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June 1, 2020

Patrick Woodcock, Commissioner
Department of Energy Resources
100 Cambridge Street, Suite 1020
Boston, MA 02114

Attention: Kaitlin Kelly

Via Email: DOER.SMART@mass.gov

Re: **Solar Massachusetts Renewable Target (SMART) Program pursuant to 225 CMR 20.00**

Dear Commissioner Woodcock and Ms. Kelly:

On behalf of Mass Audubon, I submit the following comments on the Department of Energy Resources (DOER)'s Emergency Rulemaking under 225 *CMR* 20.00. We support the provisions to further restrict the availability of state funding for solar arrays located on presently undeveloped lands, particularly lands of high conservation value including Priority Habitat for state-listed rare species, BioMap2 Core and Critical Natural Landscape areas, and the increase in greenfield subtractors. However, these revisions still do not adequately address concerns about the significant and unnecessary impacts of this program on forests, farmlands and other high conservation priority lands. We reiterate our previous requests for DOER to develop an overall plan for the solar program that will enable the Commonwealth to meet the Greenhouse Gas (GHG) emission reduction goals in the state's Roadmap to 2050 in harmony with other climate and environmental related plans including the Executive Office of Energy and Environmental Affairs' Resilient Lands Initiative and the State Hazard Mitigation and Climate Adaptation Plan (SHMCAP). Forests provide vital roles in climate adaptation and mitigation, including carbon capture and storage, filtering and infiltration of precipitation (with more intense storms and more frequent droughts), water supply and pollution prevention, flood prevention, protection against erosion and sedimentation, and protection of interconnected, viable habitat for native plants and animals. They also provide important scenic and property values, recreational opportunities, clean air, and forest products.

Mass Audubon also supports expansion of the program, as it is clear from the Brattle Group's report¹ and the state's Roadmap to 2050 that solar capacity needs to be built at an increasingly accelerated pace in order to meet clean energy goals. However, to date between 50 and 75 percent of all new solar arrays have been built on previously undeveloped sites – mostly forested land. This has created numerous conflicts with other important state and local goals, as well as undermining support for clean energy development among the general public, as well as with Massachusetts' large public/private conservation community – a group that would otherwise remain among its biggest advocates. The state needs to develop approximately 50 gigawatts of solar capacity by 2050. Over 6,000 acres of natural lands have already been converted to solar arrays²; if current trends continue, up to 150,000 acres or more additional lands will be lost. We are already

¹ Weiss, Jurgen and J.M. Hagerty, *Achieving 80% GHG Reduction in New England by 2050: Why the Region Needs to Keep its Foot on the Clean Energy Accelerator*, Brattle Group, 2019.

² Ricci, E.H., J. Collins, J. Clarke, P. Dolci, and L. de la Parra. 2020. *Losing Ground: Nature's Value in a Changing Climate*. Massachusetts Audubon Society, Lincoln, Massachusetts, 33 pp. www.massaudubon.org/losingground

seeing many instances where hillsides have become destabilized by clearcutting for solar arrays, resulting in erosion and sedimentation into streams; fragmentation and degradation of important terrestrial and aquatic habitats; and public objections to the resulting visual blight in rural communities. An additional problem is that building industrial scale power generation facilities in rural areas creates interconnection challenges and a need for expansion of an antiquated electric grid system. Associated upgrades to accommodate many new facilities of this type will require even greater land use impacts for expansion of existing or creation of new electric transmission and distribution facilities. In contrast, locating solar arrays within existing development and incorporating storage and microgrids will be far more efficient and resilient.

Solar Plan Needed

Massachusetts should develop a plan for solar development that harmonizes energy and conservation policy goals, ensuring the long-term integrity and resilient functions of Massachusetts' forests, farms and natural areas. The intersection between land use and the state's emissions reduction and climate adaptation goals needs to be addressed more explicitly. The state should undertake a proactive planning analysis similar to the New Jersey Department of Environmental Protection's Solar Siting Analysis and Community Solar PV Siting tool³, which applied a GIS analysis to classify all land in the state as "Preferred Lands," "Not-Preferred Lands," and "Indeterminate Lands" for ground-mounted solar based on their land use and characteristics. "Not-Preferred" lands include forests and wetlands. This analysis found that excluding forests and wetlands still leaves ample land to meet New Jersey's solar development needs. The analysis should identify the amount of available "Preferred Lands" as well, such as parking lots, rooftop, large turfed areas around industrial/commercial buildings, brownfield sites, and inactive gravel pits. **We recommend that Massachusetts undertake a similar analysis as soon as is possible.**

BioMap2 or Other GIS Mapping Approaches

We are aware that some objections have been raised to the use of BioMap2 Core and Critical Natural Landscape areas for purposes of qualification of projects for solar siting incentives under the regulations. BioMap2 notes that it is intended for planning, not regulatory purposes. Nonetheless, DOER should apply these or similar GIS mapping tools to exclude areas of high conservation value from eligibility for receiving solar incentives. This incentive program is publicly funded, through electric ratepayers, who should not be required to pay for destruction of forestlands or other important natural resources. Eliminating eligibility for financial incentives does not directly regulate the use of those lands – on the contrary, landowners are free to pursue any type of development that is allowed under local zoning and other applicable laws such as the Massachusetts Endangered Species Act or Wetlands Protection Act. This is about financing, not land use restrictions.

The solar incentive program should be designed to not conflict with lands that are critically important for climate change response – not just in terms of carbon storage and flood prevention, but also interconnected habitat facilitating wildlife movement as well as recognizing the value of the tree canopy in suburban and urban environments for clean air and water and public health. At a minimum, whether through BioMap2 (and subsequent versions of BioMap) or some other similar GIS mapping system, DOER should exclude from eligibility lands that are known to be of highest conservation value – including habitat for state-listed species, large and interconnected blocks of forest, and lands adjacent to streams, wetlands and other water resources. The data is available in various GIS data layers and DOER could construct a map similar to BioMap2 with appropriate input from experts within its sister agencies including the Natural Heritage and Endangered Species Program. In addition, in communities that have completed Municipal Vulnerability Preparedness plans and/or local Open Space and Recreation Plans approved by the state, lands that are identified as highly vulnerable to flooding or erosion or otherwise of high conservation value to the community should also be excluded from SMART eligibility. The state also needs to provide more planning

³ <https://www.nj.gov/dep/aqes/solar-siting.html>

assistance to communities to help them update their zoning as appropriate to harmonize local solar zoning with other local priorities and plans.

The DOER model solar zoning guidance to communities states:

DOER strongly discourages locations that result in significant loss of land and natural resources, including farm and forest land, and encourages rooftop siting, as well as locations in industrial and commercial districts, or on vacant, disturbed land. Significant tree cutting is problematic because of the important water management, cooling, and climate benefits trees provide.⁴

The financial incentive program needs to be structured to align with this statement.

Within-Development Incentives, Greenfield Subcontractors

First and foremost, DOER should examine the incentive structure for projects within existing developed lands – e.g. rooftops, parking lots, and large turf/landscape areas, and make adjustments to better address the costs and administrative hurdles to these projects. The program should be structured to **level the playing field**, indeed to ensure that incentives for these kinds of projects are greater than for those that destroy forests and other important natural resources. Administrative barriers such as the challenges of multiple ownerships and leases on commercial/industrial properties also need to be addressed. Mass Audubon supports the carve-outs for commercial and low-income projects but feels these need to be further expanded and streamlined. A plan for solar should also ensure that incentives promote behind the meter projects, storage, microgrids, and other features that will help ensure the efficiency, reliability, and resilience of our electric supply system as we transition to green renewables.

We support the increase in greenfield subcontractors but request that it be increased to 5x the previous level, as proposed by DOER in the draft regulations last fall. The amount of the subcontractor should be sufficient to level the financial playing field between large greenfield projects and midsize within-development sited projects.

Public projects should not be eligible for exemption from the greenfield subcontractor. Incentives for building on municipal parking lots and buildings should be increased.

Pollinator Habitat

While we support guidelines for pollinator habitat and feel that maintaining diverse native vegetation underneath solar arrays should be the standard rather than the exception, greenfield projects that destroy forest should not receive a financial reward for planting flowers. This in no way replaces the diverse native habitat and other functions of a forest. We are also concerned about how this program will be monitored and maintained. Management of invasive plant species is likely to require significant funds and all solar projects should plan for non-herbicide means of dealing with this inevitable problem – whether through mechanical or hand weeding means on a regular basis, or via animal grazing. Pollinator habitat creation and maintenance standards should be reviewed and approved by the Natural Heritage and Endangered Species Program, and funds should be provided for their staff involvement.

Dual Solar/Agriculture

In principle, we support the concept of dual use solar/agriculture, particularly on existing farms where it can improve farm viability and if methods can be developed and proven for a diverse array of crops commonly

⁴ www.mass.gov/files/documents/2017/10/26/Model%20Solar%20Zoning%20Documents_0.pdf

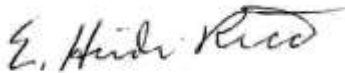
grown in New England (not just grazing animals). Caution should be exercised in incrementally expanding this aspect of the program with adequate monitoring and safeguards incorporated.

Conclusion

The plan for solar needs to be harmonized with other plans including the state's Forest Action Plan, Resilient Lands Initiative, State Wildlife Action Plan, Massachusetts Local Food Action Plan, and the SHMCAP. All of these plans should work together to protect valuable natural assets and support healthy and resilient communities.

Thank you for considering these comments. We believe that it is possible, indeed imperative, that the state literally and figuratively "Get Solar Off the Ground."

Sincerely,

A handwritten signature in black ink, appearing to read "E. Heidi Ricci". The signature is fluid and cursive, with a large, sweeping "E" and a stylized "Ricci".

E. Heidi Ricci
Assistant Director of Advocacy

Cc: Secretary Kathleen Theoharides, EOEEA
Kurt Gaertner, Director of Land Policy and Planning, EEOA
Eric Steltzer, Renewable Energy Division Director, Department of Energy Resources