

Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
DEPARTMENT OF ENERGY RESOURCES

**SOLAR MASSACHUSETTS RENEWABLE TARGET PROGRAM
(225 CMR 20.00)**

GUIDELINE

SMART Land Use and Siting Guideline

Effective Date: April 26, 2018

BACKGROUND AND PURPOSE

The Solar Massachusetts Renewable Target (SMART) Program incorporates land use and siting criteria into the design of the program. When siting a Solar Tariff Generation Unit (STGU), multiple aspects of the site must be taken into account, including, but not limited to: zoning, existing use and development, site characteristics such as natural resources and topography, STGU design, STGU size, and STGUs sited on the same or contiguous parcels.

LAND USE CATEGORIES

In SMART, STGUs are placed into three different categories pursuant to 225 CMR 20.05(5)(e), or they are found to be ineligible for qualification. Certain land use categories have an associated greenfield subtractor applied to a STGU's Base Compensation Rate, pursuant to 225 CMR 20.07(3)(f).

Greenfield Subtractors apply as follows:

Category 1 Agricultural/ Non-Agricultural:	No Greenfield Subtractor
Category 2:	\$0.0005/kWh per acre impacted
Category 3:	\$0.001/kWh per acre impacted

CATEGORY 1 LAND USE

Category 1 Land use is divided into two types, Agricultural or Non Agricultural.

Is the STGU sited on active agricultural land, Prime Agricultural Land, or land that is currently, or has in the past five years, enrolled in the Chapter 61A tax benefit program?

If yes - The following types of solar facilities are classified as Category 1 Agricultural Land Use:

- Agricultural STGUs (for more information, please refer to the Department's *Agricultural Solar Tariff Generation Unit Guideline*);
- Building Mounted STGUs; or
- STGUs sized to meet no greater than 200% of the annual operation load of an agricultural facility.

If no - The following types of solar facilities are classified as Category 1 Non-Agricultural Land Use:

- Ground mounted STGU ≤ 500 kW AC;
- Building Mounted STGU;
- Canopy STGU;
- STGU sited on a Brownfield (for more information, please refer to the Department's *Brownfields Guideline*);
- STGU sites on a Landfill;
- Ground mounted, sized greater than 500 kW AC, and sited on land that has been previously developed; or
- Ground mounted, sized greater than 500 kW AC, and sited within a solar overlay district or on land that complies with established local zoning that explicitly addresses solar or power generation.

How can I determine if a parcel is considered Prime Agricultural land?

The definition of Prime Agricultural Farmland means those soils identified by the United States Department of Agriculture Natural Resources Conservation Service to be prime farmlands pursuant to 7 CFR § 657.5(a).

MassGIS Oliver can be used to see land that is categorized as Prime Agricultural using the data layer for Prime Farmland Soils.

http://maps.massgis.state.ma.us/map_ol/oliver.php

If I'm building on a site that has an Agricultural Preservation Restriction held by the Commonwealth, can I build a project that serves more than 200% of the of the annual operational load of the farm? What if I plan to build an Agricultural STGU?

The rules of the SMART program do not supersede the existing terms of the APR and the rules in existence at the time of application. Any renewable energy project built on APR land must be sized to serve no more than 200% of the annual operational load of the structures on the land protected by the APR, regardless of any adders it may be eligible to receive. Prior to the construction of any Agricultural STGU the APR landowner must apply for and receive approval from the Massachusetts Department of Agricultural Resources.

How is previously developed defined?

An STGU seeking to qualify as Category 1 with the claim that the selected site has been previously developed must demonstrate to the Department's satisfaction that the site has pre-existing paving, construction, or altered landscapes. Landscapes altered from current agricultural use, forestry, or use as a preserved natural area, per 225 CMR 20.05(5)(e), will **not** be considered previously developed.

Examples of documentation the Department may accept to demonstrate previous development may include, but are not limited to, site plans, pictures, or satellite imagery. The site must have existing development at the time the STGU submits a Statement of Qualification Application.

For the purposes of determining previously developed, the Department will be reviewing the characteristics of the site, not simply the characteristics of the larger parcel. For example, if a parcel has a portion that has been developed, but the site of the STGU is forested or undeveloped open space, the project would not be considered to be installed on a 'previously developed' site. The Department will determine the application of 'previously developed' on a case by case basis as applications are received.

What is a solar overlay district? What is meant by complying with established local zoning that explicitly addresses solar?

Pursuant to 225 CMR 20.05(5)(e)1.b.vi., classification as Category 1 Non-Agricultural Land Use applies to STGUs that are ground-mounted and have a capacity greater than 500 kW AC, but less than 5,000 kW AC, that are sited within a solar overlay district or that comply with established local zoning that explicitly addresses solar or power generation.

Projects located in a solar overlay district, sited by as of right siting, or sited in an area where solar is explicitly allowed with special permits, may fall under this categorization. If a project needs to seek a variance waiver or other discretionary approval, it would not qualify under this categorization.

CATEGORY 2 LAND USE

Category 2 Land use applies to projects: 500kW AC < STGU size ≤ 5000kW AC; and sited on land that

- Has not been previously developed; and
- Is zoned for commercial and industrial use.

CATEGORY 3 LAND USE

Category 3 Land use applies to projects: 500kW AC < STGU size ≤ 5000kW AC and do not meet the criteria for Category 1 or 2

How is the Greenfield Subtractor calculated and applied?

Pursuant to 225 CMR 20.07(3)(f), the value of the total Greenfield Subtractor applied to a STGU is measured as the acreage of land that a STGU occupies, which is calculated by measuring the square footage of the solar photovoltaic modules as follows:

If a facility has 5,000 panels measuring 5 feet x 4 feet then the impact of the project will be calculated as follows, with the understanding that 1 acre = 43,560 ft²:

$$5,000 \times 20 \text{ ft}^2 = 100,000 \text{ ft}^2$$
$$100,000 \text{ ft}^2 / 43,560 \text{ ft}^2 \text{ per acre} = 2.296 \text{ acres impacted}$$

If the facility is classified as Category 2 Land Use, the subtractor would be:

$$\text{\$0.0005/kWh per acre of land}$$
$$\text{\$0.0005/kWh per acre of land} \times 2.296 \text{ acres} = \text{\$0.00115/kWh reduction to total compensation rate}$$

If the facility is classified as Category 3 Land Use, the subtractor would be:

\$0.001/kWh per acre of land

\$0.001/kWh per acre of land x 2.296 acres = \$0.00230 kWh reduction to total compensation rate

INELIGIBLE LAND USE

Ground mounted STGU's sited on the following types of land are ineligible to receive a Statement of Qualification under the SMART program:

- Permanently protected open space, categorized under Article 97 of the Massachusetts Constitution, provided it does not fall under Category 1 Land Use. Generally speaking land held by a state, regional, or local conservation, park, water supply, forest, or agricultural agency is protected by Article 97 (e.g. Conservation Commission, Water District, DPW Water Supply Division, etc.);
- Land subject to a conservation, agricultural, or watershed preservation restriction under sections 31-33 of Chapter 184, provided it is not agricultural land under Category 1;
- A Wetland Resource Area, unless authorized by the regulatory body, such as an Order of Conditions issued by the local Conservation Commission; or
- Properties in the *State Register*, unless authorized by the regulatory body, such as a local Historic Commission.

PROJECT SEGMENTATION

Pursuant to 225 CMR 20.05(5)(f), limits are placed on the number of solar facilities on a single parcel or contiguous parcels that may receive a Statement of Qualification, unless permitted by an exception in 225 CMR 20.05(5)(g). In all instances, the total capacity of STGUs qualified on a single parcel may not exceed 5 MW AC. If a generation unit previously qualified as a Solar Carve-out Renewable Generation Unit or Solar Carve-out Renewable Generation Unit subject to 225 CMR 14.00 is sited on the property, that capacity and qualification shall not impact the qualification of any STGU qualified on the same parcel or a contiguous parcel.

Eligible Exceptions to the Project Segmentation Requirements

More than one Building Mounted STGU may be installed on a single building, provided each is separately metered from the first, and are connected to the meter(s) of a separate end-use customer.

One ground mounted STGU on a single parcel or contiguous parcels, *unless*:

- The STGU is ≤ 25 kW AC and is located on a contiguous parcel, provided the contiguous parcel of land was not the result of a subdivision performed for the purpose of qualifying for SMART;
- A Canopy STGU, Building Mounted STGU, and/or a STGU ≤ 25 kW AC is also located on the same or contiguous parcel, and is/are separately metered from the original STGU;
- A STGU located on the same or contiguous parcel submits a Statement of Qualification Application at least 12 months after the Commercial Operation Date of the original STGU;
- A STGU can demonstrate to the Department's satisfaction that the Owner is unaffiliated from the Owner of the original STGU located on the same or contiguous parcel;

- A STGU is physically located across multiple parcels of land, provided it is behind a single interconnection point and production meter, and its capacity does not exceed 5 MW AC; or
- A STGU can demonstrate to the Department's satisfaction the documentation required to submit a Statement of Qualification Application, pursuant to 225 CMR 20.06(5)(f) was obtained prior to June 5, 2017.

A STGU may also apply directly to the Department for a good cause exception to the project segmentation rules set forth in 225 CMR 20.05(5)(f), which the Department will review on a case by case basis. Such applications should be submitted to DOER.SMART@state.ma.us.

If an STGU qualifies for an exception to the project segmentation rules set forth in 225 CMR 20.05(5)(f) that results in more than one STGU on a single parcel, each STGU will receive a separate Statement of Qualification and will have its Base Compensation Rate set independently of the other STGUs on the same parcel.

What is required to demonstrate to the Department the Owner of one STGU is unaffiliated from the Owner of another STGU?

An application must provide documentation that demonstrates to the Department's satisfaction that the owners of STGUs located on contiguous parcels are unaffiliated parties.

What does contiguous mean?

Contiguous land shall be parcels sharing a border boundary. Land shall be deemed contiguous if it is separated from other land under the same ownership only by a public or private way, unless they can document to the Department's satisfaction that this requirement should be waived for good cause.

PERFORMANCE STANDARDS

All ground mounted STGUs greater than 500 kW AC must provide certification from a professional engineer that the construction of the STGU meets the Performance Standards set forth 225 CMR 20.05(5)(e)5 if the project is installed on any pervious open space.