Pope Energy

June 1, 2020

Kaitlin Kelly
Department of Energy Resources
100 Cambridge Street, Suite 1020
Boston, MA 02114

Email: DOER.SMART@mass.gov

Re: SMART Public Comment

Dear Ms. Kelly,

We appreciate the fact that DOER works hard at trying to continually improve the solar program in Massachusetts, all the while trying to balance a wide spectrum of stakeholder interest. We appreciate the extension of the solar program from 800 MW to 1600 MW, as well as the creation of a new set-asides for small commercial projects under 500 kW, the inclusion of Soils of Statewide Importance in developing Agricultural Solar projects, and the combining of the Eversource capacity blocks, as all of these changes will create opportunities for solar development and jobs. The reason why solar stakeholders requested an additional 3,200 MW is because of the continuity of program availability and jobs. In light of COVID-19 economic recovery, EOEEA should consider replacing displaced careers and lost jobs with renewable energy jobs. Re-training workers and encouraging new graduates for new renewable energy careers would take a commitment to providing a continuous employment marketplace provided by the emissions compliance obligations already in place, the totality of which have not yet been fully internalized by regulators.

As EOEEA prepares its report in compliance with Kain vs. MassDEP, it should establish a defined total of solar, wind and other renewables to be installed per year. A defined number of megawatts of solar to be installed per year will shape how DOER approaches policy development. There is a difference in the approach to policy development when considering, “How do we manage a finite solar policy?” and, “How do we make sure to install 1,000 MW of solar per year?” Defining a fixed level of installed DG would also shape how D.P.U. approaches D.P.U. 19-55 Interconnection, Grid Modernization and most other dockets. Depending on a solar project’s interconnection queue difficulties, the 1600 MW program as currently proposed might last 12-18 months before projects become uneconomic due to the declining block structure. Having a defined installed capacity of DG would also shape the discussions that DOER would have with cities and towns relative to land planning. Having a defined number of megawatts of solar to install per year would not result in a land use prohibition that removes 40%[1] of the land mass in Massachusetts from solar development.

[1] BioMap2 Conserving the Biodiversity of Massachusetts in a Changing World, Mass Fish & Game 2010, Page 4 Executive Summary, Chart

But for Solar There Would Be No Demand for This Land…

DOER has stated that when it comes to land use, the department does not care if land remains available for residential, commercial or industrial use, as it can only control what is within its purview and DOER controls the solar program. We understand that DOER is responding to certain towns, particularly in the western part of the state, that are effectively saying, "DOER, if it was not for your solar program, there would be no demand for this land." If DOER intends to maintain a finite solar program with solar not contributing significantly to renewable generation in Massachusetts, we understand how the department could maintain this posture. How does EOEEA and DOER intend to meet the emissions obligations set forth by the legislature? In their Achieving 80% GHG Reduction in New England by 2050, the Brattle Group states in the Executive Summary on Page v that New England will need 2-5 GW of solar and 2-3 GW of wind each year between 2019 and 2050 to meet GHG obligations. Since Massachusetts consumes 45% of ISO-NE load, that would translate into 0.9 GW – 2.5 GW of solar and 0.9 – 1.35 GW of wind installed per year until 2050. Does EOEEA and DOER intend to establish a trunk line policy of installed capacity that will drive development of all renewable energy policy?

Pope Energy is a solar developer that develops larger scale ground-mount, rooftop and carport solar projects on behalf of investors. We are members of NECEC and SEBANE and agree with their request for consideration in the Emergency Regulations under review. This comment letter focuses on land use regulations, compensation rate transition and how thinking about how establishing a trunk line policy of installed solar capacity will assist in the larger picture of meeting our emissions obligations by 2050.

BioMap2: Core Habitat and Critical Natural Landscape

Massachusetts has 5,019,113.6 acres of land[2] to which 3,702,718 consist of all-natural cover[3] of which 3,000,000 acres are forested[4] and slightly greater than 10% of that number (or 325,449 acres) represent 163 Final Core Forest areas.

The BioMap2 total of 2,029,200 acres that DOER has inserted into the regulations represents 40% of the state land mass[5].

One megawatt of installed solar PV will consume 5 acres of land or less, depending upon shading, slope or obstructions. One thousand megawatts (1GW) of ground-mount solar PV would consume 5,000 acres (5-acres x 1000 MW) or less of land or less. In ten years, that

[2] https://www.answers.com/Q/How_many_acres_of_land_in_Massachusetts

[3] BioMap2 Technical Report – Building a Better BioMap, Supplement, Mass Fish & Game, November 2011, Page84

[4] BioMap2 Technical Report – Building a Better BioMap, Supplement, Mass Fish & Game, November 2011. Page 63 with Table 28 on Page 62

[5] [5] BioMap2 Conserving the Biodiversity of Massachusetts in a Changing World, Mass Fish & Game 2010, Page 4 Executive Summary, Chart

total would be 50,000 acres or less, especially as density of watts per panel continues to increase.

At an installation rate of 1 GW per year, it would appear that devoting 0.000996 percent of the land per year for solar development within Massachusetts, as potentially enabled in Chapter 40 Section 9B: Solar Access, to accomplish the legislated global warming emission reduction requirements would not be a burdensome intrusion of local control.

The legislature passed the solar program as a social good to combat climate change. Protecting the natural environment of this beautiful state is no less important. We all need to be mindful of the “canary in the coal mine” concept that the loss of natural species endangers us all. Having grown up in Haverhill, MA, the Merrimack River was literally a sewer, and once a majority of the municipalities along that river mitigated that situation with sewerage treatment plants, the river became clean enough for salmon, chad and sturgeon to return, so mitigation is a powerful tool.

Mitigation not Prohibition

We propose that DOER remove the land use prohibition of Core Habitat and Critical Natural Landscape in the regulations, and insert a placeholder section to allow DOER to regulate in Guidelines, mitigation measures on ground-mount solar systems larger than 500 kW.

The pollinator adder concept could be expanded to include a choice to seed or plant for specific species that need assistance, such as seeding Milk Weed (Asclepias) for monarch butterflies. Certain plantings could be planted on the periphery of the solar field to provide habitat or food for certain avian species. If trees are cut within a wetland area to remove shading of solar panels, alders could be planted as a lower growing wetland planting that would provide nesting opportunities for birds and feed habitat for migratory birds like woodcock.

Every ground-mount solar project over 500 kW would be required to have some kind of habitat mitigation, and that requirement would run with the SOQ. It would be important to have specific requirements that would not be overly burdensome to manage over a 20-year period, otherwise it will affect financing.

Choosing solar development as a mitigating factor in habitat loss and maintaining biodiversity will assist in adapting to climate change over the next 30 years.

BioMap2 places a high value on “building connectivity”[6] between habitats and ecosystems. After construction is complete, a solar system has very little human activity on the site for the life of the system, which would be 25-35 years. Mowing and other maintenance activities can be scheduled around mating and wildlife transiting schedules.

[6] BioMap2 Conserving the Biodiversity of Massachusetts in a Changing World, Mass Fish & Game 2010, Page 12 Climate Adaptation and Ecological Resilience

"**Builds connectivity into habitats and ecosystems.** Connectivity is essential to support the long-term persistence of populations of both rare and common species. Local connectivity provides opportunities for individual animals to move through the landscape. For instance, wood frogs and blue-spotted salamanders need to move between springtime vernal pool habitats where they breed and upland forest habitats where they feed in summer and overwinter. BioMap2 maximizes local connectivity in forest, wetland, vernal pool, river, and rare species habitats. Regional connectivity allows long-distance dispersal, which helps to maintain vital populations. The intact landscapes of BioMap2 support regional connectivity, including several cross-state areas of critical importance."[7]

Section C: Incorporating Climate Change Adaption into BioMap2[8] focuses on:

"Resistance: The ability of an ecosystem or population to persist and to remain relatively stable in response to climate change and other stressors.

Resilience: The ability of an ecosystem or population to recover from the impacts of climate change and other stressors.

Transformation: The transition of an ecosystem or population to another ecological state in response to climate change and other stressors."

[7] BioMap2 Conserving the Biodiversity of Massachusetts in a Changing World, Mass Fish & Game 2010, Page 12 Climate Adaptation and Ecological Resilience

[8] BioMap2 Technical Report – Building a Better BioMap, Supplement, Mass Fish & Game, November 2011, Page 15

Solar projects do not intrude on vernal pools, river watersheds, or estuaries, nor on wetlands generally, but do provide “connectivity” to allow the migration of species up-slope access to feed and breeding habitat.

Since DOER does not control private lands zoned for residential, commercial or industrial uses, solar development that engages in species mitigation efforts will reduce the impact of habitat fragmentation[9] that otherwise would occur with private development.

Species like the Eastern Box turtle that require migration corridors between foraging habitat, breeding and nesting habitat[10] would be well served by the “local connectivity” aspects of solar development. During the construction period, construction could commence after the breeding and nesting season. After construction, there would be complimentary vegetation grown under the solar system, accommodating the needs of species in the area. A solar project in the northeast, southeast, central and western parts of the state may have differing approaches to their local environment.

A Real Example of Land Use Policy Conflicts

A farm family owns 400 acres of land, comprised of two lots of roughly 200 acres each. The family has placed 90+ acres into conservation in the past. There are four siblings over 50 years old, with only one family member continuing to farm the land. The three non-farming siblings have a strong connection to the land but do want some economic benefit out of the land. The father who has recently passed away always wanted elderly housing on part of the land abutting a state highway. The property is in the Parker River watershed and the entire property, which has been farmed for generations, is entirely in the BioMap2 coverage area and is a prime turtle habitat. A publicly held national builder is currently designing a larger scale retirement housing project on the property. The project design will include mitigation of some sort to allow the project to be built to avoid disrupting the turtle breeding and nesting season. The family would also like to install solar on the non-productive areas of the farm, which are largely treed with mixed deciduous and pine trees. Both 200-acre parcels are in 61A and the farm is an active farm. However, the treed area may or may not have Soils of Statewide Importance, but in the solar development process, if necessary, we intend to return the parcel developed for solar back to farmland suitable for grazing heifers and cattle or an extension of the farmers’ pumpkin harvesting operation. If the project is deemed to not qualify for Agricultural Solar due to existing (not post-construction) soils, then this project will fall into a Class 2 project subject to the proposed BioMap2 land-use criteria and not be allowed because of protected Core Habitat and Critical Natural Landscape restrictions. This would result in the farm being broken up into house lots. In this instance, the potential for exercising the however well-intended solar policy does not meet the desires for the farm family, the Town, stated renewable energy goals, nor the BioMap2 area.

[9] BioMap2 Conserving the Biodiversity of Massachusetts in a Changing World, Mass Fish & Game 2010, Page 16 Non-Climate Threats to Biodiversity

[10] BioMap2 Technical Report – Building a Better BioMap, Supplement, Mass Fish & Game, November 2011, Page 31

Recommendation:

We propose that DOER remove the land use prohibition of Core Habitat and Critical Natural Landscape in the regulations, and insert a placeholder section to allow DOER to regulate in Guidelines, mitigation measures on ground-mount solar systems larger than 500 kW.

DOER would formulate Guidelines in concert with assistance from the UMass Extension Service to develop straightforward ground cover, plantings and possibly habitats for species that could be maintained easily over 20 to 35 years.

Since creating Guidelines may take more time than is allocated in the Emergency Regulations for SMART, DOER would state a couple of placeholders such as using pollinators and requiring that the soil depth of all ground-mount solar projects be at least 6" deep. In addition, on a temporary basis, one and one-half cent per watt dc ($0.015) be reserved for plantings or habitat mitigation to be determined in the near future.

DOER would remove the Greenfield Subtractor from SMART. If DOER needed to have the solar industry install 1,000 MW of solar per year, there would not be a Greenfield Subtractor. DOER would require that ground-mount solar projects would be mitigation sites assisting in maintaining connectivity among habitats and enhancing ecological resilience of species in Massachusetts.

Compensation Rates

Due to the declining rate structure of the SMART program, larger scale projects will become uneconomic depending upon Adder values in 12-18 months, if not sooner, in National Grid and Unitil territories. The solar industry will see capacity available, but will be uneconomic to build, so the choppy solar policy returns. Hiring people full time, contributing to a COVID-19 economic recovery, cannot be accomplished to scale to make a meaningful difference.

In the absence of notification from DOER that the department intends to secure the services of a third-party expert to administratively re-set the base SMART rates within 12 months, we recommend that DOER assign 1,000 MW of the additional 1,600 MW be assigned to Block 9.

Despite the best intentions of DOER, the declining block concept is not working on a long-term basis in part because of the long queue positions within the interconnection process and cost are not coming down on material cost as anticipated.

If there were a trunk line policy to install solar PV at a given rate per year, it would shape policy development of DOER, D.P.U. and MassDEP. Choppy installation cycles would not be in the best interest of a solar program that needs to install twice what is being installed currently. DOER would have a third party evaluate cost every year and SMART rates would be published annually based upon an index of Tier 1 Panel and inverter prices, interest rates

at WSJ prime, interconnection cost and cost of labor as defined by Massachusetts Department of Labor and Industries.

We appreciate the efforts by DOER to consider stakeholder input.

Best Regards,

Doug Pope
President