

SOLAR PV MODEL ZONING ORDINANCE CONNECTICUT JURISDICTIONS

ORDINANCE

Section 1. Purpose.

It is the purpose of this regulation to provide a clear regulatory system to promote the safe, effective and efficient installation and operation of solar photovoltaic (PV) systems. This Ordinance seeks to:

- 1) Provide property owners and business owners with flexibility in satisfying their on-site energy needs.
- 2) Reduce overall energy demands within the Municipality and promote clean, local energy sources.
- 3) Streamline the permitting process for solar PV systems by updating zoning regulations to explicitly address solar PV systems.
- 4) [As applicable] Support [alternately, further] the Municipality's conservation and development plan, [alternately, comprehensive plan, energy, economic development or sustainability goals].

Section 2. Definitions.

Accessory Building-Mounted Solar Photovoltaic System: A solar photovoltaic system attached to any part or type of roof on a building or structure that is either the principal structure or an accessory structure on a recorded [lot/parcel/property]. This system also includes any solar photovoltaic-based architectural elements.

Accessory Free-Standing Solar Photovoltaic System:

A free-standing solar photovoltaic system that delivers electricity primarily to a building or structure that is either the principal structure or an accessory structure on a recorded [lot/parcel/property]. This system also includes any solar photovoltaic-based architectural elements.

Accessory Structure: A structure, the use of which is customarily incidental and subordinate to that of the principal building, and is located on the same lot or premises as the principal building. [Note: Your municipality could use your existing definition of "Accessory Structure"]

Building-Integrated Solar Photovoltaic System: 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.

Passive Solar Energy Techniques: As defined in Connecticut General Statute 8-25 (b), these are site design techniques which maximize solar heat gain, minimize heat loss and provide thermal storage within a building during the heating season and minimize heat gain and provide for natural ventilation during the cooling season. The site design techniques shall include, but not be limited to: (1) House orientation; (2) street and lot layout; (3) vegetation; (4) natural and man-made topographical features; and (5) protection of solar access within the development.

Photovoltaic (PV): A semiconductor based device that converts light directly into electricity.

Principal Solar Photovoltaic System: A solar photovoltaic system that captures solar energy and converts it to electrical energy primarily for offsite use and is the primary land use of the property on which it is located. Some electricity may be used by an onsite building.

Solar Photovoltaic (PV)-based Architectural Element: Structural/architectural element that provides protection from weather that includes awnings, canopies, porches or sunshades and that is constructed with the primary covering consisting of solar PV modules, and may or may not include additional solar PV related equipment.

Solar Photovoltaic (PV) Related Equipment: Items including a solar photovoltaic cell, panel or array, lines, mounting brackets, framing and foundations used for or intended to be used for collection of solar energy.

Section 2. Definitions. (continued)

Solar Photovoltaic (PV) System: A solar collection system consisting of one or more building systems, solar photovoltaic cells, panels or arrays and solar related equipment that rely upon solar radiation as an energy source for collection, inversion, storage and distribution of solar energy for electricity generation.

Solar Thermal System: A solar collection system that directly heats 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.

Section 3. Applicability.

- 1) This Ordinance applies to Accessory Building-Mounted Solar Photovoltaic (PV) and Accessory Free-Standing Solar PV Systems modified, upgraded or installed after the effective date of the Ordinance. This Ordinance does not apply to Solar Thermal Systems or Principal Solar Photovoltaic Systems, as defined by this Ordinance.
- 2) Solar Photovoltaic systems installed before the effective date of this Ordinance are not required to meet the requirements of this Ordinance.
- 3) Elements of this Ordinance are effective as of the effective date of this Ordinance unless another date is otherwise specified.
- 4) Any upgrades, modifications or changes to an existing solar energy system that significantly alter the size or placement of the structure must comply with the requirements of this ordinance.

Section 4. Permissible Zoning Districts.

Accessory Building-Mounted and Free-Standing Solar PV Systems are permissible in all zoning districts as an accessory use to any lawfully permitted principal use on the same [lot/parcel/property] upon issuance of the proper permit pursuant to [Section/Article] and upon compliance with all requirements of this section and as elsewhere specified in this Ordinance. Building-Integrated Solar Photovoltaic Systems that are integrated into the roof or the façade of a structure, and which do not alter the relief of the roof, are permitted outright in all zoning districts.

Section 5. Location Within a Lot/Parcel/Property.

Accessory Building-Mounted Solar PV Systems are permitted to face any rear, side or front yard. Accessory Building-Mounted Systems may only be mounted on lawfully constructed principal or accessory structures. Free-Standing Solar Photovoltaic Systems are permitted within the lot’s buildable area as determined by the solar PV specific setbacks defined in Section 9 of this ordinance.

Section 6. Design and Installation Standards.

- 1) Solar PV Systems must be installed to comply with all State of Connecticut codes and regulations.
- 2) The installation of all solar PV systems must comply with the National Electrical Code, most recent edition, as adopted and amended by the State of Connecticut.
- 3) The installation of any solar PV system is subject to local electric public utility requirements for interconnection to the electrical distribution system. All interconnections shall comply with the applicable regulations established by the agency having jurisdiction.

Section 7. Village or Historic Districts.

In the case of an installation in a village or historic district, no application for a certificate of appropriateness for an exterior architectural feature, such as a solar energy system, designed for the utilization of renewable resources shall be denied unless the commission finds that the feature cannot be installed without substantially impairing the historic character and appearance of the district. ⁵⁶

⁵⁶ <http://www.cga.ct.gov/2011/pub/chap097a.htm#Sec7-147f.htm>

Section 8. Height Restrictions.

Accessory Building-Mounted Solar PV Systems shall be exempt from height restrictions pertaining to the principal structure so that the height of the rooftop solar PV system does not contribute to the total height of the principal structure [Alternatively, rooftop solar PV systems will not extend more than “X” feet from the highest point above the roof surface.⁵⁷]

Accessory Free-Standing Solar PV Systems will not exceed 35' in height.⁵⁸

Section 9. Setback Requirements

Accessory Building-Mounted Solar PV Systems are exempt from zoning setbacks. Accessory Roof-Mounted Solar PV Systems will not extend beyond the edges of the roof on which they are mounted.

Accessory Free-Standing Solar PV Systems are exempt from front, rear and side lot setbacks. [Alternatively, standalone solar PV systems will maintain a 1-3 foot setback from the property line at minimum design tilt.]

Section 10. Lot Coverage

The surface area of Accessory Free-Standing Solar PV Systems will be exempt from contributing to the calculation of overall lot coverage.

Section 11. Impervious Surface

The surface area of Accessory Free-Standing Solar PV Systems will be exempt from contributing to the calculation of overall impervious surface coverage. [Alternatively, only the footings⁵⁹ of Accessory Free-Standing Solar PV Systems will contribute to the calculation of overall impervious surface coverage.]

Section 12. Subdivision developments

Developers proposing new subdivisions must demonstrate to the municipality that the use of Passive Solar Energy Techniques was considered in the development of the subdivision plan.⁶⁰ To fulfill this requirement, developers are required to submit to the Municipality the completed “Solar Site Design Worksheet for a Proposed Subdivision” which is provided as a stand-alone document in the CT Rooftop Solar PV Permitting Guide tab on the Sun Rise New England website, www.energizect.com/sunriseNE [Alternatively, the relevant form can be obtained from the municipality — the municipality should specify how to access it.]

⁵⁷ While most residential rooftop solar PV systems do not extend more than 18' above the roof, systems can often extend higher on flat roofs.

Suggested restrictions are six feet above the highest point of roof surface for residential rooftop systems and 15 feet for commercial rooftop systems.

⁵⁸ Ideally, there would be no height restrictions placed on standalone solar PV systems. If a municipality is set on having a height restriction, the higher the better, so as not to prevent the installation of solar PV. However, a municipality could include different height restrictions depending on the density of the zone, or overlay district. Suggested height limits are 30-35' for pole-mounted and 20-25' for ground-mounted systems. Limiting the height of a standalone system may reduce a system's efficiency and its ability to collect sunlight. In some cases these type of limitations can make a proposed PV system not economically viable.

⁵⁹ “Footings” refers to the structural components of the solar energy system that make contact with the ground, as opposed to the entire extent of the above ground surface.

⁶⁰ Connecticut General Statute 8-25 (b) requires subdivision development regulations to “encourage energy-efficient patterns of development and land use, the use of solar and other renewable forms of energy, and energy conservation” and “requires any person submitting a plan for a subdivision to... demonstrate to the commission that such person has considered, in developing the plan, using passive solar energy techniques.”

<http://www.cga.ct.gov/2011/pub/chap126.htm#Sec8-25b.htm>