



## Cornell University Cooperative Extension Sullivan County

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### Solar Farm Leases Q & A

**Source: CCE Sullivan, Sullivan Alliance for Sustainable Development, Sullivan County Real Property Department, and NY-Sun\***

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There are many options for homeowners and businesses to participate in solar programs for both their own personal use, for community distributed generation solar or to permit a solar farm on one's property, which may involve signing a lease. Before signing any solar farm lease, it is important to understand one's options and ask important questions. Below are helpful Q & As for landowners, regarding solar farm leases.

#### **Q. What is solar?**

- A.** Solar is “of the sun”, and is used to define energy (electricity) or heat generated by a device that is exposed to the sun. Solar thermal refers to a method to heat water, using collectors or panels that transfer the sun's energy to a liquid. Solar electric (i.e., photovoltaic energy) uses the light of the sun to create electricity.

#### **Q. What are the different types of solar options?**

- A. Solar Array for Residential and Business Use:** This is a system sized to the electricity needs of a specific home, business, farm, or public site or use (e.g., street lights). These are relatively small systems and, in New York State, are sized to produce no more than 110% of annual average electric use.

#### Solar Farms (Utility Scale Generation Facility):

**Lease Option:** Typically, a solar developer who has secured an investment portfolio to build a utility scale power plant will seek out prime property to lease for the life of the system (20 -25 years).

**Community Distributed Generation (Community DG) Option:** Developing micro grids for community resiliency (i.e., Shared Renewables) allows customers who cannot site solar, small wind, or other DG on their own property to participate directly in off-site projects through net metering. This is a very new possibility in NYS, and has the capability of bringing clean, locally produced electricity to home and business owners, and to municipal governments and schools. Community Distributed Generation is an important element in strengthening the electric grid.

#### **Q. What are watts, kilowatts, and kilowatt hours?**

- A.** The size of a solar electric system is often described in watts (W) or kilowatts (kW). One kW = 1,000 W. Watts are a unit of power, just like the horsepower of an engine. They express the maximum possible output of energy the system can produce at any point in time. When sunlight strikes solar electric panels, they produce electricity that is measured in kilowatt hours (kWh) when it is used. Kilowatt hours are the units of energy you buy from your utility and use in your home to run appliances, lighting, and electronics.

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A 100 watt light will require 100 watts of electricity to illuminate. If the light is on for one hour, it consumes 100 watts or .1 kilowatt hours of electricity.

**Q. *Where can solar panels be located?***

- A.** Solar panels need to face south to be most productive. Typically, solar panels are mounted on south facing roofs, or in the case of the typical flat roof of a school, factory, or office building, the solar panels will be oriented to face south. Solar panels can also be mounted on poles which elevate the array (the combination of solar panels) above the ground, or close to the ground on specially designed racks. The placement of solar panels on mounting systems to cover parking lots is rapidly gaining acceptance. The overarching rule for placement is that they must face the sun and be located in such a way that nothing shades them. A new trend is to face arrays to the west, to take advantage of the afternoon sun and to generate additional power at a time when grid load is high.

**Q. *What are solar panels made of and when is current technology outdated?***

- A.** A solar panel consists of two materials sandwiched together, called a semiconductor. The materials are made out of millions of atoms, which produce both a negative and a positive charge. The material used to produce the positively/negatively charged stimuli is silicon. Silicon is a widely available semi-metallic element. Silicon can come in three forms: mono-crystalline, polycrystalline, and amorphous silicon. Mono-crystalline is the most efficient of the three silicon bases, but more expensive too. The “current” technology will see certain improvements over time, but the technology being used today is the same technology used to create the solar cells that powered the first satellites. Improvements will come in the form of production efficiencies and some creative applications such as Prism Solar’s bi-facial technology.

**Q. *What is a single phase and three phase transmission line?***

- A.** Transmission lines are either single phase or three phase. If you look at the top of the utility pole that serves your home and see only two wires, that is single phase. Single phase systems have two circuits, each carrying 120 volts, which is sufficient to power residential needs and medical facilities. Three phase circuits have three 120 volt lines, and are used to power larger loads like schools, stores, and factories.

**Q. *How many acres are needed to support a two megawatt (MG) system?***

- A.** The typical acreage that solar developers require for a two MG system is ten acres. This may or may not include access roads.

**Q. *Are solar farms noisy?***

- A.** Solar farms (i.e., utility scale power generators) have no moving parts, therefore there is no mechanical noise. It might be possible to hear a low “hum” from a large array, if you are very close to it.

**Q. *Are solar farms considered commercial or residential?***

- A.** Solar farms (i.e., utility scale power generators) are considered a commercial use of the land. The exception is if the electricity produced by the array is used solely to power a farm. In that case, the solar array is considered farm equipment.

**Q. Are solar panels considered real property?**

**A.** Yes. Real Property is defined in Section 102 (12) of the Real Property Tax Law. Included in this definition are *buildings and other structures... erected under or above the land, or affixed thereto*. This includes solar panels.

**Q. How could a solar farm lease affect your assessment and property tax?**

**A.** Your assessor will assign a value to the solar panels that are erected on your property. This increase in value will increase the overall assessment of the property.

**Q. Are there tax exemptions for solar panels? How does this apply to solar farms?**

**A.** Yes. Section 487 of the Real Property Tax Law allows for a solar exemption. This exemption is for 15 years and the amount of the exemption would be to the extent of any increase in the value attributed to the solar energy system. However, special district and special ad valorem taxes are not exempt.

**Q. How are my taxes affected if I consolidate several properties that I own?**

**A.** With many parcels, there is a primary and a residual acreage for assessment purposes. The primary acreage is assessed at a higher rate than the residual. Combining parcels where each has a primary acreage for assessment purposes can often result in a lower property tax bill.

**Q. Can I subdivide a parcel just for the solar farm? If so, how will this affect my taxes?**

**A.** The parcel of land used for the solar array can be subdivided from the larger tract of land. Any subdivision would have to meet the zoning requirements of the town having jurisdiction in regards to area, road frontage, and setbacks from property lines. The zoning laws would also have to allow for the use of the land as a commercial (utility scale) power plant. If your local town board approves a subdivision plan, you may subdivide your parcel in accordance with that plan. Please be aware that separating a solar array for tax purposes may or may not be in conformity with the contract that you enter into with a solar company. If you subdivide a parcel for the solar array and do not convey the parcel, you are still the owner and are ultimately responsible for the tax on that parcel.

**Q. Why are solar farms being valued on the income of what they produce when “real property” is valued on the building’s value, not the success of the operation?**

**A.** Real Property can be valued using one of three different approaches; the comparable sales, income, or cost approach. Solar arrays can be assessed using either the cost or income approach, and this determination is made by your assessor. The income approach is a preferred method used for income producing property.

**Q. If I place a solar farm on my property, will it affect my agricultural assessment?**

**A.** Yes. If the placement of the solar array is on land that presently receives an agricultural assessment, any acreage no longer being used for agricultural purposes would not be eligible for an agricultural assessment. In addition, a penalty for conversion would apply.

**Q. If a herd can graze under the solar farm panels, will my taxes still increase and I'll be forced to pay penalties?**

**A.** This would be determined by the tax assessor and/or the town board which has jurisdiction over land use changes. The principal use of the land that the solar array occupies, unless it is an on-site system (all of the electricity is used on-site to power the farm), is commercial power production.

**Q. If I am a farm operation located in an agricultural district, do I have protection from NYS Department of Agriculture and Markets if I were to place a solar farm on my property?**

**A.** If the solar array is sized to meet the electric needs of the farm and if the electricity produced by the array is used solely for farm use (not exceeding 110% of the farm's anticipated demand), then the array is considered farming equipment according to current NYS Agriculture and Markets guidance documents. The term "solar farm" is a euphemism that does not speak to the purpose of solar arrays of utility scale proportion, and is not used solely for farm use. Therefore, solar farms do not receive protection under NYS Agriculture and Markets' law. To learn more on this, visit: [agriculture.ny.gov](http://agriculture.ny.gov).

**Q. If I am going to sign a lease for a solar farm on my property, what questions should I ask?**

**A. Recommended questions are as follows:**

- What is the term of the lease? Can it be extended, and under what conditions?
- Who is responsible for the potential increase in taxes as a result of the solar farm?
- Who is responsible for maintenance of the solar farm?
- Is the solar farm location designated prior to signing a lease?
- Who is responsible for any liability as a result of the solar farm?
- Is there a right of way to the solar farm? How big is it, and where?
- How does the solar farm lease affect my farm operation? Can I perform my regular farm practices or will it restrict it?
- If I sign a solar lease, will I be able to sell my property?
- If I sign a solar lease, will I be able to place a mortgage on my property?
- Who is responsible for the approvals and permits from the local municipality? Who covers these expenses?
- Can this lease be transferred to another company?
- Am I responsible for insurance for the solar farm?
- Who is responsible for removing the solar panels when they are no longer in use?
- Does the solar farm company have the right to the land beneath the solar panels?
- When is the solar farm allowed to access their solar leases?

- What other rights does the solar farm have over my property?
- Will I have any say as to where the solar farm is situated on my property?
- What kind of alterations can the solar farm company make to my land, or any neighboring parcels I may own?
- At the end of the lease, will the solar farm company restore my land to how it was before? At whose cost?
- Can I terminate the lease? If so, under what conditions?
- What if there is a disagreement between the parties? How is any disagreement handled and decided?

For additional information on the material provided above, please contact:

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