

Land Use, Agriculture, and the MA SMART Solar Program

December 4, 2020

Today's Topics

1. Overview of the SMART Program
2. Land Use and Siting Criteria in SMART
3. DOER's "400 MW Review" and Land Use Changes
4. Dual-use Solar in SMART
5. Agricultural Solar Tariff Generation Unit (ASTGU) Guideline Development
6. Questions

SMART Program

- Chapter 75 of the Acts of 2016 directed DOER to create a new solar incentive program to replace the Solar Carve-out II Program (SREC II)
- SMART launched on November 26, 2018
 - Initial goal was to incentivize 1,600 MW AC of solar development
- Voluntary declining block tariff program that provides fixed Base Compensation Rates to qualified facilities (i.e. Solar Tariff Generation Units)
 - 10-year term for facilities less than or equal to 25 kW AC
 - 20-year term for facilities larger than 25 kW AC
- Program design steers projects towards optimal locations by providing **Location Based Adders** and **Greenfield Subtractions**
 - A Greenfield Subtractor is applied to the Base Compensation Rate of any facility sited on open space that does not meet the criteria to receive the full incentive

Land Use Categories

Land use issues are a central aspect of the SMART Program's design.

- Category 1 Land Use
 - Cat 1 Agricultural: Projects sited on Land in Agricultural Use or Important Agricultural Farmland
 - Cat 1 Non-Agricultural: Projects **not** sited on Land in Agricultural Use or Important Agricultural Farmland
- Category 2 Land Use (500 kW-5 MW)
 - Projects sited on land previously developed land zoned for C&I
 - Projects sited on land explicitly zoned for solar
- Category 3 Land Use
 - All other projects

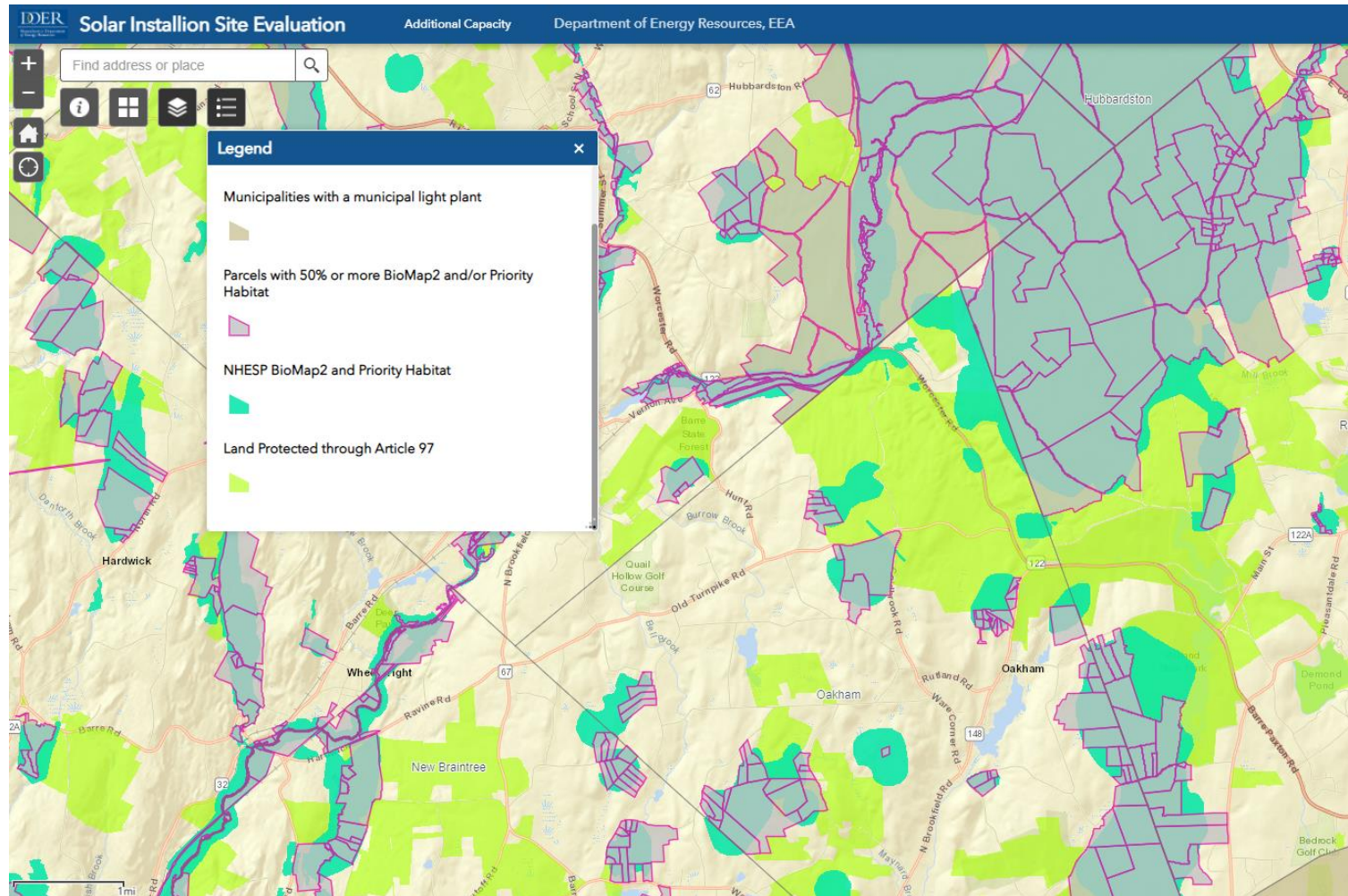
SMART 400 MW Review

- DOER's 400 MW Review of the SMART Program
 - Program was designed to create a diversity of project types and to steer development away from large scale ground mounted projects in undeveloped spaces.
 - However, most projects initially qualified were large ground mounted systems that avoided a Greenfield Subtractor by complying with local solar zoning.
 - Several changes were made during the rulemaking process to address this concern, while expanding the program by an additional 1,600 MW.
- Straw Proposal: September 5, 2019
- Public Comments collected
- Publication Date: April 15, 2020
- Final Regulations: July 10, 2020

Ineligible Land Use

- Projects located on protected open space under Article 97, in a wetland Resource Area, or properties included in the *State Register* were already **ineligible** for SMART.
- Projects located on the following types of land, or on a parcel where 50% of said parcel is made up of the following types of land, are now **ineligible** for SMART:
 - Core Habitat
 - Priority Habitat
 - Critical Natural Landscape (additional capacity)
- BioMap2 web-based mapping resource from MassGIS

BioMap 2 Web-based Mapping Tool



<https://bit.ly/SMARTLanduse>

Additional Land Use and Siting Changes

- Increase of Greenfield Subtractors
- Modifications to land use categories (solar zoning)
- Expansion of protections for farmland
- Accommodation for advanced projects
- Pollinator Adder

Dual-use Solar PV

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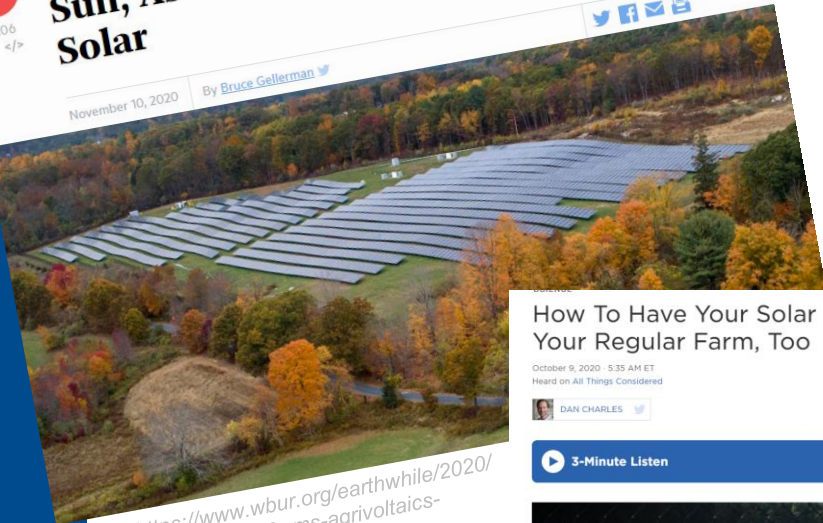


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Farms Will Harvest Food And The Sun, As Mass. Pioneers 'Dual-Use' Solar

November 10, 2020

By [Bruce Gellerman](#)



WBUR: <https://www.wbur.org/earthwhile/2020/11/10/dual-use-solar-farms-agrioltaics-massachusetts>



SunBug - Renewable Energy World:
<https://www.renewableenergyworld.com/2020/10/20/first-dual-use-agricultural-pv-system-in-massachusetts-now-operational/#gref>

How To Have Your Solar Farm And Keep Your Regular Farm, Too

October 9, 2020 · 5:35 AM ET
Heard on All Things Considered



DAN CHARLES

▶ 3-Minute Listen



This solar power installation near Vineland, New Jersey, was among the first to replace power mowing with grazing sheep.
Dan Charles/NPR

NPR: <https://www.npr.org/2020/10/09/919225272/how-to-have-your-solar-farm-and-keep-your-regular-farm-too>

Goals of Agricultural STGU Guidelines

- Expand on criteria for ASTGUs in the SMART regulation
- Ensure project is truly dual-use for the system life
 - Marketable crop production for viable agricultural operations and electricity are both priorities
- Maintain valuable, productive farmland at its best and highest use
- Ensure that a diversity of crops can fit into this model

Agricultural STGUs in SMART

- A qualified ASTGU receives a Location Based Adder of \$0.06/kWh
- Current review process:
 - UMass Agricultural and Clean Energy Extensions
 - Pre-Application Form
 - MA Department of Agriculture (MDAR)
 - Pre-Determination Letter
 - Annual Farm Report

Technical Requirements

- Project size
 - Currently limited to 2 MW AC
- Panel Height
 - 8 ft fixed arrays
 - 10 ft tracking arrays
- Maximum Direct Sunlight Reduction
 - 50% on every square foot of the project site
- Compatible Sunlight Needs
 - Not explicitly defined, but crop selection should align with the shading of the project design
- Growing Season/Time of Day
 - Maximum 50% sunlight reduction between 10AM and 5PM for March and October, and from 9AM to 6PM from April through September

Development of ASTGU Guideline

- April 2018 - DOER developed guidance for qualifying ASTGUs at the launch of the SMART Program
- October 2019 - DOER proposed revisions Agricultural Solar Tariff Generation Unit (ASTGU) Guideline
 - Stakeholders expressed concern with the proposed changes to the Guideline, and suggested DOER convene a working group for further discussions.
- Winter 2020 - DOER held three working group sessions
- September 2020 – DOER issues Straw Proposal on the Guideline.
 - Maintains many of the requirements and criteria from the original Guideline and proposes changes to total capacity limitations.

Qualified Projects to Date

Number of Qualified Projects: 6 (3 waitlist)

Total Capacity: 9.3 MW (5.8 MW waitlist)

Locations: Carver, Monson, Grafton, Norton, Rehoboth, Palmer, Haverhill

Types of Agricultural Products:

- Cranberries
- Cattle
- Berries, Pumpkins
- Leafy Greens
- Hay

Next Steps

- DOER is in the process of reviewing the public comments on the straw proposal
- DOER will publish a draft Guideline based on this feedback for public comment

Questions?