose a mitigation fee (225 CMR 28.09) for any "ground-mounted STGU [Solar Tariff Generation Unit] with a capacity greater than 250 kW that is not located on Previously Developed Land and does not qualify for a Locational Compensation Rate Adder".

We oppose use of mitigation payments for ineligible sites, and we encourage use of mitigation payments for grey areas (neither ineligible nor prioritized sites). If a mitigation payment system were enacted, its effectiveness would depend on the weights applied to various factors, which are not discussed in these regulations. For large projects, for example, mitigation payments would need to be a substantial percentage of a project's costs, not a specific dollar amount.

Should mitigation payments be enacted, they should be applied towards project-specific mitigation, to the extent practicable. Below are additional comments on the proposed weighted factors:

Carbon storage:

It is essential to recognize Massachusetts forests' potential to reduce climate change via carbon sequestration and to preserve biodiversity. Scoring should go beyond federal and industry

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⁴ Birdsey et al., 2023, "Assessing carbon stocks and accumulation potential of mature forests and larger trees in U.S. federal lands," <https://doi.org/10.3389/ffgc.2022.1074508>. Lead author, Dr. Richard Birdsey, is Senior Scientist at Woodwell Climate Research Center and was appointed to Governor Healey's 2023 Massachusetts Climate Forestry Committee.

databases and not rely on “third-party entities” with unspecified expertise to develop a scoring approach.

Scoring should draw on climate scientists using the current assessments showing that our biodiverse middle-aged *Eastern forests have the potential to accumulate twice their current carbon* in the coming decades (Birdsey et al. 2023, “Middle-aged forests in the Eastern U.S. have significant climate mitigation potential,” <https://doi.org/10.1016/j.foreco.2023.121373>). Scientists and organizations contributing to the scoring approach must not have potential financial conflicts of interest in forests or energy systems.

Ecological integrity:

See above: We need to recognize the great potential of intact, natural forests. Known habitat connectivity corridors (that preserve biodiversity) should also be considered in this criterion. Scoring should be developed in partnership with independent climate scientists, not “third-party entities” with unspecified expertise or conflict of interest.

Agricultural Potential

Particular priority should be given to preserving agricultural lands without creating new emissions. Crop fields and grazing fields should have separate considerations within this category, given the methane contributions of grazing animals. Already grazed lands should be encouraged to consider agrivoltaics, but **converting productive croplands to grazing fields for cows, sheep, and goats (all methane belchers) to maintain agricultural use should not be incentivized through SMART.**

Critical Natural Landscape:

Projects in critical natural landscapes should be ineligible for SMART, with no mitigation allowed.

Cumulative Impacts:

If no changes are made to 225 CMR 28.09(2)(a)5, to avoid confusion with the the 2024 Climate Act usage of cumulative impact analyses, we suggest re-naming this section “Geographical distribution.”

That being said, we suggest the following amendments to 225 CMR 28.09(2)(a)5: Projects must be assessed for existing and anticipated disproportionate adverse environmental, public health,

and climate resilience impacts in an effected area. Separate harm-scoring systems may be necessary for urban and rural areas. In rural communities, weight should be added based on environmental impacts and also infrastructure available, such as the common absence of municipal water systems for firefighting. In urban communities, weight should be added based on environmental impacts and also social and public health impacts, such as the current air-quality load.

Cumulative impact should examine proximity to other areas in terms of public health impacts and, where there are negative health impacts, require evaluation of alternative sites that promote an equitable and just energy grid (for example rooftops, parking lots, and other low impact sites). Historic burdens from pollutants and displacement should be given higher weight when calculating overall cumulative impact from the proposed site.

Qualitative input from community leaders and residents (whether urban or rural) is essential to considering harmful impacts at the local level.

Grid Alignment:

No mitigation fees should be required for areas near substations with current capacity. Low mitigation fees should be required for areas around substations with distribution lines that could have capacity if the substation were upgraded. Moderate mitigation fees should be required for areas with projected substation investments.

All of this is *on the condition that the proposed substations are not located in an ineligible zone*. No mitigation should be allowed to override ineligible zones; “ineligible” needs to mean *no SMART incentives allowed*.

Additional categories that should be weighted:

Climate resilience

We suggest considering the potential for flooding at a particular site, not only due to rising sea levels and the increasing frequency of so-called 100-year storms, but also due to nearby tree removal and the slope of the proposed site. Additionally, there should be consideration of the impact of a project’s siting on the resilience of nearby communities and the surrounding ecosystem. For example, siting on a slope of 15% or higher increases the risks of flooding and mudslides and should be denied.

Forests and Trees:

We propose adding weight to the environmental benefits of existing trees and forests by assessing *not only* their carbon storage and biodiversity benefits *but also* their essential contributions to regional rainfall cycle regulation, flooding reduction, and temperature moderation. Mature forests and trees provide the greatest environmental and social benefits, so maturity must be defined and assessed scientifically. (A list of scientific sources is provided below.)

Rainfall cycle: Through a process known as “transpiration,” a forest can deliver more moisture to the air than evaporation from a water body of the same size. By evaporating water from increasingly intense rainfall, transpiration by trees significantly reduces flooding and their roots prevent soil erosion. A single mature tree can divert hundreds or thousands of gallons of stormwater per year, depending on size and species. Flood risk is by far the most frequent, serious, and increasing impact that is expected for communities across Massachusetts.

In short, tree and forest cover in western, central, and southeastern Massachusetts determines rainfall quantity, variability, and seasonality, as well as soil moisture, across the entire state. Deforestation and forest degradation disrupt the rainfall cycle, increasing the risk of drought, flooding, and fire. A mismatch between inflow and outflow, even in an area with abundant water, can result in a long-term drying of the landscape, which cannot absorb intense rainfall and which can burn more easily.

Water Filtration and Quality: Forests and forested buffers are the most effective land cover for maintenance of water quality. Trees collect rainfall and filter sediments and other pollutants from water in the soil before releasing it slowly into streams, rivers, aquifers, and lakes. Deforestation and forest degradation negatively impact water quality, whereas the more intact natural forest in a source-water watershed, the lower the cost to treat that water.

Preservation of forests in central Massachusetts directly affects drinking water for Boston and MetroWest communities. Recently, the City of Cambridge used Community Preservation Act (CPA) funds to purchase land surrounding the Hobbs Brook Reservoir in Lexington to [protect Cambridge’s drinking water source](#). As the [NAACP documents](#), water crises (such as the May 2010 Boston water emergency) disproportionately impact EJ communities.

Energy cycle and temperature moderation in Boston and MetroWest: Forests modify surface and near-surface air temperatures through biophysical processes. Boston and other cities in the eastern US are several degrees cooler than we would expect from the warming trends across the rest of North America because of the forests across

Massachusetts and other parts of New England. Deforestation and forest degradation will make Boston and MetroWest hotter.

Defining Mature Forests and Trees: Maturity should be defined by independent, peer-reviewed and published research. Mature forests should initially be defined from 2024 (see Forest Maturity Map below), when the Climate Bill requiring new regulations was passed. Periodic revision of identifying mature forests should include a look-back period to prevent deliberate deforestation and degradation to secure siting priority.

Mature forests in New England, for example, are defined as 35 years and older, according to peer-reviewed research by Dr. Richard Birdsey, Senior Scientist at Woodwell Climate Research Center and Member of the 2023 Massachusetts Climate Forestry Committee.

Maturity for urban trees varies not only by tree species but also by urban environmental constraints and hazards. The high mortality rates of planted urban trees emphasize the need to preserve existing, mature urban trees.

Scientific sources with guidance on defining maturity and quantifying the contributions of forests and trees and their impacts include, for notable examples:

- Ellison et al. 2017, “Trees, forests, and water,”
<https://doi.org/10.1016/j.gloenvcha.2017.01.002>.
- Moomaw et al. 2019, “Intact Forests in the United States,”
<https://doi.org/10.3389/ffgc.2019.00027>.
- Birdsey et al. 2023, “Middle-aged forests in the Eastern U.S. have significant climate mitigation potential,”
<https://doi.org/10.1016/j.foreco.2023.121373>.
- Birdsey et al., 2023, “Assessing carbon stocks and accumulation potential of mature forests and larger trees in U.S. federal lands,”
<https://doi.org/10.3389/ffgc.2022.1074508>.
- Barnes et al. 2024, “A Century of Reforestation Reduced Anthropogenic Warming in the Eastern United States,”
<https://doi.org/10.1029/2023EF003663>.
- Forest Maturity Map, <https://www.matureforests.org/forest-maturity-map>, endorsed by Woodwell Climate Research Center (among others).
- Hilbert et al. 2019, “Urban Tree Mortality,”
<https://research.fs.usda.gov/treesearch/58772>
- Augusto et al., 2025, “Widespread slow growth of acquisitive tree species,” <https://doi.org/10.1038/s41586-025-08692-x>
- Climate Adaptation Actions for Urban Forests and Human Health, 2021,
https://www.fs.usda.gov/nrs/pubs/gtr/gtr_nrs203.pdf.

- Rahman et al. 2023, “A Comparative Analysis of Urban Forests for Storm-Water Management,” <https://doi.org/10.1038/s41598-023-28629-6>
- McDonald et al 2021, “Tree Cover & Temperature Disparity in US Urbanized Areas,” <https://doi.org/10.1371/journal.pone.0249715>
- McDonald et al. 2024, “Current Inequality and Future Potential of US Urban Tree Cover for Reducing Heat-Related Health Impacts,” <https://doi.org/10.1038/s42949-024-00150-3>.

Comments on adders

Increase the raised racking adder and establish a roof canopy adder

We recommend:

- reinstating raised racking provisions to encourage new construction incorporating structural support for rooftop canopies,
- establishing a rooftop canopy adder of \$0.08/kWh or greater to compensate for additional structural and installation costs, and
- clarifying that canopy adders apply to rooftop installations regardless of dual-function requirements.

Raised racking and rooftop canopy installations provide superior land-use efficiency and building integration but require structural investment. Enhanced incentives will encourage broader adoption of these beneficial installation methods.

Increase building-mounted adder

We recommend increasing the building-mounted solar adder from \$0.02/kWh to \$0.06/kWh for residential installations to compensate for the loss of federal incentives.

Dual-use agricultural adder

Although forestry is considered agriculture in Massachusetts, forest sites should be explicitly ineligible for agricultural adders.

Increase carport adder

Canopy solar adder eligibility requirements may inadvertently exclude smaller systems. We recommend explicitly confirming that canopy solar adders are available for systems ≤ 25 kW AC. Smaller canopy installations provide equivalent environmental and land use benefits and should receive commensurate incentives.

Additional items

Simplification of SMART application for DER systems.

Because SMART was originally designed for large solar installations, the application process is complex and cumbersome. As a result, smaller systems have rarely applied for it. The governor's energy affordability bill (H.4144) requires all net metering facilities to enroll in SMART.

Combined with new SMART requirements for small systems, this will create significant financial and logistical barriers. **The administration should not impose new requirements** that disproportionately affect small systems (25 kW or less) and instead pursue alternative ways to meet this provision's goals.

Removing caps for small systems

Historically, small systems have been exempt from net metering caps. This consistent policy has been important to sustaining the solar industry for residential rooftop solar. The new regulations propose giving DOER the power to impose caps on small systems should they choose. DOER should remove this. We should not be sending a signal that we may want to curtail small system development in the near future.

Necessary broader actions to support solar

The expiration of federal residential tax credits on December 31, 2025, will significantly impact residential solar economics and project viability. The elimination of federal tax credits creates a substantial financing gap for residential solar installations.

Enhanced state incentives are necessary to maintain market stability and continue progress toward Commonwealth clean energy goals. The financial benefits of decarbonization and peak-load reduction are well worth the modest increase in SMART program costs in terms of the net impact on ratepayers.

Given these circumstances and the urgency of maintaining our renewable energy goals and jobs, we support the passage of [H.3559/S.2296](#) *An Act to Encourage Solar Development on Built and Disturbed Land* and [H.3520/S.2269](#) *An Act Facilitating Distributed Energy Resources in the Commonwealth*, which will accelerate the adoption of small and medium scale solar development on buildings and disturbed lands.

Sincerely,

Mass Solar Table

Our Revolution Massachusetts

Pipe Line Awareness Network of the Northeast

Sierra Club Massachusetts

Solar Design Associates

Trees as a Public Good Network

The Enviro Show