Clean Energy Extension

FACT SHEET

Solar PV Options for Your Farm: An Overview

The Massachusetts Department of Energy Resources has established the Solar Massachusetts Renewable Target (SMART) program, which will regulate incentives associated with new solar photovoltaic (PV) development in the state, beginning November 26, 2018. A series of fact sheets designed to help farmers navigate the program is available on the UMass Clean Energy Extension (CEE) website, https://ag.umass.edu/clean-energy.

When selecting the right solar PV array system, it is important to find the best fit for your land and needs – but it is also important to take into account the requirements and potential financial compensation associated with the **SMART** program. For projects on farms, compensation rates are structured to encourage systems installed on farm structures, systems sized to meet on-farm loads, and development of ground-mounted dual-use arrays with continued agriculture beneath panels.

Major factors to consider in assessing potential financial compensation include:

- **Agricultural Land Status**: If your land is enrolled in a Chapter 61A program for tax purposes, has been in the Chapter 61A program in the past 5 years, or is on Prime Farmland Soils as defined by NRCS, it will be considered as Agricultural land use for the purposes of the SMART program. All other land is considered Non-Agricultural regardless of whether the land is being farmed.
- **Installed Capacity**: Capacity (in kW) defines the size of the system in terms of electrical power production. *(As a rough estimate, panels will produce about 1200 kWh annually per kW capacity installed. A 6-8 kW system will power a typical home.)*
- **Type of System**: The solar PV array can be mounted on a building, mounted on a canopy which allows vehicles to park beneath it, or ground-mounted on a racking system.
- **Off-takers**: Will the electricity be primarily used to meet on-farm demand, or to supply off-farm use through a mechanism called *net metering*? If net metering, will the electricity output be part of a community-shared solar project, go to a public entity, or go to low-income residents? This will affect the compensation available.
- **Previous Land Development**: Has your land been previously developed (e.g. building construction, pavement) so that it is now unlikely to provide open-space, agricultural or forestry use, or natural habitat? If the land has not been developed, it may be subject to subtractors, which reduce compensation for solar arrays built on undeveloped land.

Projects on Agricultural Land

If your land is considered **Agricultural** under the SMART program, the following solar PV systems receive higher compensation rates:

- Building-mounted solar PV systems
- Canopy or ground-mounted solar PV systems, sized to meet no greater than 200% of annual electricity consumption of the farm
- Ground-mounted "dual-use" systems, in which elevated racking and wider panel spacing allows for continued use of the land for agriculture. The SMART program refers to these systems as *Agricultural Solar Tariff Generation Units*. The Guideline regarding Agricultural Solar Tariff Generation Units currently limits the capacity of these systems to 2 MW in size. You can apply for a waiver for certain specifications under the ASTGU Guideline.

Important Note: ***Your town tax assessor's office has the discretion to remove your property from Chapter 61A if solar PV electricity production exceeds 125% of on-farm use. It is important to work with your local assessor to ensure the property remains under Chapter 61A and is not subject to taxes and penalties associated with conversion of the land out of agriculture.***

Projects on Non-Agricultural Land

If your land is considered **Non-Agricultural** under the SMART program, the following types of systems receive higher compensation rates:

- Building or canopy-mounted solar PV systems
- Ground-mounted solar PV systems, with capacity no more than 500 kW AC.
- Ground-mounted solar PV systems sited on brownfields or landfills
- Ground-mounted solar PV systems of 500 kW- 5000 kW AC capacity that are on land that has been previously developed or that fall within a solar power overlay zoning district established by the town

Large Ground-Mounted Systems

Large capacity (500-5000 kW AC) ground-mounted systems on previously undeveloped land (including farm and forest land) may also qualify for financial compensation through the SMART program. However, these systems are subject to subtractors (i.e., reductions from the base SMART compensation rate) based on the total acreage developed.

Newsletter and More Information

To stay up to date on the latest information from UMass Clean Energy Extension, please sign up for our newsletter at https://ag.umass.edu/clean-energy.

Contact River Strong (gcstrong@umass.edu, 413-545-8510) with any questions related to solar PV use on your farm.