

Small Wind Energy Electrical Conversion Systems (WEECS)

Small-Scale Wind Energy Systems consisting of a single turbine should be a permitted as-of-right accessory use throughout the community. The intent of this Article is to encourage the development of small wind energy systems and to protect the public health, safety, and community welfare.

This Article regulates and provides standards for Small Wind Energy Conversion Systems (WEECS) designed for on-site home, farm, and commercial use, and that are primarily used to reduce on-site consumption of public utility generated and distributed electricity.

This shall apply only to windmills involved in electricity generation.

Section 1 Development Standards

All Small WEECS shall comply with all the following standards.

Plans for the installation shall be approved by the Town planning department prior to installation.

1) **Appropriate Locations.** This may include agricultural, residential, commercial/industrial, and public property class designations. Parcels should be at least a 2 acre circle free of human occupied structures and property lines.

2) **Areas deemed inappropriate** include Unique natural areas (UNAs), slopes >15%, Important Bird Areas, Publicly owned open space, Critical Environmental Areas, Airport approach and clear zones, and Cornell natural areas. Any proposed installations in such areas will require a special use permit.

3) **Setbacks.** Setbacks for Small-Scale Wind Energy Systems from lot lines should be the total height of the installation plus 10 feet, unless the affected adjoining property owner agrees otherwise in writing. This setback should be measured from the center of the tower.

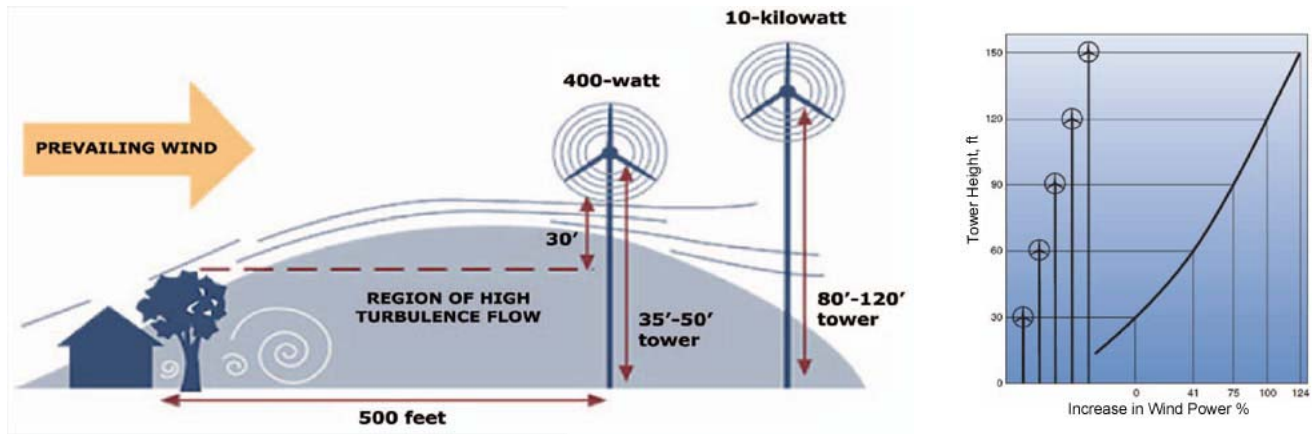
4) **Location on a Property.** In residential zoning districts, Small-Scale Wind Energy Systems should be located in the side or rear yards, to the extent practical.

5) **Only one Small WEECS** (or, where authorized, a temporary wind measurement tower) per lot shall be allowed. Adjoining lots shall be treated as one lot for purposes of this limitation. More than one Small WEECS per lot may be allowed if the applicant adequately demonstrates that the electrical or mechanical power needs of the individual user exceed the power generation capability of one WEECS; for this a Special Use Permit will be required.

6) **Small WEECS** shall be used primarily to reduce the on-site consumption of public utility-provided electricity, or as a primary source of electricity when the applicant is not connected to the electricity grid.

7) **The maximum turbine power output** is limited to 25 kW unless the applicant demonstrates to the reasonable satisfaction of the Town Board that a larger turbine is necessary to meet the historical and/or projected energy needs of the applicant. The applicant shall submit documentation via a Special Use Permit application supporting the increased turbine size including copies of electrical bills, an energy audit or electrical power requirements of any new or proposed equipment.

8) **Tower Height:** A tall tower is the single most important factor in the economic viability of a small wind system. Tall towers enable turbines to access faster in better quality winds, and even small increases in wind speed translate to exponentially more energy the turbine can generate. In other words, a taller tower means far more – and cheaper – energy. It is recommended but not required that the bottom of the turbine rotor should clear the highest wind obstacle (rooftop, mature tree, etc.) within a 500 foot radius by at least 30 feet. Tower heights shall be limited to a maximum of 150 feet.



9) The allowed height shall be reduced if necessary to comply with all applicable Federal Aviation Requirements, including Subpart B (commencing with Section 77.11) of Part 77 of Title 14 of the Code of Federal Regulations regarding installations close to airports.

10) The sound level at the closest place of human residence or frequent occupancy not owned by the person shall not exceed twice the local ambient noise level, or 3dB above the ambient level. [This will differ with location. In quiet rural areas ambient level is about 30 dB, which is the rustling of leaves, whereas next to a highway (which can be 70-80 dB) or in a commercial area, 50 dB (equivalent to a living room in an suburban area) would be reasonable.]

Quiet suburb, conversation at home.	50dB
Library, bird calls (44 dB); lowest limit of urban ambient sound	40dB
Quiet rural area.	30dB

Note: Doubling the sound level = +3dB
 Doubling the distance from the source = -6dB

11) The system's tower and components shall be painted a non-reflective, unobtrusive color that blends the system and its components into the surrounding landscape to the greatest extent possible and incorporate non-reflective surfaces to minimize any visual disruption.

12) The system shall be designed and located in such a manner to minimize adverse visual impacts from public viewing areas (e.g., public parks, roads, trails) and from adjacent properties.

14) Exterior lighting on any structure associated with the system shall not be allowed except that which is specifically required by the Federal Aviation Administration.

15) All on-site electrical wires associated with the system shall be installed underground except for "tie-ins" to a public utility company and public utility company transmission poles, towers and lines. This standard may be modified by the Town Board if the project terrain is determined to be unsuitable due to reasons of excessive grading, biological impacts, or similar factors.

16) The system shall be operated such that no disruptive electromagnetic interference is caused. If it has been demonstrated that a system is causing harmful interference, the system operator shall promptly mitigate the harmful interference or cease operation of the system.

17) At least one sign shall be posted on the tower at a height of five feet warning of electrical shock or high voltage and harm therefrom. No brand names, logo or advertising shall be placed or painted on the tower or components where it would be visible from the ground, except that a system or tower's manufacturer's logo may be displayed on a system housing or the fantail in an unobtrusive manner.

- 18) Towers shall be constructed to provide one of the following means of access control, or other appropriate method of access:
- Tower-climbing apparatus located no closer than 12 feet from the ground.
 - A locked anti-climb device installed on the tower.
 - A locked, protective fence at least six feet in height that encloses the tower.
- 19) Anchor points for any guy wires for a system tower shall be located within the property that the system is located on and not on or across any above-ground electric transmission or distribution lines. The point of attachment for the guy wires shall be enclosed by a fence six feet high or sheathed in bright orange or yellow covering from three to eight feet above the ground.
- 20) The minimum height above the ground of the lowest part of the wind turbine blade shall be at least 15 feet.
- 21) All Small WEECS tower structures shall be designed and constructed to be in compliance with applicable provisions of the New York State Uniform Fire Prevention Building Code, National Electric Code and generally accepted engineering practices.
- 22) All Small WEECS shall be equipped with manual and automatic over-speed controls and emergency shutoff controls. The conformance of rotor and over-speed control design and fabrication with good engineering practices shall be certified by the manufacturer.
- 23) No WEECS shall be so constructed or operated so as to create artificial habitat for raptors or raptor prey. Electrical boxes, perching opportunities, etc., shall to the maximum extent practicable be minimized.
- 24) A Small WEECS shall not be located closer to any adjacent property's line, right of way, easement, public highway or power line than the Total Height of the facility plus ten feet.
- 25) Small WEECS shall be set back at least 1,000 feet from any Important Bird Area as identified by New York Audubon and from State-listed wetlands. The Town Board may consider applications for Small WEECS within 1,000 feet of an Important Bird Area or State-listed wetland upon a recommendation from the Conservation Board.
- 26) All Small WEECS shall be maintained in good operational condition in accordance with the manufacturer's specifications and all requirements of this section. A person should be available to shut down the wind turbine within 12 hours in case of a dangerous or high-noise malfunction. The local fire department or other alternative agency shall be provided, at installation, with the means of shutdown.

Section II Special Use Permits

Should the proposed installation **not** meet all of the above requirements the Small Wind Energy Conversion System may be permitted upon issuance of a Special Use Permit by the Town Board.

Applications for Small WEECS Special Use Permits shall include:

- Name, address, telephone number of the applicant. If the applicant will be represented by an agent, the name, address and telephone number of the agent, as well as an original signature of the applicant authorizing the agent to represent the applicant is required.
- Name, address, telephone number of the property owner. If the property owner is not the applicant, the application shall include a letter or other written permission signed by the property owner (i) confirming that the property owner is familiar with the proposed applications and (ii) authorizing the submission of the application.

3. The names and mailing addresses of all owners of all property adjacent to the proposed tower Site and/or within 500 feet of the proposed tower Site.
4. Address of each proposed tower Site, including tax map parcel number.
5. Evidence that the proposed tower height does not exceed the height recommended by the manufacturer or distributor of the system.
5. A completed Short Environmental Assessment Form (EAF) and a Visual EAF Addendum.

The Board may require submission of a more detailed visual analysis based on the results of the Visual EAF Addendum including a computerized photographic simulation, demonstrating the visual impacts from nearby strategic vantage points. The visual analysis shall also indicate the color treatment of the system's components and any visual screening incorporated into the project that is intended to lessen the system's visual prominence.

- 6 Applicants must have a pre-application conference with the Town Code Enforcement Officer to address the scope of the required visual assessment.