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Abstract

Columbia Law School's Center for Climate Change Law developed the Model Small-Scale Solar Siting Ordinance, which includes several helpful solar energy system definitions. The model ordinance defines building-integrated photovoltaic (BIPV) systems as those that integrate photovoltaic modules into the building structure, such as the roof or façade, but which do not alter roof relief. The model defines freestanding or ground-mounted solar energy systems as those directly installed in the ground and not attached or affixed to an existing structure and defines rooftop or building mounted solar energy systems as those mounted on top of a structure or roof as a flush-mounted system or as modules fixed to frames that can be tilted toward the south at an optimal angle. Finally, the model ordinance defines small-scale solar as solar photovoltaic systems that produce up to ten kW per hour of energy or solar-thermal systems that serve the building to which they are attached and that do not provide energy for any other buildings.

Resource

See separate PDF below.

Model Small-Scale Solar Siting Ordinance

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1. Purpose & 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/City/Village's] current and long-term sustainability agenda.¹

C. The ordinance aims to promote the accommodation of solar energy systems and equipment and the provision for adequate sunlight and convenience of access necessary therefor.²

2. Definitions

ACCESSORY STRUCTURE

A structure, the use of which is customarily incidental and subordinate to that of the principal building and is attached thereto, and is located on the same lot or premises as the principal building.³

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.⁴

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.⁵

¹ Albany City

² Amenia Town, Auburn City, Bedford Town, Bethlehem Town, Canandaigua Town, Glennville Town, Haverstraw Town, Hewlett Neck Village, Horseheads Town, Kent Town, Kingston City, Southold Town, Southport Town

³ Clinton Town, Kingston Town.

⁴ Albion Town, Barre Town, Lackawanna City, Medina Village

⁵ Albany City

COLLECTIVE SOLAR

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

EXPEDITED REVIEW

The grant of a priority status to an application that results in the review of the application ahead of applications filed prior thereto, including applications which may be currently under review by the applicable agency.⁶

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.⁷

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.⁸

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/City/Village] authority 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.⁹

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 NYSERDA’s list of eligible installers or NABCEP’s list of certified installers

⁶ Huntington Town

⁷ *Derived from* Town of Brookhaven

⁸ Albany City

⁹ Albany City

may be deemed to be qualified solar installers if the [Town/City/Village] 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.¹⁰

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.¹¹

SMALL-SCALE SOLAR

For purposes of this Ordinance, 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.¹²

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.¹³

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.¹⁴

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,

¹⁰ Ithaca Town

¹¹ *Derived from* Albany City

¹² Albion Town, Barre Town, Dickenson Town, Le Ray Town, Madena Village

¹³ Albany City, Ithaca Town

¹⁴ *Derived from* California Solar Shade Control Act Section 801.5 (Cal. Civ. Code §801), Iowa Code § 564A

protected from unnecessary dissipation and distributed. Solar systems include solar thermal, photovoltaic and concentrated solar.¹⁵

SOLAR PANEL

A device for the direct conversion of solar energy into electricity.¹⁶

SOLAR POWER FAST-TRACK PROGRAM

A program to expedite all applications for commercial and residential solar panel installation to encourage the use of reliable and clean renewable energy.¹⁷

SOLAR STORAGE BATTERY

A device that stores energy from the sun and makes it available in an electrical form.¹⁸

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.

3. Applicability

- A. The requirements of this Ordinance shall apply to all Small Scale solar energy systems (residential, commercial, multi-family and condominium) modified or installed after the effective date of this Ordinance.
- B. Solar energy systems for which a valid permit has been properly issued or for which installation has commenced prior to the effective date of this article shall not be required to meet the requirements of this Ordinance except in accordance with §§5(D), (E) and (F).
- C. All solar energy systems shall be designed, erected and installed in accordance with all applicable codes, regulations and standards.¹⁹
- D. Solar energy 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

¹⁵ Albany City

¹⁶ Livonia Town

¹⁷ Huntington Town

¹⁸ Ithaca Town

¹⁹ Bronxville Village, Garden City Village

with New York Public Service Law § 66-j or similar state or federal statute.²⁰

4. Permitting

- A. No Small Scale solar energy system or device shall be installed or operated in the [Town/City/Village] of [] except in compliance with this article.
- B. To the extent practicable, and in accordance with [Town/City/Village] law, the accommodation of solar energy systems and equipment and the protection of access to sunlight for such equipment shall be encouraged in the application of the various review and approval provisions of the [Town/City/Village] Code.²¹
- C. Rooftop and Building-Mounted Solar Collectors: Rooftop and building mounted solar collectors are permitted in all zoning districts in the [Town/City/Village] subject to the following conditions:²²
 1. Building permits shall be required for installation of all rooftop and building-mounted solar collectors,²³ except:
 - a. A building permit shall not be required for Flush-Mounted Photovoltaic Panels.²⁴
 2. Any height limitations of the [Town/City/Village] Code shall not be applicable to solar collectors provided that such structures are erected only to such height as is reasonably necessary to accomplish the purpose for which they are intended to serve, and that such structures do not obstruct solar access to neighboring properties.²⁵
 3. Optional add-on: [Placement of solar collectors on flat roofs shall be allowed as of right in non-historic districts, provided that panels do not extend horizontally past the roofline.]²⁶

²⁰ Briarcliff Manor Village

²¹ Milton Town

²² Ithaca Town

²³ Albany City, Briarcliff Manor Village, Town of Brookhaven, Ithaca Town, Town of Southampton, Tonawanda Town

²⁴ Town of Brookhaven, Town of Southampton

²⁵ Albion Town, Albion Village, Blooming Grove Town, Medina Village, Monroe Village, North Salem Town, Nyack Village, Perry Village, Port Jervis City, Shandaken Town, Spring Valley Village, Tivoli Village, Union Town, Wheatfield Town

²⁶ Albany City

- D. Building-Integrated Photovoltaic (BIPV) Systems: BIPV systems are permitted outright in all zoning districts.
- E. 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 [Town/City/Village], subject to the following conditions:
1. Building permits are required for the installation of all ground-mounted solar collectors.²⁷
 2. The location of the solar collector meets all applicable setback requirements for accessory structures in the zoning district in which it is located.²⁸
 3. Optional add-on: [The height of the solar collector and any mounts shall not exceed [20] feet when oriented at maximum tilt.²⁹]
 4. Optional add-on: [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].³⁰
 5. Optional add-on: [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.]³¹
- F. Solar-Thermal Systems: Solar-thermal systems are permitted in all zoning districts subject to the following condition:
1. Building permits are required for the installation of all solar-thermal systems.
- G. Solar energy systems and equipment shall be permitted only if they are determined by the [Town/City/Village] not to present any unreasonable safety risks, including, but not limited to, the following:

²⁷ Briarcliff Manor Village, Erie Town, Ithaca Town,

²⁸ Albany City, Briarcliff Manor Village, Ithaca Town

²⁹ Ithaca Town

³⁰ Albany City

³¹ Briarcliff Manor Village

1. Weight load³²
 2. Wind resistance³³
 3. Ingress or egress in the event of fire or other emergency.³⁴
- H. Optional add-on: [Installations in designated historic districts as shall require a certificate of appropriateness from the [Town/City/Village's] [Historic Commission] unless such installations are not visible from the street.]³⁵

5. Safety

- A. All solar collector installations must be performed by a qualified solar installer.³⁶
- B. Prior to operation, electrical connections must be inspected by a [Town/City/Village] [Code Enforcement Officer] and by an appropriate electrical inspection person or agency, as determined by the [Town/City/Village].³⁷
- C. Any connection to the public utility grid must be inspected by the appropriate public utility.³⁸
- 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.³⁹
- 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 [Town/City/Village] and other applicable laws and regulations.⁴⁰

³² Great Neck Plaza Village

³³ Great Neck Plaza Village

³⁴ Great Neck Plaza Village

³⁵ *Derived from Albany City*

³⁶ Ithaca Town

³⁷ Ithaca Town

³⁸ Ithaca Town

³⁹ Copake Town

⁴⁰ Ithaca Town

- G. Optional add-on: [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.]⁴¹

6. Appeals

- A. If an individual is found to be in violation of the provisions of this Ordinance, appeals should be made in accordance with the established procedures of the [Town/City/Village] code.⁴²
- B. If a building permit for a solar energy device is denied because of a conflict with other goals of the [Town/City/Village], the applicant may seek relief from the [Town/City/Village] [Board of Zoning Appeals], which shall regard solar energy as a factor to be considered, weighed and balanced along with other factors.⁴³

7. Optional add-on: [Solar Panel Fast Track Program

- A. This section applies to the installation of solar panels for commercial buildings and residences.
- B. All building permit application fees for the construction and installation of solar panels on residential and non-residential buildings shall be waived.⁴⁴
- C. All building permit applications for the installation of solar panels on residential and non-residential buildings shall receive expedited review by the [Town/City/Village] [Department of Engineering Services] in order to expedite such applications and the issuance of building permits for solar panel installation.]⁴⁵

8. Optional add-on: [Zoning 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

⁴¹ Albany City, Ithaca Town

⁴² Albany City

⁴³ *Derived from* Albany City

⁴⁴ Huntington Town

⁴⁵ Huntington Town

vegetation on and off the site, and the impact of solar access to adjacent uses and properties.⁴⁶

- B. To permit maximum solar access to proposed lots and future buildings, wherever reasonably feasible, consistent with other appropriate design considerations, 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.⁴⁷ The [Town/City/Village] [Zoning Board] shall also consider the slope of the property and the nature and location of existing vegetation as they affect solar access.⁴⁸
- 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.⁴⁹
- D. When the [Planning Board/Zoning 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 [City/Town/Village] [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 [City/Town/Village] Code.⁵⁰
- 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.⁵¹ 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.⁵²

⁴⁶ Bedford Town, Bethlehem Town, Briarcliff Manor Village, Clinton Town, Kent Town, LaGrange Town, Millbrook Village

⁴⁷ Elmsford Village, Hasting-On-Hudson Village, Hewlett Bay Park Village, Millbrook Village, Town of New Castle

⁴⁸ Elmsford Village, Hasting-on-Hudson Village, Hewlett Bay Park Village

⁴⁹ Milbrook Village

⁵⁰ Ithaca Town

⁵¹ East Fishkill Town, Monroe Town, Monroe Village

⁵² Town of Southport

2. Subject to the [City/Town/Village'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.⁵³
3. A tall structure should be sited to the north of a short structure.]⁵⁴

Comment on §8

Cities/Towns/Villages should be aware that New York's Real Property Law §335-b allows for the creation of solar easements between residents who wish to negotiate for airspace rights. New York's solar easement provision is a voluntary contract which may be entered into in order to ensure uninterrupted solar access for solar energy devices. Under NY Real P. § 335-b solar easement agreements are required to contain at a minimum, information describing the easement location and the vertical and horizontal angles over which the easement extends, provisions governing the granting and termination of the easement, and provisions for compensation to either party in the event that interference occurs. Cities/Towns/Villages that wish to promote the creation of solar easements should consider adopting language supporting the same. Solar easements are beneficial in that property entitlements are clearly defined and neighbors can negotiate for compensation in the event of interference with the terms of the easement without requiring the city/town/village to be seen as prioritizing one particular use over another.

Comment on §8(D)

While it would be optimal if installed solar collectors were not subsequently blocked by a neighbors construction, landowner's possess no common law right to unobstructed sunlight.⁵⁵ Thus, laws that prevent property owners from making use of their property in ways which would block sunlight to neighboring solar collectors may be seen as seizing private airspace rights.⁵⁶ Thus, one possible resolution would be if landowners would purchase airspace easements or covenants from their neighbors.⁵⁷

Comment on §8(F):

⁵³ New Windsor Town, Southport Town

⁵⁴ New Windsor Town, Southport Town

⁵⁵ For a more detailed summary of the evolution of laws regarding rights to light, see Troy Rule, *Shadows on the Cathedral: Solar Access Laws in a Different Light*, U. Ill. L. Rev., Vol. 2010, p. 851, 865-66 (April 26, 2010) available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1466224.

⁵⁶ Troy Rule, *Airspace in a Green Economy*, University of Missouri School of Law Legal Studies Research Paper No. 2011-05, 39-44 (April 04, 2011) available at:

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1782071. [UCLA Law Review, Vol. 59, Issue 2, forthcoming 2011.](#)

⁵⁷ *Id.*

Any restrictions on construction designed to facilitate solar access should recognize that there are often numerous energy-saving and anti-sprawl benefits associated with greater urban densities (which often require greater building heights and/or more creative designing) and that solar access is only one of several considerations in planning new developments.

9. Tree Maintenance and Removal

- A. Optional add-on: [To the extent that the [City/Town/Village] has discretion regarding the removal or relocation of trees, solar access shall be a factor taken into consideration when the [City/Town/Village] determines whether trees can be removed.]⁵⁸

Comment on §9(B):

In reaching decisions on tree maintenance and removal, the [Town/City/Village] may wish to weigh solar access against other factors such as; the environmental impact of the proposed tree removal, the potential impact on erosion and drainage, the potential alternatives to the proposed action, and whether the [City/Town/Village] or private landowner will replant replacement trees of a similar or different species, or add other vegetative material, fencing or terracing, or undertake other similar measures to offset the negative effects of tree removal.

⁵⁸ *Derived from Briarcliff Manor Village, Clarence Town, Hamburg Town, New Rochelle City. See also City of Gainesville, Florida. Fl §30-254*