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Solar Farms

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Solar energy is abundant, non-polluting and does not emit greenhouse gases responsible for global warming. Even in the northeastern United States, where sunlight is variable, solar energy helps light many buildings and can make a significant contribution to meeting demand for electricity. Small scale solar PV is providing power to a growing number of individual homes, farms, businesses and institutions, helping to make them energy-independent and adding power to New York's electricity grid during peak demand times on hot summer days.

Most people are familiar with solar photovoltaic (PV) technology. PV cells (often referred to as "solar cells") convert sunlight directly into electricity. Solar cells are connected together to form solar panels. Multiple panels together form the solar arrays commonly seen on roofs and as free-standing installations. Solar technologies can be applied at both large and small scales. Large commercial scale solar power plants feed electricity directly to the local utility electric grid. Large-scale PV arrays, sometimes referred to as "solar farms," are capable of generating commercial electric power. These large-scale “solar farms” are located on large tracks – typically more than 20 acres - of land which are primarily used to convert solar energy into electricity for offsite energy consumption.

As solar power continues to expand in the United States, large solar farms have been popping up across the country. While the expansion of renewable energy is undoubtedly a good thing for the nation’s energy portfolio, some solar farm installations are becoming a source of conflict between local residents and solar advocates.

Many towns in Orange County are grappling with large solar farm proposals that include dozens of rows consisting of thousands of photovoltaic panels typically sited on arable and developable land. As a result, towns are establishing moratoria that permit the municipality the time to modify their zoning code to responsibly address future solar farms.

Outside of Orange County, the Towns of Riverhead and Southold in the County of Suffolk have both proposed restricting where power-generating solar farms can be built.

When solar is used as a principal use, increased zoning precautions should be taken, such as:

- Height and setback.
- Minimum lot size.
- If and when fencing is necessary, as well as height and type. A buffer of dwarf trees should be planted around the perimeter.
- Signage, with owner's contact information, placed at entrance(s) and perimeter.
- On-site electrical interconnection lines and distribution lines shall be placed underground.
- Tree removal should be minimized and any removal should be mitigated. Trees with a 18" dbh or larger should require additional approvals from municipal planning boards. Limit the removal of existing vegetation to the extent necessary for the construction and maintenance of the solar installation. The replanting of mature replacement trees off-site should be mandatory for every tree removed in site preparation.
- Require Decommissioning Plan to ensure the proper removal of large-scale systems at the end of their useful life. The plan shall include the removal of all infrastructure and the remediation of soil and vegetation back to its original state prior to construction, unless otherwise permitted. A cost estimate detailing the projected cost of executing the decommissioning plan shall be prepared by a Professional Engineer or contractor. Cost estimations shall take into account inflation. A form of surety, through escrow, bond or the equivalency of, shall be established prior to the commencement of construction to cover the cost of decommissioning the site. The amount of surety required by the municipality may not exceed 125 percent of the cost.

Solar farms typically take up less than 5% of the ground they occupy, leaving huge scope for biodiversity enhancements in a protected space, produce no noise, emissions, odor or pollutants. The land can remain in agricultural use since it can be simultaneously grazed by livestock. This renewable form of clean energy can be installed faster than other energy plants and is most efficient at the time of day when utility rates and usages are at their highest.

Occasionally, adjacent neighbors do not welcome a solar farm, however, if planning boards mandate the precautions listed above, many fears should be allayed. The larger concerns of residents and government officials are typically the fear of responsible decommissioning once the photovoltaic panels outlive their usefulness, typically 20-30 years. While the host municipality may benefit from a solar farm in a variety of ways, it is suggested government officials pursue a financial plan that will ensure the responsible removal of the solar farm and the restoration of the natural site.

For additional information, visit:

New York State Energy Research & Development Authority	
Siting Solar Panels under the Zoning Laws of NYS	
PV Trainers Network	PVTN Workshops
	PVTN Solar Zoning Resource Guide
	Solar Procurement & Zoning
	In-Depth Policy Workshop: Zoning for Solar Energy
North Carolina State Energy Office Solar and Land Lease Issues	
Sustainable CUNY	New York State Model Solar Zoning Ordinance DRAFT
	New York State NYSolar Smart Survey
Land Use Law Center, Pace Law School	Solar Model Resolution
	Barrier Removal for Solar Permitting
Decommissioning	Tribal Energy & Environmental Information: Solar Energy Decommissioning/Site Reclamation Impacts
	Invenergy Draft Decommissioning Plan Report Woodville Solar Farm
	Camborne Energy Decommissioning Statement
	Real Goods Solar Decommissioning Estimate for Charlotte Solar Plant
	Town of Needham Photovoltaic Project: Town Benefits
Open New York Data Portal	
U.S. Department of Energy	
NYS Reforming the Energy Vision (REV)	
DSIRE Incentives Database - New York	
Solar Road Map