



Solar Energy Regulation

A Division of the New York Department of State

Overview

- What is solar energy?
- Examples
- Benefits
- Planning
- Regulatory options
- Access and siting
- Incentives



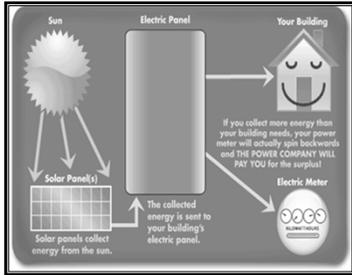
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Solar or Photovoltaic (PV)

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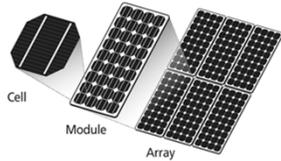
What is solar/PV?

- Technology that converts sunlight into electricity
- Primarily used for grid-connected electricity
- A single module can power an emergency telephone
- A house or power plant requires modules be arranged in multiples as arrays



Terms to enlighten

- Solar collectors: devices or systems that use solar radiation as energy source for generation of electricity or transfer of stored heat
 - Cell: basic element of PV system
 - Module/Panel: multiple cells electrically connected
 - Array: multiple modules/panels connected to create system



Terms continued...

- Roof-Mount: panels installed directly on roof or rack system
 - Solar shingles: PV cells designed to look like asphalt shingles
- Ground-Mount System: specialized racking system anchored to ground and wired to connect to building
 - Accessory Use: subordinate to primary use or building, located on same lot
- Azimuth: orientation (true south is optimal)



Examples

Residential roof-mounted



Pole mounted solar collectors



Solar bus huts

No external wiring to the electric distribution network



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Commercial roof arrays



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Long Island Solar Farm

- Largest solar power plant in Eastern United States
- Annually generates 44 million KW-hours
 - Equivalent to annual usage of ~4,500 homes
- 200 acre site
- 164,312 panels



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Suffolk County “power lots”

- Over 60,000 modules on newly built carports
- 17 MW generated
 - Enough to power ~1,850 homes
- On right: H. Lee Dennison Building, Hauppauge
 - 1.75 MW generated
 - 7,737 modules on 24 arrays



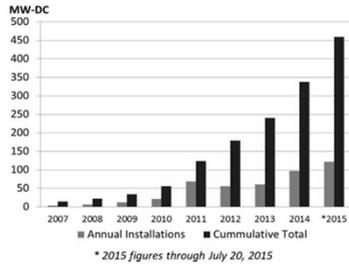
Skidmore College, Saratoga Springs

- One of largest solar arrays in state
- 6,950 ground-mounted solar panels spanning eight acres of land



Benefits

NYS SOLAR GROWTH



NYSolar Smart is a strategic effort led by Sustainable CUNY of the City University of New York that supports Federal, State and NYC solar initiatives to strategically remove barriers to large scale solar deployment.



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Why solar/PV?

- No consumption of natural resources
- No pollutants generated
- Sustainable
- Low cost



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Financial benefits

- Sunshine is free
- Rapidly falling prices have made solar more affordable than ever
 - Average price of completed PV system has dropped by 33% since 2011
- Tax Implications
 - System owner may benefit from federal and state tax credits, incentives and through net metering receive credit for excess energy produced
- Installation of PV system may increase property value
- Home energy savings
 - 7kW system (south-facing) can typically offset 70-80% of electricity needs
 - Two-panel PV water system saves about 2,800 kWh of electricity annually



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Prepare for solar development in your community



Establish clear goals

- Use visioning process to integrate solar into:
 - Comprehensive plan
 - Green infrastructure plan
 - Climate change plan
 - Energy plan
- If community desires solar, reduce obstacles to planning approvals and/or permitting

Adopt solar language in code(s)

- Clearly define types of solar collectors and identify those desired in your community
- Benefits
 - Reduce risk of unwanted or inappropriate development
 - Increase project conformity and likelihood that collective community solar desires will be met
 - Increase development opportunity for property owners, both residential and commercial

Clearly define permitting process

- Review existing permit process for inefficiencies
- Consider fair permitting fee
 - Residential: fixed flat fee or set dollar amount/Watt
 - Commercial: rate for staff time + additional review costs
- Adoption of NY Unified Solar Permit
 - Checklist to ensure that systems fall within certain parameters and comply with local and state codes
 - In revision

Regulatory Options

Local planning and zoning authority

- Comprehensive plan
- Regulations
 - Zoning
 - Site plan review
 - Special use permit
- Review elements
 - Access to solar energy
 - Casting shadows
 - Blocking view sheds
 - Causing glare
 - Rain run-off

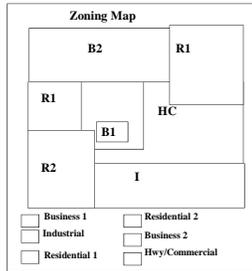


Comprehensive plan

- Expression of a municipality's goals and recommended actions to achieve those goals
- Outline for orderly growth, providing continued guidance for decision-making
- Document focusing on immediate and long-range protection, enhancement, growth and development

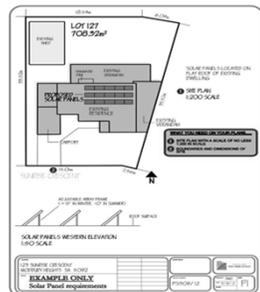
Zoning

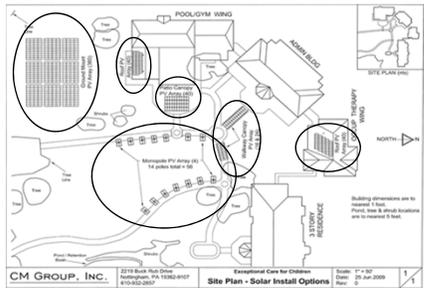
- Regulates use, density, and placement of structures on a parcel
 - Ground-mounted structures may have dimensional restrictions
- Original intent to prevent fire hazards and other threats to health and safety
- Municipalities with zoning must have a zoning board of appeals



Site plan review

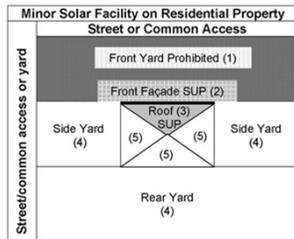
- Rendering, drawing, or sketch with project's proposed design and layout on a single parcel
- Proposal must be in accordance with comprehensive plan
- Zoning not necessary





Special use permit

- Use allowed by zoning
 - Subject to additional requirements or conditions
- Use will not adversely effect neighborhood if conditions are met
- Designed to assure that use is in harmony with zoning



Decommissioning

- Some municipalities address abandonment, decommissioning or "cessation of activity" within their regulations
- For example, "Must ensure site will be restored to useful, nonhazardous condition, including completion time frame for complete removal of collectors, mounts and other associated equipment and facilities"
- Some require decommissioning plans, especially for commercial scale projects

Decommissioning

Town of Tonawanda §215-182 Abandonment or Decommissioning

- A. **Unsafe, inoperable, and/or abandoned** solar energy systems and solar energy systems for which a special use permit has expired shall be removed by the owner. A solar energy system shall be deemed abandoned when it fails to produce energy for at least one (1) year.
- B. For all utility-scale solar energy systems, the applicant shall submit a decommissioning plan for review and approval as part of the special use permit application. The decommissioning plan shall identify the anticipated life of the project, method and process for removing all components of the solar energy system and returning the site to its pre-existing condition, and estimated decommissioning costs, including any salvage value.

Firefighter Safety

Firefighters must often access roofs for fire suppression and heat and smoke ventilation

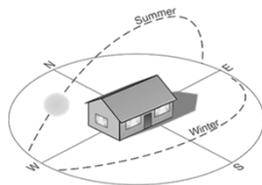
With sun, 120-600 volts of energized DC current could be in the array, conduits, and grid tied system.

At night, even spot lights of fire apparatus can generate some voltage.

Emergency disconnect should be turned off before firefighters approach conduits, collectors, or arrays.

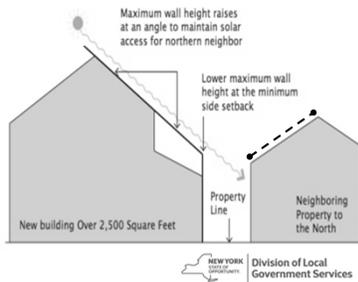


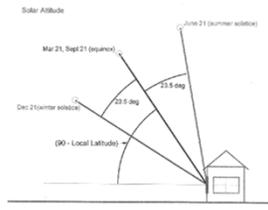
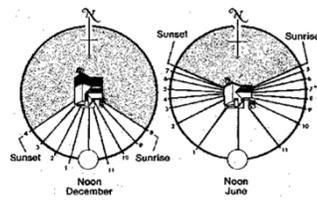
Access & Siting



Access

- Access: ability of one property to receive sunlight across property lines without obstruction
 - Calculated using sun path diagram
- Shading: shade from vegetation or building on adjoining properties





The NY Solar Map and Portal, when launched in September by Sustainable CUNY, will allow New Yorkers to see their roof's solar potential, connect with local solar opportunities, and visualize market data. [NY Solar Map and Portal Preview](#)

Compatibility with neighborhood character

- Do not negatively impact adjacent uses
- Visually compatible
 - For example, potential impact includes glare or reflection, which might be nuisance to other property owner or impair visibility of motor vehicle drivers
- Use sensitivity especially areas containing unique architectural styles or historic structures



Historic sites

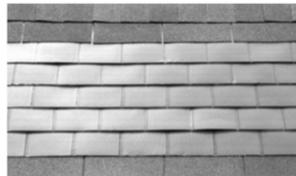
- Avoid primary facade
- Low-profile panels
 - Solar shingles laminates, glazing, or similar materials should not replace original or historic materials
- Avoid installation in windows, on walls, siding, and shutters
- Panels should be flat and not alter slope of roof
- Must be reversible



Solar panels on a historic home in Cambridge, Massachusetts

Minimize visibility

- Panels and mechanical equipment should be as unobtrusive as possible from public thoroughfare
- Compatible in color to established roof materials
- Aim for below and behind parapet walls and dormers, or on rear-facing roofs



Solar friendly access provisions

- Prohibition of conditions, covenants, and restrictions:
 - Prevent homeowners' associations from barring or placing undue burden on installation of solar energy systems
- Solar easements
 - Agreement with adjacent landowner(s) to ensure sunlight reaches property
- Other regulations in planning and zoning process that preserve solar access

Town of Elmira

- New development 10+ acres may be designed so maximum number of buildings shall receive direct sunlight sufficient for solar
- Buildings and vegetation sited and maintained so that direct sunlight reaches southern exposure of greatest number of buildings
 - Solar azimuths of -45° (east of due south) to +45° (west of due south)
 - Highest densities south-facing; lower densities north-facing
 - Roads oriented on east-west axis
 - Buildings sited as close to north lot line(s) as possible; tall buildings sited north of shorter ones and buffered from adjacent development

Ownership and access

Ownership options

- Direct: Residential customer owned system
 - Customer incurs all costs
 - Customer avoids energy costs
 - Net metering excess generation credits back to grid
 - Direct incentives through NY-Sun paid to your contractor
 - 30% Federal Income Tax Income Credit, 25% NY State Tax Credit not to exceed \$5,000 for your Primary Residence
- Third-Party: Power purchase agreement between customer and developer
 - Investor receives 30% Federal Income Tax Credit, and Five Year accelerated depreciation. Customer receives 25% NY State Income Tax Credit
 - No upfront cost to customer, or costs operate and maintain system
 - Predictable payments, long term contracts

Group purchasing

- Often called "solar bulk purchase," "solar group purchase," "SunShare," or "Solarize"
- Consortium based on 'economy of scale'
- Helps guide homeowners as they purchase solar systems together
- NYSolar Smart Program, Sustainable CUNY
 - Solarize Huntington, Solarize Brooklyn CB6 and SunShares

Community distributed generation

- Governor's Reforming the Energy Vision or REV Initiative
 - Community Shared Renewables Program
 - www.governor.ny.gov/news/governor-cuomo-announces-expanded-access-renewable-energy-millions-new-yorkers
- Phase I (10/19/15-4/30/16): Limited to projects that either...
 1. Site where it provides greatest locational benefits to larger power grid; or
 2. \geq 20% of participants/customers are low-moderate income
- Phase II (5/1/16): No restrictions
 - Available throughout entire utility service territories

Incentives

NY-SUN initiative

- Nearly \$1 billion commitment from governor
- Brings together and expands existing programs administered by NYS Energy Research and Development Authority (NYSERDA), Long Island Power Authority (LIPA), and New York Power Authority (NYPA), to ensure coordinated and well-funded solar energy expansion plan
- Long-term funding certainty that will boost existing businesses and attract new investments to NY from global solar companies for greater economic growth
- Will significantly expand deployment of state's solar capacity
- Transform NY's solar industry to sustainable, subsidy-free sector

K-Solar

- Component of NY-SUN
- Partnership between NYPA and NYSERDA
- Program helps school districts utilize solar by providing free services
 - Researches potential cost savings and negotiates purchasing agreements
- www.nypa.gov/k-solar/



NYS rebates and incentives

- Net metering for photovoltaics and wind technologies
- Distributed generation rule applies to residential systems ≤ 25 kW
- Interconnection agreement and application filed with customer's utility
- NY's investor-owned utilities must offer net metering on first-come, first-served basis to residents that install PV or other renewable generation system ≤ 25 kW
 - Farms and businesses may net meter systems ≤ 2 MW

NYS real property tax exemptions

- NYS has a real property tax exemption Form RP 787 from NYS Department of Taxation and Finance.
 - http://www.tax.ny.gov/pdf/current_forms/orpts/rp487_fill_in.pdf
- Local governments and school districts may opt out and include the PV system in the assesment. Below is a list of those that have opted out
 - <http://www.tax.ny.gov/research/property/legal/localop/487opt.htm>
- NYC has a real property tax abatement program
 - http://www.nyc.gov/html/dob/html/sustainability/solar_panels.shtml

NY-Sun solar Incentives

- Residential and Small Commercial systems up to 200KW
 - <http://ny-sun.ny.gov/For-Installers/Megawatt-Block-Incentive-Dashboard>
- Commercial & Industrial Systems up to 2MW
 - <http://ny-sun.ny.gov/For-Installers/CI-Megawatt-Block-Incentive-Structure-and-Dashboard>

NY-Sun sales tax exemptions

- NYS also offers a statewide sales tax exemption on solar systems.
- Local and county government solar sales tax rates are listed below
- http://www.tax.ny.gov/pdf/publications/sales/pub718cs.pdf?_ga=1.41831329.2042903433.1419280618

PV Trainers Network

- Home: <https://training.ny-sun.ny.gov/>
- Calendar: <https://training.ny-sun.ny.gov/training-events-calendar/range.listevents/>
- Resources: <https://training.ny-sun.ny.gov/resources>
- "Ask the expert." <https://training.ny-sun.ny.gov/technical-assistance/ask-the-expert?view=ticket&layout=open>

Contact information

NYS Department of State

- (518) 473-3355 Training Unit
- (518) 474-6740 Counsel's Office
- Email: localgov@dos.ny.gov
- Website: www.dos.ny.gov
www.dos.ny.gov/lq/lut/index.html

NYS Energy Research & Development Authority

- (518) 862-1090
- Email: info@nyserda.ny.gov
- Website: www.nyserda.ny.gov/

Local Law Filing

(Use this form to file a local law with the Secretary of State.)

Text of law should be given as amended. Do not include matter being eliminated and do not use italics or underlining to indicate new matter.

County City Town Village
(Select one:)

of Maybrook

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JAN 26 2015

DEPARTMENT OF STATE

Local Law No. 1 of the year 20 15

A local law amending Chapter 210 ("Zoning") of the Code of the Village of Maybrook to regulate the
(Insert Title)
use of solar, ground or pole mounted solar array within the Village of Maybrook

Be it enacted by the Board of Trustees of the
(Name of Legislative Body)

County City Town Village
(Select one:)

of Maybrook

as follows:

SECTION 1. FINDINGS.

The Board of Trustees of the Village of Maybrook finds that it would be beneficial to the Village to provide for requirements and limitations on the use of solar, ground or pole mounted solar array to provide the residents with the opportunity to utilize solar energy systems and equipment.

SECTION 2. PURPOSE.

- A. Solar energy is a renewable and non-polluting energy resource that can prevent fossil fuel emissions and reduce a municipality's energy load. Energy generated from solar energy systems can be used to offset energy demand on the grid where excess solar power is generated.
- B. The use of solar energy equipment for the purpose of providing electricity and energy for heating and/or cooling is a priority and is a necessary component of the Village of Maybrook's long-term sustainability agenda.
- C. This local law aims to promote the accommodation of solar energy systems and equipment and the provision for adequate sunlight and convenience of access necessary therefor.

(If additional space is needed, attach pages the same size as this sheet, and number each.)

D. The purpose of this legislation is to balance the potential impact on neighbors when solar collectors may be installed near their property while preserving the rights of property owners to install solar collection systems without excess regulation. In particular, this legislation is intended to apply to freestanding, ground-mounted, or pole-mounted solar energy system installations over a certain height and based upon certain placement.

SECTION 3. SOLAR ENERGY.

Chapter 210 ("Zoning") is hereby amended to include a new Article XII, entitled "Solar Energy", which shall include the following language:

§ 210-68. Definitions.

As used in this section, the following terms shall have the meanings as indicated:

Accessory Structure – A structure, the use of which is customarily incidental and subordinate to the principal building, and is located on the same lot or premises as the principal building.

Alternative Energy System – Structure, equipment devices or construction techniques for the production of heat, light, cooling, electricity or other forms of energy for use on site and which may be attached to or separate from the principal structure.

Building-Integrated Photovoltaic (BIPV) Systems – A solar energy system that consists of integrating photovoltaic modules into the building structure, such as the roof or the façade and which does not alter the relief of the roof or façade.

Collective Solar – Solar installations owned collectively through a homeowners association, "adopt-a-solar-panel" programs, or other similar arrangements.

Flush-Mounted Solar Panel – Photovoltaic panels and tiles that are installed flush to the surface of a roof and which cannot be angled or raised.

Freestanding or Ground-Mounted Solar Energy System – A solar energy system that is directly installed on the ground and is not attached or affixed to an existing structure.

Net-Metering – A billing arrangement that allows solar customers to get credit for excess electricity that they generate and deliver back to the grid so that they only pay for their net electricity usage at the end of the month.

Permit Granting Authority – The Village of Maybrook authority authorized to grant permits for the installation of alternative energy systems.

Photovoltaic (PV) Systems – A solar energy system that produces electricity by the use of semiconductor devices, called photovoltaic cells that generate electricity whenever light strikes them.

Qualified Solar Installer – A person who has skills and knowledge related to the construction and operation of solar electrical equipment and installations, and has received safety training on the hazards involved. Persons who are on the list of eligible photovoltaic installers maintained by the New York State Energy Research and Development Authority (NYSERDA), or who are certified as a solar installer by the North American Board of Certified Energy Practitioners (NABCEP), shall be deemed to be qualified solar installers for the purposes of this definition. Persons who are not on NYSEERDA's list of eligible installers or NABCEP's list of certified installers may be deemed to be qualified solar installers if the Village of Maybrook determines such persons have had adequate training to determine the degree and extent of the hazard and the personal protective equipment and job planning necessary to perform the installation safely. Such training shall include the proper use of special precautionary techniques and personal protective equipment, as well as the skills and techniques necessary to distinguish exposed energized parts from other parts of electrical equipment and to determine the nominal voltage of exposed live parts.

Rooftop or Building-Mounted Solar System – A solar power system in which solar panels are mounted on top of the structure of a roof either as a flush-mounted system or as modules fixed to frames which can be tilted toward the south at an optimal angle.

Setback – The distance from a side lot line or rear lot line of a parcel within which a free standing or ground mounted solar energy system is installed. No solar energy systems shall be permitted on the front of any structures or within the required front yard setback.

Small-Scale Solar – For purposes of this section, the term "small-scale solar" refers to solar photovoltaic systems that produce up to ten kilowatts (kW) per hour of energy or solar-thermal systems which serve the building to which they are attached, and do not provide energy for any other buildings.

Solar Access – Space open to the sun and clear of overhangs or shade including the orientation of streets and lots to the sun as to permit the use of active and/or passive solar energy systems on individual properties.

Solar Collector – A solar photovoltaic cell, panel or array or any solar hot air or solar energy collector which relies upon solar radiation as an energy source for the generation of electricity or transfer of stored energy to heat, air or water.

Solar Easement – An easement recorded pursuant to New York Real Property Law § 335-b, the purpose of which is to secure the right to receive sunlight across real property of another for continued access to sunlight necessary to operate a solar collector.

Solar Energy Equipment/System – Solar collectors, controls, energy storage devices, heat pumps, heat exchangers, and other materials, hardware or equipment necessary to the process by which solar radiation is collected, converted into another form of energy, stored, protected from unnecessary dissipation and distributed. Solar systems include solar thermal, photovoltaic and concentrated solar.

Solar, Ground or Pole-Mounted Solar Array – Any solar collector, controls, solar energy device, heat exchanges or solar thermal energy system which is directly installed on the ground and not affixed to an existing structure.

Solar Panel – A device for the direct conversion of solar energy into electricity.

Solar Storage Battery – A device that stores energy from the sun and makes it available in an electrical form.

Solar-Thermal Systems – Solar thermal systems directly heat water or other liquid using sunlight. The heated liquid is used for such purposes as space heating and cooling, domestic hot water, and heating pool water.

§ 210-69. Applicability.

A. The requirements of this section shall apply to all solar collective system installations modified or installed after the effective date of this section.

B. Solar collector system installations for which a valid building permit has been issued or for which installation has commenced before the effective date of this section shall not be required to meet the requirements of this section.

C. All solar collective systems shall be designed, erected and installed in accordance with all applicable codes, regulations and industry standards as referenced in the New York State Building Code and the Village of Maybrook Code.

D. Solar collectors shall be permitted only to provide power for use by owners, lessees, tenants, residents or other occupants of the premises on which they are erected, but nothing contained in this provision shall be construed to prohibit “collective solar” installations or the sale of excess power through a “net billing” or “net metering” arrangement in accordance with New York Public Service Law § 66-j or similar State or Federal law regulation.

§ 210-70. Permit Required.

A. Rooftop and building-mounted solar collectors and Flush-Mounted Photovoltaic Panels shall require a building permit from the Village Building Inspector. The Building Inspector shall have sole authority for determining compliance of the installation with State building codes related to such structures.

B. Solar, ground or pole mounted solar arrays are permitted as accessory structures in all zoning districts of the Village subject to the following conditions:

1. Building-Integrated Photovoltaic (BIPV) Systems: BIPV systems are permitted outright in all zoning districts.
 2. Ground-Mounted and Free Standing Solar Collectors: Ground-mounted and free standing solar collectors are permitted as accessory structures in all zoning districts of the Village, subject to the following conditions which shall be processed and enforced by the Village Building Inspector:
 - a. Building permits are required for the installation of all ground-mounted and free standing solar collectors.
 - b. The location of the solar collectors shall be subject to the setback requirements and limitations set forth on the Tables of Dimensional Regulations for each applicable district. No ground-mounted or freestanding solar collectors shall be permitted in the front yard in any residential district. Where no minimum setback requirements are provided the minimum setback shall be 10 feet.
 - c. The height of the solar collector, including any supporting structures, shall not exceed 20 feet when oriented at maximum tilt.
 - d. Solar energy equipment shall be located in a manner to reasonably minimize view blockage for surrounding properties and shading of property to the north, while still providing adequate solar access for collectors.
 - e. Freestanding solar energy collectors shall be screened when possible and practicable through the use of architectural features, earth berms, landscaping or other screening which will harmonize with the character of the property and surrounding area.
- C. The Building Inspector shall have authority to determine compliance with the requirements set forth in this provision and shall have approval authority with respect to the screening requirement set forth above. Consideration shall be made regarding glare or other adverse effects on neighboring properties when determining compliance with these provisions.
- D. Solar-Thermal Systems: Solar-thermal systems are permitted in all zoning districts subject receipt of a building permit from the Village Building Inspector.
- E. Solar energy systems and equipment shall be permitted only if they are determined by the Village Building Inspector not to present any unreasonable safety risks, including, but not limited to, the following:
1. Weight load
 2. Wind resistance
 3. Ingress or egress in the event of fire or other emergency.

Local Law Filing

(Use this form to file a local law with the Secretary of State.)

Text of law should be given as amended. Do not include matter being eliminated and do not use italics or underlining to indicate new matter.

County City Town Village

(Select one.)

of Newburgh

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DEPARTMENT OF STATE

Local Law No. 2 of the year 2015

A local law Adding Article XVII entitled "Solar Siting" to Chapter 185 entitled Zoning of the Code of the
(Insert Title)
Town of Newburgh.

Be it enacted by the Town Board of the
(Name of Legislative Body)

County City Town Village

(Select one.)

of Newburgh

as follows:

PLEASE SEE ATTACHED LOCAL LAW

(If additional space is needed, attach pages the same size as this sheet, and number each.)

SECTION 1 - TITLE

This Local Law shall be referred to as "A Local Law Adding Article XVII Entitled 'Solar Siting' to Chapter 185 Entitled 'Zoning' of the Code of the Town of Newburgh".

SECTION 2 - SOLAR SITING

A new Article XVII entitled "Solar Siting" is hereby added to Chapter 185 entitled "Zoning" of the Town of Newburgh Municipal Code to read as follows:

"Article XVII: Solar Siting

§185-78 Purpose and Intent.

- A. Solar energy is a renewable and non-polluting energy resource that can prevent fossil fuel emissions and reduce a municipality's energy load. Energy generated from solar energy systems can be used to offset energy demand on the grid where excess solar power is generated.
- B. The use of solar energy equipment for the purpose of providing electricity and energy for heating and/or cooling is a priority and is a necessary component of the Town of Newburgh's current and long-term sustainability agenda.
- C. This Article aims to promote the accommodation of solar energy systems and equipment and the provision for adequate sunlight and convenience of access necessary therefor, and to balance the potential impact on neighbors when solar collectors may be installed near their property while preserving the rights of property owners to install solar energy systems without excess regulation. In particular, this legislation is intended to apply to free standing, ground mounted or pole mounted solar energy system installations based upon certain placement. This legislation is not intended to override agricultural exemptions that are currently in place.

§185-79 Definitions.

As used in this Article, the following terms shall have the meanings indicated, unless the context or subject matter requires otherwise. The definitions contained in Section 185-3 shall also apply.

ALTERNATIVE ENERGY SYSTEMS - Structures, equipment, devices or construction techniques used for the production of heat, light, cooling, electricity or other forms of energy on site and may be attached to or separate from the principal structure.

BUILDING-INTEGRATED PHOTOVOLTAIC (BIPV) SYSTEMS - A solar energy system that consists of integrating photovoltaic modules into the building structure, such as the roof or the façade and which does not alter the relief of the roof.

COLLECTIVE SOLAR - Solar installations owned collectively through subdivision homeowner associations, college student groups, "adopt-a-solar-panel" programs, or other similar arrangements.

FLUSH MOUNTED SOLAR PANEL - A photovoltaic panel or tile that is installed flush to the surface of a roof and which cannot be angled or raised.

FREESTANDING OR GROUND-MOUNTED SOLAR ENERGY SYSTEM - A solar energy system that is directly installed in the ground and is not attached or affixed to an existing structure. Pole mounted solar energy systems shall be considered Freestanding or Ground-Mounted Solar Energy Systems for purposes of this Local Law.

NET-METERING - A billing arrangement that allows solar customers to get credit for excess electricity that they generate and deliver back to the grid so that they only pay for their net electricity usage at the end of the month.

PERMIT GRANTING AUTHORITY - The Town Code Compliance Department, which is charged with granting permits for the operation of solar energy systems.

PHOTOVOLTAIC (PV) SYSTEMS - A solar energy system that produces electricity by the use of semiconductor devices, called photovoltaic cells that generate electricity whenever light strikes them.

QUALIFIED SOLAR INSTALLER - A person who has skills and knowledge related to the construction and operation of solar electrical equipment and installations and has received safety training on the hazards involved. Persons who are on the list of eligible photovoltaic installers maintained by the New York State Energy Research and Development Authority (NYSERDA), or who are certified as a solar installer by the North American Board of Certified Energy Practitioners (NABCEP), shall be deemed to be qualified solar installers for the purposes of this definition. Persons who are not on NYSEERDA's list of eligible installers or NABCEP's list of certified installers may be deemed to be qualified solar installers if the Town Code Compliance Supervisor or such other Town officer or employee as the Town Board designates determines such persons have had adequate training to determine the degree and extent of the hazard and the personal protective equipment and job planning necessary to perform the installation safely. Such training shall include the proper use of special precautionary techniques and personal protective equipment, as well as the skills and techniques necessary to distinguish exposed energized parts from other parts of electrical equipment and to determine the nominal voltage of exposed live parts.

ROOFTOP OR BUILDING MOUNTED SOLAR SYSTEM - A solar power system in which solar panels are mounted on top of the structure of a roof either as a flush-mounted system or as modules fixed to frames which can be tilted toward the south at an optimal angle.

SETBACK – The distance from a front lot line, side lot line or rear lot line of a parcel within which a free standing or ground mounted solar energy system is installed.

SMALL-SCALE SOLAR - For purposes of this Chapter, the term “small-scale solar” refers to solar photovoltaic systems that produce up to ten kilowatts (kW) per hour of energy or solar-thermal systems which serve the building to which they are attached, and do not provide energy for any other buildings.

SOLAR ACCESS - Space open to the sun and clear of overhangs or shade including the orientation of streets and lots to the sun so as to permit the use of active and/or passive solar energy systems on individual properties.

SOLAR COLLECTOR - A solar photovoltaic cell, panel, or array, or solar hot air or water collector device, which relies upon solar radiation as an energy source for the generation of electricity or transfer of stored heat.

SOLAR EASEMENT - An easement recorded pursuant to NY Real Property Law § 335-b, the purpose of which is to secure the right to receive sunlight across real property of another for continued access to sunlight necessary to operate a solar collector.

SOLAR ENERGY EQUIPMENT/SYSTEM - Solar collectors, controls, energy storage devices, heat pumps, heat exchangers, and other materials, hardware or equipment necessary to the process by which solar radiation is collected, converted into another form of energy, stored, protected from unnecessary dissipation and distributed. Solar systems include solar thermal, photovoltaic and concentrated solar. For the purposes of this law, a solar energy system does not include any solar energy system of four square feet in size or less.

SOLAR FARM OR SOLAR POWER PLANT – Energy generation facility or area of land principally used to convert solar energy to electricity, whether by photovoltaics, concentrating solar thermal devices or various experimental solar technologies, with the primary purpose of wholesale or retail sales of electricity.

SOLAR PANEL - A device for the direct conversion of solar energy into electricity.

SOLAR STORAGE BATTERY - A device that stores energy from the sun and makes it available in an electrical form.

SOLAR-THERMAL SYSTEMS - Solar thermal systems directly heat water or other liquid using sunlight. The heated liquid is used for such purposes as space heating and cooling, domestic hot water, and heating pool water.

§185-80 Applicability.

- A. The requirements of this local law shall apply to all solar energy system and equipment installations modified or installed after the effective date of this local law.
- B. Solar energy system installations for which a valid building permit has been issued or, if no building permit is presently required, for which installation has commenced before the effective date of this local law shall not be required to meet the requirements of this local law.
- C. All solar energy systems shall be designed, erected and installed in accordance with all applicable codes, regulations and industry standards as referenced in the State Building Code and the Town Code.
- D. Solar collectors, unless part of a Solar Farm or Solar Power Plant, shall be permitted only to provide power for use by owners, lessees, tenants, residents, or other occupants of the premises on which they are erected, but nothing contained in this provision shall be construed to prohibit "collective solar" installations or the sale of excess power through a "net billing" or "net-metering" arrangement in accordance with New York Public Service Law § 66-j or similar state or federal statute.

§185-81 Permit required.

- A. No Small Scale solar energy system or device shall be installed or operated in the Town except in compliance with this article.
- B. Rooftop and Building-Mounted Solar Collectors: Rooftop and building mounted solar collectors are permitted in all zoning districts in the Town subject to the following conditions:
 - 1. Building permits shall be required for installation of all rooftop and building-mounted solar collectors, except a building permit shall not be required for Flush-Mounted Photovoltaic Panels.
 - 2. Rooftop and Building-Mounted Solar Collectors shall not exceed the maximum allowed height of the principal use in any zoning district.
 - 3. In order to ensure firefighter and other emergency responder safety, except in the case of accessory buildings under 1,000 square feet in area, there shall be a minimum perimeter area around the edge of the roof and structurally supported pathways to provide space on the roof for walking around all Rooftop and Building-Mounted Solar Collectors. Additionally, installations shall provide for adequate access and spacing in order to:

- i. Ensure access to the roof
- ii. Provide pathways to specific areas of the roof
- iii. provide for smoke ventilation opportunity areas
- iv. provide emergency egress from the roof.

Exceptions to these requirements may be requested where access, pathway or ventilation requirements are reduced due to:

- i. Unique site specific limitations;
- ii. alternative access opportunities (as from adjoining roofs)
- iii. ground level access to the roof area in question;
- iii. other adequate ventilation opportunities when approved by the Code Compliance Department;
- iv. adequate ventilation opportunities afforded by panel set back from other rooftop equipment (for example: shading or structural constraints may leave significant areas open for ventilation near HVAC equipment.);
- v. automatic ventilation device; or
- vi. New technology, methods, or other innovations that ensure adequate emergency responder access, pathways and ventilation opportunities.

In the event any of the standards in this subsection B(3) are more stringent than the New York State Uniform Fire Prevention and Building Code (the "State Code"), they shall be deemed to be installation guidelines only and the standards of the State Code shall apply.

C. Building-Integrated Photovoltaic (BIPV) Systems: BIPV systems are permitted in all zoning districts and shall be shown on the plans submitted for the building permit application for the building containing the system.

D. Free Standing and ground mounted solar collectors: Free standing or ground mounted solar collectors are permitted as accessory structures in all zoning districts of the Town except the R-3 District subject to the following conditions:

1. Building permits are required for the installation of all ground-mounted and free standing solar collectors.
2. In the R-2 District, a lot must have a minimum size of 40,000 square feet in order for a ground-mounted or free standing solar collector to be permitted.
3. The location of the ground mounted or free standing solar collector shall meet the greater of the setback requirements for Accessory Buildings set forth in Section 185-15 or the following setback requirements and limitations set forth in this provision:

i. RR District

- minimum required side yard setback- 50 feet
- minimum required rear yard setback- 100 feet
- minimum required front yard setback- 250 feet

ii. AR District

- minimum required side yard setback- 30 feet
- minimum required rear yard setback- 50 feet
- minimum required front yard setback- 250 feet

iii. R-1 District

- minimum required side yard setback- 30 feet
- minimum required rear yard setback- 40 feet
- no ground mounted or free standing solar collectors allowed in front yard

iv. R-2 District

- minimum required side yard setback- 30 feet
- minimum required rear yard setback- 40 feet
- no ground mounted or free standing solar collectors allowed in front yard

v. R-3 District

Ground-mounted and free standing solar collectors are not permitted in the R-3 District in connection with any use

vi. B District

- minimum required side yard setback- 30 feet
- minimum required rear yard setback- 50 feet
- no ground mounted or free standing solar collectors allowed in front yard

vii. IB District

- minimum required side yard setback- 30 feet
- minimum required rear yard setback- 40 feet
- minimum required front yard setback- 250 feet

viii. I District

- minimum required side yard setback- 30 feet
- minimum required rear yard setback- 40 feet
- minimum required front yard setback- 250 feet

Yards having a line bounding on the right of way of Interstate 87 or Interstate Route 84 shall not be considered front yards for purposes of this Section.

4. The height of the solar collector and any mounts shall not exceed 20 feet when oriented at maximum tilt.
5. Ground mounted and freestanding solar collectors shall be screened when possible and practicable from adjoining lots and street rights of way through the use of architectural features, earth berms, landscaping, fencing or other screening which will harmonize with the character of the property and surrounding area. The proposed screening shall not interfere with normal operation of the solar collectors.
6. Solar energy equipment shall be located in a manner to reasonably minimize view blockage for surrounding properties and shading of property to the north, while still providing adequate solar access for collectors.
7. Solar energy equipment shall not be sited within any required buffer area.
8. The total surface area of all ground-mounted and freestanding solar collectors on a lot shall not exceed the area of the ground covered by the building structure of the largest building on the lot measured from the exterior walls, excluding patios, decks, balconies, screened and open porches and attached garages, provided that non-residential placements exceeding this size may be approved by the Planning Board, subject to site plan review pursuant to Article IX of the this Chapter.
9. The area beneath ground mounted and freestanding solar collectors shall be included in calculating whether the lot meets maximum permitted Lot Building Coverage and Lot Surface Coverage requirements for the applicable District, notwithstanding that the collectors are not "buildings."
10. The installation of ground mounted and freestanding solar collectors shall be considered a Development or Development Activity for purposes of Chapter 157, Stormwater Management, of the Code of the Town of Newburgh.

E. Solar-Thermal Systems: Solar-thermal systems are permitted in all zoning districts subject to the following conditions:

1. Building permits are required for the installation of all solar-thermal systems.

2. Ground mounted and free standing solar-thermal systems shall be subject to the same requirements set forth in Subsection D above as for Ground Mounted and Free Standing Solar Collectors.
- F.** Solar energy systems and equipment shall be permitted only if they are determined by the Town not to present any unreasonable safety risks, including, but not limited to, the following:
1. Weight load
 2. Wind resistance
 3. Ingress or egress in the event of fire or other emergency.
- G.** Solar collectors and related equipment shall be surfaced, designed and sited so as not to reflect glare onto adjacent properties and roadways.

§185-82. Safety.

- A.** All solar collector installations must be performed by a qualified solar installer.
- B.** Prior to operation, electrical connections must be inspected by a Town Code Enforcement Officer and by an appropriate electrical inspection person or agency, as determined by the Town.
- C.** Any connection to the public utility grid must be inspected by the appropriate public utility.
- D.** Solar energy systems shall be maintained in good working order.
- E.** Rooftop and building-mounted solar collectors shall meet New York's Uniform Fire Prevention and Building Code standards.
- F.** If solar storage batteries are included as part of the solar collector system, they must be placed in a secure container or enclosure meeting the requirements of the New York State Building Code when in use and when no longer used shall be disposed of in accordance with the laws and regulations of the Town and other applicable laws and regulations.
- G.** If a solar collector ceases to perform its originally intended function for more than 12 consecutive months, the property owner shall remove the collector, mount and associated equipment by no later than 90 days after the end of the twelve-month period.
- H.** Solar Energy Systems and Equipment shall be marked in order to provide emergency responders with appropriate warning and guidance with respect to

isolating the solar electric system. Materials used for marking shall be weather resistant. For residential applications, the marking may be placed within the main service disconnect. If the main service disconnect is operable with the service panel closed, then the marking should be placed on the outside cover.

For commercial application, the marking shall be placed adjacent to the main service disconnect in a location clearly visible from the location where the lever is operated.

In the event any of the standards in this subsection H for markings are more stringent than applicable provisions of the New York State Uniform Fire Prevention and Building Code (the "State Code"), they shall be deemed to be guidelines only and the standards of the State Code shall apply.

§185-83 Solar Farms and Solar Power Plants.

Solar Farms and Solar Power Plants shall be permitted in the I District as an "Electric Generating" use subject to site plan review by the Planning Board, subject to the following supplementary regulations:

- A.** Solar farms and solar power plants shall be enclosed by perimeter fencing to restrict unauthorized access at a height of 8 ½ feet.
- B.** The manufacturer's or installer's identification and appropriate warning signage shall be posted at the site and clearly visible.
- C.** Solar farm and solar power plant buildings and accessory structures shall, to the extent reasonably possible, use materials, colors, and textures that will blend the facility into the existing environment.
- D.** Appropriate landscaping and/or screening materials may be required to help screen the solar power plant and accessory structures from major roads and neighboring residences.
- E.** The average height of the solar panel arrays shall not exceed twelve (12) feet.
- F.** Solar farm and Solar Power Plan panels and equipment shall be surfaced, designed and sited so as not to reflect glare onto adjacent properties and roadways.
- G.** On-site power lines shall, to the maximum extent practicable, be placed underground.
- H.** The following requirements shall be met for decommissioning:

1. Solar farms and solar power plants which have not been in active and continuous service for a period of 1 year shall be removed at the owners or operators expense.
2. The site shall be restored to as natural a condition as possible within 6 months of the removal.

§185-84 Appeals.

- A. If a person is found to be in violation of the provisions of this Local Law, appeals should be made in accordance with the established procedures and time limits of the Zoning Code and New York State Town Law.
- B. If a building permit for a solar energy device is denied based upon a failure to meet the requirements of this Local Law, the applicant may seek relief from the Zoning Board of Appeals in accordance with the established procedures and time limits of the Zoning Code and New York State Town Law.

§185-85 Building Permit Fees for Solar Panels.

The fees for all building permits required pursuant to this Local Law shall be paid at the time each building permit application is submitted in such reasonable amount as the Town Board may by resolution establish and amend from time to time.

§185-86 Guidelines for Future Solar Access

- A. New structures will be sited to take advantage of solar access insofar as practical, including the orientation of proposed buildings with respect to sun angles, the shading and windscreen potential of existing and proposed vegetation on and off the site, and the impact of solar access to adjacent uses and properties¹
- B. To permit maximum solar access to proposed lots and future buildings, wherever reasonably feasible, consistent with other appropriate design considerations and to the extent practicable, new streets shall be located on an east-west axis to encourage building siting with the maximum exposure of roof and wall area to the sun. The Planning Board shall also consider the slope of the property and the nature and location of existing vegetation as they affect solar access²
- C. The impact of street trees on the solar access of the surrounding property shall be minimized to the greatest possible extent in selecting and locating shade trees. Every effort shall be made to avoid shading possible locations of solar collectors.

- D. When the Planning Board reviews and acts upon applications for subdivision approval or site plan approval, it shall take into consideration whether the proposed construction would block access to sunlight between the hours of 9:00 a.m. and 3:00 p.m. Eastern Standard Time for existing approved solar energy collectors or for solar energy collectors for which a permit has been issued.
- E. The Planning Board may require subdivisions to be platted so as to preserve or enhance solar access for either passive or active systems, consistent with the other requirements of the Town Code.
- F. The plan for development of any site within cluster subdivisions shall be designed and arranged in such a way as to promote solar access for all dwelling units. Considerations may include the following:
1. In order to maximize solar access, the higher-density dwelling units should be placed on a south-facing slope and lower-density dwelling units sited on a north-facing slope.
 2. Subject to the Town's setback requirements, structures should be sited as close to the north lot line as possible to increase yard space to the south for reduced shading of the south face of a structure.
 3. A tall structure should be sited to the north of a short structure.

§185-87 Penalties for offenses.

Section 185-52 of the Zoning Code applies to violations of this Article.”

SECTION 3 - SEVERABILITY

If any word, phrase, sentence, part, section, subsection, or other portion of this Law or any application thereof to any person or circumstance is declared void, unconstitutional, or invalid for any reason, then such word, phrase, sentence, part, section, subsection, or other portion, or the proscribed application thereof, shall be severable, and the remaining provisions of this Law, and all applications thereof, not having been declared void, unconstitutional, or invalid, shall remain in full force and effect.

SECTION 4 - CONFLICT WITH OTHER LAWS

Where this Law differs or conflicts with other Laws, rules and regulations, unless the right to do so is preempted or prohibited by the County, State or Federal government, the more restrictive or protective of the Town and the public shall apply.

SECTION 5 - EFFECTIVE DATE

This Law shall become effective upon filing with the New York State Secretary of State.

SECTION 6 - AUTHORITY.

This Local Law is enacted pursuant to the Municipal Home Rule Law. This Local Law shall supersede the provisions of Town Law to the extent it is inconsistent with the same, and to the extent permitted by the New York State Constitution, the Municipal Home Rule Law, or any other applicable statute.

Overview

[Residential and Small Business](#)[Commercial and Industrial](#)[Community Solar](#)[Find a Commercial/Industrial Solar Installer](#)[Find a Residential/Small Commercial Solar Installer](#)[Financing Options](#)[Clean Power Estimator](#)

The NY-Sun Incentive Program

Funding is available through NY-Sun to help reduce the costs of installing solar electric (also referred to as photovoltaic, or PV) systems across New York State. Click below to learn more about how to participate in this program:

- [Residents and Small Business](#)
- [Commercial and Industrial Businesses](#)
- [Communities](#)
- [Local Government](#)
- [Find a Residential/Small Commercial Solar Installer](#)
- [Find a Commercial/Industrial Solar Installer](#)
- [Financing Options for Residential/Small Commercial](#)

Solar Electric Systems and Your Utility

Grid-tied solar electric systems convert sunlight into electricity. Solar electric panels can be either roof or ground-mounted, and connect to your existing electric service. As long as your solar electric system is connected to the utility grid, its clean electricity can be used in your home or business, or “banked” into the utility grid for later use. Through a process known as net metering, your utility will accept your excess solar power when you are producing more than you are using, and will supply you with reliable grid power when the sun is not shining. Your utility company will base your bill on the difference between your solar production and electric use.