

SWWP Model Zoning Ordinance

Wind Energy Conversion Systems

Section 1 Intent.

In order to balance the need for clean, renewable energy resources and the necessity to protect the public health, safety and welfare of the community, the {city/state} finds these regulations are necessary to ensure that wind energy conversion systems are appropriately designed and safely sited and installed.

This ordinance establishes the regulations and criteria which allow compatible accessory uses to be located within the various land use districts. Unless otherwise provided, all accessory uses are subject to the same regulations as the sponsoring primary use.

Section 2 Definitions.

Residential Wind Energy System: A wind energy conversion system consisting of a wind turbine, tower, and associated control or conversion electronics, which has a rated capacity of not more than 10 kW and which is intended to primarily reduce on-site consumption of utility power. A system is considered a residential wind energy system only if it supplies electrical power solely for on site use, except that when a parcel on which the system is installed also receives electrical power supplied by a utility company, excess electrical power generated and not presently needed for on site use may be used by the utility company.

Tower: The vertical component of a wind energy conversion system that elevates the wind turbine generator and attached blades above the ground. Installed by factory trained authorized dealer.

Section 3 Regulations.

Residential wind energy systems shall be a permitted use in all zoning classifications where structures of any sort are allowed; subject to certain requirements as set forth below:

Tower height: For property sizes between ½ acre and one acre the tower height shall be limited to 100 feet and/or 20 feet above tree line. For property sizes of one acre or more, there is no limitation on tower height, except as imposed by FAA regulations. Must meet A.A.S.H.T.O. Engineering standards for wind zone location.

Clearance of Blade: No portion of the residential wind energy system shall extend within twenty feet of the ground. No blades may extend over parking areas, driveways or sidewalks.

Set-back: No part of the wind system structure, including guy wire anchors, may extend closer than ten feet to the property boundaries of the installation site. Set backs for the system tower shall be no farther from the property line than the height of the system, provided that it also complies with any applicable fire setback requirements.

Automatic Overspeed Controls: All wind energy conversion systems shall be equipped with manual (electronic or mechanical) and automatic over speed controls to limit the blade rotation speed to within the design limits of the residential wind energy system.

Sound: Residential wind energy systems shall not exceed 60 dBA, as measured at the closest neighboring inhabited dwelling. The level, however, may be exceeded during short-term events such as utility outages and/or severe wind storms.

Approved Wind Turbines: Residential wind turbines must be approved under an Emerging Technology program such as the California Energy Commission, IEC or any other small wind certification program recognized by the American Wind Energy Association (AWEA) or the U.S. Department of Energy. Non-certified residential wind turbines must submit a description of the safety features of the turbine prepared by a registered mechanical engineer.

Compliance with Uniform Building Code: Building permit applications for residential wind systems shall be accompanied by standard drawings of the wind turbine structure, including the tower, base and footings. An engineering analysis of the tower showing compliance with the Uniform Building Code and certified by a licensed professional engineer shall also be submitted. This analysis is frequently supplied by the manufacturer. Wet stamps shall not be required.

Compliance with FAA Regulations: Residential wind energy systems must comply with applicable FAA regulations, including any necessary approvals for installations close to airports.

Compliance with National Electric Code: Building permit applications for residential wind energy systems shall be accompanied by a line drawing of the electrical components in sufficient detail to allow for a determination that the manner of the installation conforms to the National Electrical Code. This information is frequently supplied by the manufacturer.

Utility Notification: No residential wind energy system shall be installed until evidence has been given that the utility company has been informed of the customer's intent to install an interconnected customer-owned generator. Off-grid systems shall be exempt from this requirement.

PERMITTING OF SMALL WIND TURBINES: A CHECKLIST

A summary of basic steps for obtaining a permit for a small wind turbine in California¹⁸

1. Contact your county planning department or permitting agency.

- Find out if small wind energy systems are addressed by local ordinance and, if so, get a copy of the ordinance. (If not, see 2 below.)
- Learn the relevant permitting procedures.
- Ask what documents you'll need. Are you required to submit plans from a consulting engineer, or will documentation from the turbine manufacturer or dealer do?

2. Review the applicable standards and restrictions.

In California, if small wind energy systems are not specifically addressed by local ordinances in your area, or if local ordinances have not been brought into compliance with AB 1207, then your small wind turbine is an allowable use, subject to the provisions of the *California Government Code*, Section 65892.13(f), which sets the following restrictions:

- Minimum parcel size:** One acre; must be outside an "urbanized" area unless otherwise specified.
- Minimum allowable tower height:** Up to 65 feet must be allowed on parcels 1-5 acres; up to 80 feet must be allowed on parcels of five acres or more. Taller towers are not prohibited by state law.

- Setback:** No part of the system, including guy wires, may be closer than 30 feet to the property boundary. (The installation must also comply with fire setbacks established by Section 4290 of the Public Resources Code.)

- Noise levels:** Must not exceed 60 dB(A) during normal operation, as measured from the closest neighboring inhabited dwelling.

- Equipment:** Contact the California Energy Commission for a list of certified small wind turbines¹⁹ and for recognized national certification programs.

- Building code compliance:** Standard drawings and an engineering analysis of the tower are required showing compliance with the Uniform Building Code or the California Building Standards Code and certification by a licensed professional engineer. "Wet stamps" are not required.

- Electric code compliance:** Requires line drawings of system electrical components showing sufficient detail to determine that installation conforms to the National Electric Code.

18. Many permit requirements are not applicable in certain California counties or outside the state. For recommended practices, see "Do's & Don'ts" and AWEA's model zoning ordinance, pages 27-29.

19. www.consumerenergycenter.org/erp rebate/equipment.html

A CHECKLIST

Federal Aviation Administration requirements:

Installations close to airports (within 10,000 to 20,000 feet of runways) may require prior FAA notification. (See "Air Traffic", p. 16.)

- Other siting restrictions:** Small wind energy systems may be subject to local restrictions adopted pursuant to state legislation establishing coastal areas, scenic highway corridors, or other specially designated areas.

3. For California grid-connected systems:

- Notify utility:** You may need to show your permitting agency that you have notified the utility of your intent to install an interconnected wind generator.

Reserve an Energy Commission rebate:

Reserve your rebate prior to installation by submitting a Reservation Request Form and required supporting documentation to the Energy Commission.²⁰ Once your rebate reservation is accepted, you have up to nine months to install your (10 kW or smaller) system.

- Interconnection agreement:** The state's investor-owned utilities (SDG&E, PG&E, SCE) have simplified, consumer-friendly interconnection agreements. Utilities are required to process net metering applications within one month.²¹

20. See: www.consumerenergycenter.org/erprebate/forms.html

21. For more information see: www.awea.org/smallwind/california.html

4. Notify your neighbors.

- Counties may not require notice of an application to install a small wind turbine to property owners beyond 300 feet from the proposed site. (See "Communicating with Neighbors," p. 11.)

5. Comply with permitting requirements.

Permitting requirements, procedures, and fees vary widely among counties.

- Building permit, use permit, zoning permit, or "plot plan" fees can range from less than \$100 to \$1600.
- Other costs for public notification, hearings, or environmental impact studies may range from a few hundred to several thousand dollars.
- If a particular fee seems excessive or inappropriate for your situation, find out the basis for the fee. You may be able to avoid it or have it reduced. (See "County Staff Make Way for Small Wind," p. 27.)
- To be eligible for an Energy Commission rebate, your system must be installed by a licensed California contractor possessing an active "A," "B," "C-10," or "C-46" (photovoltaic system) license.
- Obtain a final inspection sign-off prior to claiming your rebate. Net metering provisions take effect when the permit is obtained or the wind turbine begins operation.