BEAT
Berkshire Environmental
ACTION TEAM
29 Highland Ave., Pittsfield, MA 01201
413-230-7321 • www.thebeatnews.org

September 27, 2019

COMMENTS ON 400 MW REVIEW (SMART Program Proposal)

Please accept the following comments to DOER from No Fracked Gas in Mass & the Berkshire Environmental Action Team (BEAT). BEAT works to protect the environment for wildlife in support of the natural world that sustains us all. No Fracked Gas in Mass works to stop the expansion of fossil fuel infrastructure in the Northeast states and to promote energy efficiency and sustainable, renewable sources of energy and local, permanent jobs in a clean energy economy.

The Massachusetts Department of Energy Resources (DOER) describes the SMART program on their website:

> *"DOER created the Solar Massachusetts Renewable Target (SMART) Program to create a long-term sustainable solar incentive program that promotes cost-effective solar development in the Commonwealth."*[1]

Our answer – The "smart" program is not cost-effective. No more of our money going to giant, out-of-area corporations – that is not our definition of "cost-effective"! Be truly smart – support our local solar installers who provides good, local jobs and support our local economy.

> According to a new report by Vote Solar:
> *"...the state has seen a 50 percent decline in new solar installations, predominantly in the residential sector. As a result, the state's solar workforce has shrunk by about 30 percent, shedding around 4,372 jobs between 2015 and 2018. Many shovel-ready solar projects now languishing on waiting lists in two –*

[1]DOER Website https://www.mass.gov/solar-massachusetts-renewable-target-smart

soon to be three – utility territories further emphasize the need for immediate policy action."[2]

SUFFICIENT CAPACITY TARGETS

The cap in western Massachusetts was met instantly – that is not equitable! And that is not "long-term sustainable solar incentive". While the proposed changes address this, the current proposal to raise the cap 800MW seems short-sighted and will likely slow solar growth yet again.

We support Vote Solar's recommendation that the DOER should expand the SMART program goal to 4,800 MW to help the state take bolder steps toward meeting the mandate of the Global Warming Solutions Act and provide 8,000 to 9,000 new local jobs in the solar sector.[3]

DOER needs a system to rank Community Shared Solar Systems. Community Shared Solar Systems are not actually solar systems if they sell their RECs, they are selling their solar attributes. They must not be allowed to then advertise to consumers that they are selling "solar" electricity. They sold the right to say that. Systems should be ranked by their treatment of RECs so ratepayers know whether they are enabling pollution by those utilities who purchase their RECs.

ESTABLISH SITING CRITERIA

DOER needs to develop clear siting criteria to ensure the best use of our Commonwealth's limited resources. These criteria need to include avoiding "greenfield" siting at all costs, and prioritizing building on brownfields, abandoned parking lots, cleared demolition sites, isolated open space such as cloverleafs and other traffic-isolated plots, large commercial and state-owned property rooftops like big box stores, shopping malls and large municipal and educational facilities, and other already disturbed sites where more economical ground-mounts and roof-mounts can be used.

---

[2] Clouds Over the Solar Industry in Massachusetts: Inconsistent Policy Slows Growth, comments on the SMART program by Vote Solar. https://votesolar.org/files/8615/6754/1556/VS_MA_SMART_RPRT_FINAL_09.3.19Web.pdf

[3] Clouds Over the Solar Industry in Massachusetts: Inconsistent Policy Slows Growth, comments on the SMART program by Vote Solar. https://votesolar.org/files/8615/6754/1556/VS_MA_SMART_RPRT_FINAL_09.3.19Web.pdf

Secondary consideration should be given to functioning parking lots, low-speed access roads and walkways where pole-mounting can be used.

DOER should establish siting criteria and incentives that take advantage of unused or underused development, such as abandoned or empty commercial and industrial complexes. Sites containing structures could especially be useful for siting storage as well, and are usually located near sizeable municipal loads.

Using some quick examples of possible locations just near Pittsfield (See Appendix A for satellite view analysis):

- Berkshire Mall site in Lanesborough has about 22.21 acres of available space. 12.79 acres of the Mall's roof are currently unused (the Target store at the north end of the mall already has solar installed). Large portions of the rest of the Mall are currently empty. Even a modest use of the west and southeast parking lots, leaving many dozen parking spots still untouched as well as the northeast parking area left completely open, could garner an extra 9-½ acres, bringing the site up to an 8.875 MW capacity with existing enclosed structures available for grid storage facilities.

- Former Sabic Innovative Plastics site in Pittsfield has a total of over 38 acres. The already paved parking areas and flat roofs of the two largest structures would need only simple, economical ground and roof mount. Using just these large, open, simple areas of the site, it could generate as much as 15 MW (using the 2.5 acre per 1 MW average)[4], Included in this site are large existing structures (under 8 acres of rooftop) that could house grid storage systems. *(Note the current 8± acre National Grid solar installation already nearby in App. A)*

DOER needs to include protections for ecologically sensitive areas. Wetlands, forests, and core habitat for state-listed rare species should not be considered for development.

---

[4] *"A simple rule of thumb is to take 100 sq. ft. for every 1kW of solar panels. Extrapolating this, a 1 MW solar PV power plant should require about 100,000 sq ft (about 2.5 acres, or 1 hectare)."* Area Required for Solar PV Power Plants, by Narasimhan, Suncylcopedia.com, India Solar Energy Market & Strategy Consulting. http://www.suncyclopedia.com/en/area-required-for-solar-pv-power-plants/

These are valuable natural resources that provide valuable ecosystem services that need to remain protected from development.

According to the Harvard Forest study:

> *"A total of 133 PV systems, ranging from the 1⁄4 -acre minimum size to a maximum of 36 acres, cover appropriately 1,232 acres in the 69-town region. The majority of PV systems are situated on land that was previously undeveloped, with 77% of systems (952 acres) located on land that either was forested (37%), in agriculture (34%), or covered by shrub, scrub, and/or herbaceous vegetation (6%; Figure 2). Photovoltaic siting on developed land, including presently-used parking areas and buildings, comprises 23% of PV systems."*[5]

The Harvard Forest Study went on to evaluate the rate of development of both forested and agricultural lands:

> *"Recognizing that PV began contributing to development increasingly around 2013, photovoltaic development in the region is estimated at converting 84 acres of agricultural land and 92 acres of forest annually. While PV development on forestland comprises just more than one third of all forest development, the rate of PV development on agricultural land nearly equals the average rate for all development between 2001 and 2016. A thorough understanding of photovoltaic development within the context of all development pressures, particularly on agricultural land, may provide decision-makers with the context necessary to assist municipalities with the various challenges they face."*[6]

This is an unacceptable use of our critical forest and agricultural resources, necessary for clean air, carbon sequestration and local food security - all increasingly critical resources as we deal with the increasing effects of climate change. With 241 federal

---

[5] *"The siting and impact of photovoltaic systems in Franklin, Hampshire, & Hampden counties: A preliminary study"*, Emily Johnson, Brian Hall, Mattea Powers, Anna Therien and David Foster Harvard Forest, Harvard University, Plymouth State University, Westfield State University, September, 2019

[6] *The siting and impact of photovoltaic systems in Franklin, Hampshire, & Hampden counties: A preliminary study*, Emily Johnson, Brian Hall, Mattea Powers, Anna Therien and David Foster Harvard Forest, Harvard University, Plymouth State University, Westfield State University, September, 2019

brownfield sites listed in Massachusetts,[7] it's time for us to start making use of this as-yet untapped resource.

DOER needs to include protections for culturally sensitive areas. Historically and culturally sensitive sites such as Native American ceremonial stone landscapes should also be protected from development. Though seldom recognized, these are places of spiritual sanctuary still venerated by today's Indigenous population that deserve the same protections as any religious site.

DOER needs to apply these siting criteria to projects ***already in the queue***. Any that are inappropriately sited need to be redirected to already disturbed and/or occupied land.

DOER should consider a pollinator adder if it specifies locally native plants are to be used. Even when agricultural and forest land are avoided for solar development, any exposed soil within a solar installation could be used for development of pollinator-friendly plantings. A recent study at Duke University can provide guidelines[8].

DOER should be incentivising new solar projects on sites that have already been impacted, not on "greenfields" sites. The devastation to existing natural resources, fragmenting of wildlife habitats and loss of rural character are all detrimental to the Commonwealth's health, economy and capacity for local carbon sequestration. Building in rural, "undeveloped" areas also means an increased need for transmission to areas where the power is needed. Every primer on renewable energy states siting power generation near the demand load as a key factor in keeping it as economical as possible.

---

[7] "Cleaning up and reinvesting in these properties protects the environment, reduces blight, and takes development pressures off greenspaces and working lands." Listing of Massachusetts federal brownfield sites, Nationwide Environmental Title Research, LLC (NETR) website. http://environment.netronline.com/state/MA/acres/

[8] *A National Strategy for the Co-location of Solar and Agriculture Native Pollinator Habitat Establishment on Solar Farms in the United States A Multifaceted Guide to Best Sustainable Practices*, Olivia Eskew Dr. Saskia Cornes and Dr.Deborah Gallagher, Advisers Ethan Case, Policy Manager at Cypress Creek Renewables Rob Davis, Director of Center for Pollinators in Energy April 18, 2018 https://dukespace.lib.duke.edu/dspace/bitstream/handle/10161/16512/Eskew_Olivia_Masters_Project.pdf

ENVIRONMENTAL JUSTICE AND EQUAL ACCESS

State energy efficiency programs are failing in western Massachusetts and especially failing income-eligible consumers. Going door-to-door in an Income & Minority Environmental Justice neighborhood in Pittsfield, we found that over half the occupants reported never having heard of MassSave. This just shows what a poor job the state programs are doing in reaching our western Massachusetts income-eligible neighborhoods. Maximizing energy efficiency will minimize the amount of energy infrastructure build-out needed.

We do appreciate the broader definition of low income to include Income Environmental Justice neighborhood, assuming that people outside of these neighborhoods who qualify for R-2 (low income) rates still qualify as well.

We also support the Green Justice Coalition's recommendations for boosting measures to help create lasting change for working class communities and people of color, especially:

- *Reserving a required minimum percentage of the program capacity for low-income projects*

- *allowing credits to appear directly on utility bills, thus removing the need for the department to audit or investigate complicated contract terms to punish solar companies that take advantage of the low-income adder without benefitting the offtakers. This can also serve to rebuild public trust in utility companies and the energy system.*[9]

SUPPORTING A DIVERSITY OF INSTALLERS / ARRAY SIZES, ALLOWING FOR SMALLER, LOCAL INSTALLERS

We support these specific comments made by Zara Dowling of New Salem:

Slide 2 – DOER numbers show that in terms of total installations, both number of projects AND capacity, small projects are outcompeting large projects.

14 MW of 939 MW of large projects have been built = only 1.5%
20 MW of 78 MW of small projects have been built = 26%
Small projects are supporting solar installers and actual expansion of solar capacity.

[9] Comments on the SMART program by the Green Justice Coalition, co-signed in support by multiple organizations.

Slide 5 -DOER notes small and mid-size commercial applications compete for capacity with large ground mounted applications.

DOER notes that mid-size commercial applications compete for capacity with large, ground-mounted projects, but provides no shelter or set-aside for midsize projects to be developed. Meanwhile, many solar developers currently developing large projects in Massachusetts are national or international entities. There is an endless thirst from these markets, if the incentives are sufficiently lucrative – it may not be possible to ever fully "alleviate market pressure" for large projects. The focus for Massachusetts should be on supporting its homegrown small to medium-scale solar industry, with large projects used to round out solar PV capacity expansion goals.

RECOMMENDATIONS:

§ **A set-aside should be provided for projects of 25 kW to 250 kW (or include multiple categories between 25 and 500 kW), so that small to medium-scale projects are not subject to the same pressures as larger developments, and so that midsize consumers, such as public schools and small businesses, are not shut out of the solar purchasing market.**

§ **A program supporting a steady rate of solar capacity expansion needs to be developed to provide market stability into the future.**

Slide 6 – DOER proposes to combine Eversource East and West capacity blocks.

THE PROPOSED CHANGE IS ENTIRELY INEQUITABLE – putting the burden of solar development squarely on western and central Massachusetts communities, and another round of land rushes and harried permitting processes on the backs of already over-burdened volunteer boards. These municipal stakeholders have been provided no voice in the stakeholder input process - DOER has not even consulted directly with the regional planning authorities in western Massachusetts.

RECOMMENDATIONS:

· **Before expanding the SMART program any further, DOER needs to work with its own Green Communities program, and statewide stakeholders, to develop an updated solar model bylaw that provides better protections to towns.**

· **DOER needs to explicitly solicit and incorporate feedback from municipal boards in rural western and central Massachusetts, and work with regional planning authorities to ensure municipalities have adequate time and support to implement appropriate, updated solar bylaws.**

· **DOER should provide a fund and technical support for municipalities dealing with solar-related litigation.**

· **Developers should be required to provide PILOT agreements to DOER as part of their application. DOER should then make these agreements publicly available on a central website. The site should include a spreadsheet summarizing basic information about the PILOT agreements (e.g. locations, project sizes, agreed payment schemes), with links to each agreement. This site should be updated monthly. These agreements are a matter of public information, but are not assembled in one location.**

· **Ultimately, DOER should design a solar program that sets incentives and fills a specific capacity on an annual basis, provides a steadier rate of project applications, so that municipal boards are not inundated with permitting requests over tiny time windows.**

3. As a basic component of any solar program, DOER should collect, track, and provide to the public data and analysis regarding the environmental and agricultural impacts of solar development within the state.

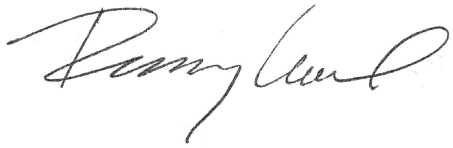
It has also been difficult to track and substantively comment upon the effects of solar development on ecological and agricultural resources, due to a lack of transparency about where solar projects are being sited. DOER has indicated that it has conducted mapping and analysis of land use relative to solar development, but the maps, analysis, or even underlying data, have not been released to the public. THIS SHOULD HAVE BEEN PROVIDED AS PART OF THE 400 MW REVIEW, AND MADE AVAILABLE TO THE PUBLIC FOR COMMENT AS PART OF THE PUBLIC COMMENT PERIOD.

RECOMMENDATIONS:

- **DOER should provide 30 days for public comment FOLLOWING RELEASE of its land-use analysis of solar development and mapping of solar arrays.**
- **DOER should provide a spreadsheet, including latitude/longitude or street addresses, for all large solar arrays (>500 kW) built under SMART and SREC programs, so that researchers and non-profit organizations can conduct their own analyses. This data should also be made available as a GIS layer through OLIVER.**
- **These data sources should be updated regularly – at least monthly.**
- **Moving forward, DOER should require basic land use information from STGU applicants for all >500 kW (or Category 2 and 3) projects. This should include an attestation from the land owner identifying 1) current land use, 2) any use of the property for commercial agriculture within the**

past 5 years, 3) any forest clearing over 1 acre that has occurred on the property in the past five years, and 4) the amount of acreage of forest, if any, anticipated to be cleared as part of the solar development.

Respectfully submitted,



Rosemary Wessel*, Program Director*
No Fracked Gas in Mass

Logan Malik*, Advocacy Coordinator*
Berkshire Environmental Action Team

APPENDIX A

Possible solar installation sites Berkshire County, using already developed sites.


Sabic Innovative Plastics Site, Pittsfield
Unused Parking (ground mount) = 30.28 acres
Rooftop (flat roof mount) = 8.16 acres
Total Acreage / Capacity = 38.44 ac./ 15 MW±
+ existing structures for storage facilities
6.08 ACRES
18.41 ACRES
5.09 ACRES
3.07 ACRES
5.79 ACRES
8± ACRES
Existing National Grid Installation
Silver Lake