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October 28, 2016

Commissioner Judith Judson
Massachusetts Department of Energy Resources
100 Cambridge Street, Suite 1020
Boston, MA 02114

via email: DOER.SREC@state.ma.us

Re: Next Generation Solar Incentive Straw Proposal

Dear Commissioner Judson,

Mass Audubon thanks the Department of Energy Resources (DOER) for the opportunity to comment on the **Next Generation Solar Incentive Straw Proposal**. Over the past two decades Mass Audubon has strongly supported solar energy as integral to meeting our state's clean energy goals and addressing global climate change. Unfortunately, in recent years we have increasingly seen acres of ecologically- and socially-valuable (but comparatively inexpensive) land converted to large ground-mounted solar arrays. Inappropriate siting of solar arrays conflicts with the Commonwealth's established goals, policies, and direct funding programs for natural and historic resource protection.

We thank the Administration for including in the Straw Proposal our proposed recommendations for the elimination of incentives for Generation Units sited on clearly delineated or permanently protected areas of high ecological importance. We are currently working with DOER as part of the solar stakeholder group on land use and siting to support the Administration's proposal while carefully considering the diverse perspectives of all stakeholders.

Mass Audubon urges the Administration to continue to support the growth of renewables through strong incentive programs which will continue to drive down the costs of clean energy and to allow the Commonwealth to meet its emissions reduction goals under the Global Warming Solutions Act.

Solar and other renewable energy projects are highly preferable to dangerously polluting fossil fuels, but must be sited appropriately. We are not requesting any new environmental regulations restricting this form of development any differently than other forms of development. Rather, we simply oppose the use of state financial incentives for the installation of large ground-mounted

solar arrays impacting natural resources in significant ways, especially where those impacts conflict with other established state goals and programs for resource protection. The following points summarize some key concerns:

- 1) Similar to other forms of development, large ground-mounted solar installations which require large-scale land conversion negatively impact the environment in numerous ways. These include habitat fragmentation, wildlife disturbance, surface and groundwater degradation, release of greenhouse gases due to removal of vegetation and trees, soil degradation due to grading and compaction, localized pollution due to construction, and the loss of the air, water, and pollutant management services provided by below- and above-ground biomass.
- 2) The Commonwealth's model solar bylaw clearly and in no uncertain terms discourages the siting of solar and in particular large-scale ground-mounted facilities in locations that result in significant loss of land and natural resources, including farm and forest land. We strongly urge the Administration to align its incentive program with the recommendations of the model solar by-law.
- 3) The protections of Article 97 of the State Constitution, various state statutes (Wetlands Protection Act (WPA), Massachusetts Endangered Species Act (MESA)), as well as stated conservation goals (State Wildlife Action Plan) are being eroded through the use of solar incentives for large ground-mounted solar projects. Although Article 97, WPA, and MESA still apply to solar projects just as they would to any other development, in practice we have observed numerous projects pushing the limits of interpretation of those legal protections. In particular, we are alarmed by claims that construction of large-scale solar arrays does not conflict with Article 97 protections for properties designated for water supply, conservation, and recreation purposes. We have also observed numerous instances where projects adversely impacted rare species habitat protected under MESA but nonetheless were permitted with conditions to limit impacts or provide for mitigation off-site. Similarly, projects impacting wetlands buffer zones may be permissible under the WPA but nonetheless still result in overall degradation of the integrity of adjacent wetlands. The solar incentives to date have created many conflicts between resource protection programs, have increased workloads for permitting authorities, and have resulted in unfortunate erosion of public support for renewable energy development across the commonwealth.

We have received numerous inquiries and complaints from citizens from the Berkshires to the Islands objecting to large areas of forest and other natural lands in their communities being converted to utility-scale ground-mounted solar arrays. Many rural communities do not have professional planning staff and were not able to adopt solar zoning bylaws until after projects that created local objections were already built.

The following are just a few examples:

In the town of Plymouth, residents grappled with a proposed 34-acre solar array on the 78-acre parcel located in a residential area which is currently forested and would require significant tree

clearing and the construction of access and maintenance roads. Strong disagreements among local residents about this project have resulted in time-consuming legal action.

In the rural town of Shirley, several commercial solar energy generating facilities have been built in residential areas, resulting in the loss of substantial forestlands. Projects on Shirley's water supply lands are particularly controversial, as they are adjacent to public wells and two cold-water trout streams. Strong opposition from neighbors and other town residents is creating acrimonious relationships between the citizenry and local officials who support the projects based on financial considerations.

In Oak Bluffs, a solar array has also been proposed on water district land that is dedicated to water supply protection. In both Shirley and Oak Bluffs, these lands are mapped in MassGIS as permanently protected lands. In both instances, legal opinions were obtained by project proponents claiming that the solar arrays are not incompatible with water supply protection and therefore do not constitute a change in use under Article 97. If land can be clearcut and completely covered in structures, surrounded by a fence, and still be considered to be protected for water supply and other conservation and recreational uses, this stretches interpretation of Article 97 to the breaking point.

There is a widespread lack of understanding of the free ecosystem services values that forestland is providing, particularly in regard to water supply. Forests capture atmospheric pollution and filter out contaminants such as nitrogen, helping to maintain surface and groundwater quality. The fact that solar arrays in and of themselves are not sources of pollution is beside the point – removal of the forest itself is a degradation of the water supply protection function of the lands.

According to the solar industry, the main driver for large ground-mounted solar projects is the managed-growth category of solar incentives. As currently structured, the financial incentives conflict with the state's guidance for solar siting and the Commonwealth's conservation goals. By simultaneously promoting and discouraging large ground-mounted solar arrays, the Commonwealth has inadvertently entangled a number of communities in costly legal battles and lengthy disputes.

Target Incentives to Support Solar Development in Built Environment

Mass Audubon strongly supports the elimination of incentives for projects located in natural resource areas as proposed in the DOER Straw Proposal. Large ground-mounted solar arrays should be sited in compatible areas either immediately in the built environment (rooftops, parking lots) or in potentially compatible lands such as along roadways.

According to the National Renewable Energy Lab (NREL) there is enough suitable parking lot and rooftop available across the state to meet approximately 50 % of the Commonwealth's total energy need. The Executive Office of Environmental Affairs (EOEEA) has estimated that approximately 47,000 acres of space is available on parking lots, rooftops, and in industrial areas. DOER's proposal for the next phase of incentives mitigates the increased costs associated with solar construction in the built environment by offering higher incentives in these areas. EOEEA has also estimated that in order to meet the Commonwealth's goal of 1600 MW of solar, approximately

8,000 acres of land is needed. There is more than ample space available on developed lands to meet this goal, and the financial incentives should be targeted to offset the cost differential between that type of siting and building on rural undeveloped lands.

Summary

As the Administration works to develop the next iteration of solar incentives we respectfully request that DOER regulations better avoid, minimize, and mitigate the impacts of solar projects on natural resource areas, habitat, and forest and agricultural lands. Financial incentives should more strongly promote projects that integrate solar within existing infrastructure and development (e.g. rooftops, parking canopies, and brownfields redevelopment) rather than on greenfields and other clearly delineated sensitive and ecologically-important areas.

We strongly recommend that the next phase of the Commonwealth's Solar Renewable Energy Credit (SREC) Program eliminate any incentive for Generation Units sited on:

- Wetland soils, Riverfront Areas, and Lands Subject to Flooding
- Agricultural soils of prime or statewide importance
- BioMap2 Core Habitat, including forest blocks ≥ 500 acres
- Designated Priority Habitat of state-listed rare species
- Lands formally conserved through Article 97 status or conservation restriction
- Any Archaeological site listed in the State Register of Historic Places or Inventory of Historic and Archaeological Assets of the Commonwealth

Thank you for considering these comments. We urge the Administration to eliminate incentives for the project types listed above, and ensure that development of clean, renewable solar energy does not undermine the Commonwealth's land conservation and natural resource protection goals.

Please feel free to contact us with any questions.

Sincerely,



Karen Heymann
Legislative Director

Cc: Secretary Matthew Beaton, EOEEA
Undersecretary Ned Bartlett, EOEEA
Kurt Gaertner, Director of Sustainable Development, EOEEA
Mike Judge, Director, Renewable and Alternative Energy Division, DOER
Robert O'Connor, Forest & Land Policy Director, EOEEA

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