

Massachusetts Department of Energy Resources
100 Cambridge Street, Suite 1020
Boston, MA 02114
And via email at DOER.SMART@mass.gov

Dear Massachusetts Department of Energy Resources,

September 27, 2019

Thank you for the opportunity to comment on the Massachusetts DOER 400 MW Review of the Solar Massachusetts Renewable Target (SMART) Program. The Nature Conservancy (TNC) is a leading conservation organization working around the world to conserve lands and waters for nature and people. The Conservancy has protected over 23,000 acres of habitat in Massachusetts, and over 119 million acres around the world. Starting with the best-available science, we collaborate with public agencies, NGOs, businesses, municipalities, and other stakeholders to take direct and collaborative action and enhance public policies and innovative financing to build a more sustainable natural world.

The Nature Conservancy supports the development of renewable energy in Massachusetts as a critical strategy to reduce greenhouse gas emissions and thereby reduce the pace and magnitude of climate change and its impacts on nature and people. TNC has historically supported the Renewable Portfolio Standard to accelerate the pace of renewable energy development in Massachusetts, including eligibility requirements and preferential criteria related to greenhouse gases and natural resources.

At the same time, we have concerns about the implementation of the SMART program thus far, and in particular the outcome of the incentives that have resulted in a majority of the built and qualified solar projects occurring on undeveloped forest lands. The Nature Conservancy has worked for many decades to protect networks of intact forest landscapes that support diverse wildlife and plant species, sequester significant amounts of carbon, and are crucial to the health and welfare of the citizens of Massachusetts. State incentives for renewable energy development should steer solar development first towards already-developed sites and seek to avoid the conversion and fragmentation of these critical forest lands. The Nature Conservancy's comments here are focused specifically on the forest land impacts of the SMART program. The Nature Conservancy's primary recommendations are:

- 1. Analyze the potential impacts of the incentive program on forest lands before implementing the SMART revisions.**
- 2. In response to a careful impact analysis, adjust the incentives (subtractors and adders) to direct more solar development to previously developed lands, and less solar development to important forest lands.**
- 3. Use spatial habitat data to direct solar development incentives, and include a broader group of stakeholders to inform the process.**
- 4. Undertake a thorough analysis of the location, size, and resource impacts of SMART solar projects.**

Below are additional details and rationale for these recommendations:

1. **Analyze and quantify the potential impacts of the incentive program on critical forest lands before implementing the SMART revisions.** The SMART Program changes proposed by DOER include the following: “Move solar specific local zoning from Category 1 Land Use eligibility to Category 2 for all new projects. (Moving this section from Category 1 to Category 2 ensures that projects >500kW sited on land that has not been previously developed are assessed the Greenfield Subtractor)” and “Increase Greenfield Subtractor x 5 for all new projects”. The subtractor and adder system is opaque, and it is therefore difficult to interpret what the outcomes of the proposed incentives will be in terms of projects on the ground. It is therefore challenging to assess and comment on the proposed changes to the SMART Program and their effects on the siting of future solar development, and whether they will direct more capacity to already-develop areas or perpetuate the conversion and fragmentation of forests and other natural lands. Under the initial roll out of the SMART program the majority of the solar capacity was qualified and developed on forests and other undeveloped lands. This outcome of the SMART incentives does not appear to have been anticipated. A proactive assessment of the likely outcomes of the incentives, including the formulas and magnitude of the subtractors and adders, in advance of launching the Program, might have avoided these unintended consequences. It would be very beneficial for DOER to assess the potential outcomes of the proposed changes to the SMART Program incentive structure in advance of their roll out. This assessment should then be provided to stakeholders and the public. There needs to be a transparent, clear explanation of how the changes will, or will not, result in changes on the ground.
2. **In response to a careful impact analysis, adjust the incentives (subtractors and adders) to direct more development to previously developed lands, and less solar development to important undeveloped forest lands.** As stated in number 1 above, it is challenging to comment quantitatively on the magnitude of the subtractor and adder system. Qualitatively, it is clear that increased subtractors for ground mounted projects on undeveloped forest lands, and increased adders for projects on previously developed areas (parking lots, roof tops, etc.) should help incent SMART Program solar projects toward places that do not conflict with other important land values including habitat, carbon sequestration, recreation, and other benefits from the forest landscape. This will, in turn, result in a more publicly acceptable solar incentive program.

In addition, we recommend significant modification of the incentive that eliminates greenfield subtractors on projects occurring in towns with solar zoning bylaws. This has resulted in unintended consequences for towns, and has especially challenged under-resourced towns, often run by volunteer boards, and left many towns unable to thoughtfully direct solar development in keeping with their local interests and goals. Unfortunately, this has led to significant local backlash against solar development in many communities, which ultimately erodes support for the continued rapid deployment of renewable energy we so urgently need to meet the Commonwealth’s climate goals. Instead, we urge a more holistic approach in which DOER provides assistance to municipalities to consider environmental impacts when adopting local bylaws for renewable energy as promoted under the Green Communities Program. DOER’s proposal to move projects with solar specific local zoning from Category 1 Land Use eligibility to Category 2 may be effective, however other adjustments to the formula may work even more effectively, and this should be carefully evaluated to make sure the new system results in the intended consequences.

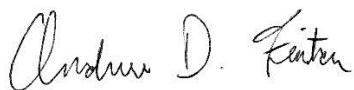
3. **Use spatial habitat data to direct solar development incentives, and a broader group of stakeholders to inform the process.** The Nature Conservancy recommends the application of spatial data to inform SMART incentives. Three years ago, stakeholders recommended using spatial data to inform the SMART program, with the intent of disincentivizing solar development in sensitive habitat. These recommendations were not incorporated into the SMART program, and the 400 MW review provides an opportunity to do so. We recommend the use of BioMap2 habitat data to inform these changes. These data were developed by the MA Division of Fisheries and Wildlife/Natural Heritage and Endangered Species Program, in collaboration with The Nature Conservancy. These data and methodologies are based on decades of habitat mapping by both entities and have been readily adopted as a primary input to state, NGO, land trust, and municipal conservation priorities. As one example, different components of BioMap2 data could be used to direct different levels of incentives (e.g. Core Habitats would be ineligible for incentives, Critical Natural Landscapes would qualify for reduced incentives, and areas outside of BioMap2 would receive full incentives). The Nature Conservancy would be willing and able to assist DOER in interpreting and applying these and other natural resource data to refine and improve the SMART Program incentives. It would also benefit the SMART Program to work more closely with other state agencies under EEA. It is unclear, for example, how much input was solicited from the MA Division of Fisheries and Wildlife to inform the original and proposed incentive structure. Agency input will reduce conflicts among renewable energy development and other land use values.
4. **Undertake a thorough analysis of the location, size, and resource impacts of SMART projects already developed through the SMART program, those qualified and not yet built, and all future applications.** It is critical that the SMART program be able to track the impacts of solar projects on natural resource and other values. The only way to do so is to generate accurate, comprehensive, and spatially explicit data for each solar project. Going forward, all projects should be required to submit GIS files of the exact location of the solar array and the supporting infrastructure within a given parcel so that DOER and other state agencies can fully understand the result of solar development on lands and related land benefits such as wildlife habitat, carbon stocks, and other functions. Existing solar project boundaries should also be digitized and analyzed. These data should be summarized and published on an annual basis.

The Nature Conservancy has considerable experience throughout the United States in providing science-based spatial data to inform the siting of energy infrastructure and structuring incentive programs. TNC has collaborated with electric utilities, renewable energy developers and federal and state energy and natural resource agencies to develop a balanced approach. Two examples of our collaboration include:

1. The California Optimal Renewable energy Build out (ORB) Model showed that a 50% renewables portfolio with a low impact to important natural areas can be achieved at a cost premium of 2% or less. The process identified the best places to build out renewable energy and places to avoid, resulting in plausible portfolios of renewable resources to meet future state targets.
2. New York State developed a wind siting tool that accounts for best wind resources and protecting biodiversity. The tool is on-line and publicly accessible. The process found that New York's landscape could accommodate more than 13,000 MW of wind development while taking biodiversity protection into account.

Thank you for the opportunity to provide comments on the MA DOER 400 MW Review of the Solar Massachusetts Renewable Target (SMART) Program. The Nature Conservancy believes it is critical for MA DOER to improve this program in order to catalyze continued solar energy growth in MA, while protecting other land use values in the state. Without improvements to this program, the growing backlash over poorly sited solar installations will become a barrier to increasing amounts of solar energy capacity, reducing the Commonwealth's ability to meet its Global Warming Solutions Act goals. We hope you carefully consider The Nature Conservancy's recommendations, as well as those from other stakeholders.

Sincerely,

A handwritten signature in cursive script that reads "Andy D. Finton".

Andy Finton
Landscape Conservation Director

Cc:

Katie Theoharides, Secretary, MA EEA

Dan Sieger: Undersecretary for Environmental Affairs, MA EEA

Patrick Woodcock: Undersecretary for Energy, MA EEA

Kurt Gaertner: Director of Land Policy and Planning, MA EEA