TOWN OF WINDHAM

SMALL WIND ENERGY ORDINANCE

CHAPTER 145

From the

CODE

of the

TOWN OF WINDHAM

Adopted

April 27, 2010

Effective

May 25, 2010

COUNTY OF CUMBERLAND

STATE OF MAINE

A. Purpose:

The purpose of the Ordinance is to facilitate the installation, construction, and maintenance of all types of small wind energy systems in the Town of Windham, including vertical and horizontal axis tower mounted systems, and vertical and horizontal axis building mounted systems, subject to restrictions, which will preserve the public health, safety, and welfare.

B. Definitions:

Customer Net Energy Billing Agreement. The contract between the owner of a small wind energy system and the electrical utility provider that outlines requirements for metering, billing, and connection to the power grid.

Hobby Small Wind Energy System. A wind energy conversion system consisting of a wind generator, a tower, and associated control or conversion electronics that generates less than 1 kilowatt, is not connected to the Power Grid, and has a system height of less than 35 feet. Hobby Small Wind Energy Systems require a building permit from the Code Enforcement Officer, and are exempt from all provisions of the Small Wind Energy Ordinance except D.2.a, D.2.c., and D.2.g.

Meteorological tower (met tower). Includes the temporary tower, base plate, anchors, guy wires and hardware, anemometers (wind speed indicators), wind direction vanes, booms to hold equipment for anemometers and vanes, data loggers, instrument wiring, and any telemetry devices that are used to monitor or transmit wind speed and wind flow characteristics over a period of time for either instantaneous wind information or to characterize the wind resource at a given location. For the purpose of this ordinance, met tower shall refer only to those whose purpose is to analyze the environmental factors needed to assess the potential to install, construct or erect a small wind energy system.

Modification. Any change to the small wind energy system that materially alters the size, type or location of the small wind energy system. Like-kind replacements shall not be construed to be a modification.

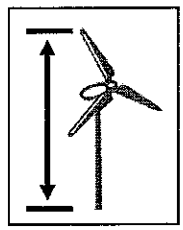
Net Metering. The difference between the electricity supplied to a customer over the electric distribution system and the electricity generated by the customer's small wind energy system that is fed back into the electric distribution system over a billing period.

Power Grid. The transmission system, managed by ISO New England, created to balance the supply and demand of electricity for consumers in New England.

Small Wind Energy System (SWES). A wind energy conversion system consisting of a wind generator, a tower, and associated control or conversion electronics, which has a rated generation capacity up to 100 kilowatts (kW) and will be used primarily for onsite consumption. A SWES may be partially or totally off-grid or may be power grid tied to

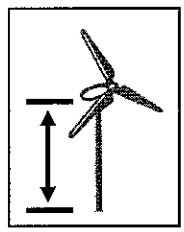
allow for the purchase of electricity from the local utility or allow excess electricity produced by the SWES to be used by the utility.

System Height. The vertical distance from ground level to the tip of the wind generator blade when it is at its highest point.



Tower. The monopole, guyed monopole or lattice structure that supports a wind generator.

Tower height. The height above grade of the fixed portion of the tower, excluding the wind generator.



Wind generator. The blades and associated mechanical and electrical conversion components mounted on top of the tower whose purpose is to convert kinetic energy of the wind into rotational energy used to generate electricity.

C. Procedure for Review:

1. Approval: SWES and Met Towers are an accessory use permitted in all zoning districts where structures of any sort are allowed. A building permit shall be required for any new and any physical modification to an existing SWES.

2. No Met Tower or SWES shall be erected, constructed, or installed without first receiving approval from:
   a. the Code Enforcement Officer (CEO) for a Met Tower, and for SWES that has a rated generation capacity below 20kw, and a System Height of less than 100 feet;
   b. the Planning Board if the SWES has a rated generation capacity in the range from 20kw to 100kw, or a System Height from 100 feet up to 120 feet, regardless of the rated generation capacity of the system.

3. Application: Applications submitted to the CEO or Planning Board, as appropriate, shall contain:

   a. A site plan with the following information:

      i) Property lines and physical dimensions of the applicant's property and abutters property.

ii) Location, dimensions, and types of existing major structures on the property and abutters property.

iii) Location of the proposed small wind energy system, foundations, and associated equipment, along with setback requirements as outlined in this ordinance.

iv) Tower foundation blueprints or drawings. The applicant shall submit structural drawings of the Tower foundation and anchoring system that have been prepared either:
   a. by the SWES or tower manufacturer, or
   b. in accordance with the manufacturer's specifications, or
   c. by a Maine-licensed professional engineer (plans must include stamp)

v) Tower blueprints or drawings.

vi) The location of any right-of-way for a public or private road that is contiguous with the property.

vii) The location of any utility easements.

b. The following exhibits:

i) SWES specifications, including manufacturer, model, rotor diameter, tower height, system height, tower type, nameplate generation capacity. Also include the estimated generation capacity based on average annual wind speed at the site based on meteorological tower data or as estimated using data from the U.S Department of Energy or another acceptable source.

ii) A signed copy of a Customer Net Energy Billing Agreement between the applicant and the electric utility provider for a SWES that will be connected to the Power Grid.

iii) Sound level analysis prepared by the wind generator manufacturer or qualified engineer.

iv) Electrical components in sufficient detail to allow for a determination that the manner of installation conforms to the National Electrical Code.

v) Evidence demonstrating that a proposed SWES that will be installed on a structure meets the manufacturer's installation guidelines.

vi) Evidence of compliance or non-applicability with Federal Aviation Administration requirements.

4. Public Notification:
   a. For Met Towers and SWES with a rated generation capacity up to 20kw and a System Height less than 100 feet, the Code Enforcement Officer shall notify all property owners of abutting properties by certified mail upon determining the application complete. The Code Enforcement officer shall not issue any required permits for a SWES or Met Tower until fifteen (15) days after the date that the required notice was sent to all abutting property owners.
   b. For SWES with a rated generation capacity between 20kw and 100kw or a System Height from 100 feet up to 120 feet, the Planning Department shall notify all property owners within five-hundred (500) feet from the proposed location of the tower by certified mail upon determining the application is complete.

5. Public Hearing: Each application to the Planning Board for a SWES will be scheduled for a public hearing. The public hearing may be scheduled for the first Planning Board meeting at which the application is reviewed.

D. Standards:

1. Met Towers
   a. No person or entity shall construct a met tower without first receiving a building permit from the CEO.
   b. Maximum tower height is 120 feet.
   c. A Met Tower is allowed for up to 1 year from date of building permit and must be removed at the end of that period.

2. The CEO or Planning Board shall evaluate the SWES application for compliance with the following standards:

   a Setbacks: The setback shall be 1.1 times (110%) the System Height, measured from the center of the tower base to property line, any public or private rights of way, parking areas for non-residential uses, any utility easements, or other SWES.

      i) SWES must meet all setbacks for principal structures for the zoning district in which the system is located.

      ii) In the shoreland zones, tower setbacks are measured from the 100 foot setback line from the protected resource.

iii) Guy wires used to support the tower may be exempted from the SWES setback requirements. See Section E. – Waivers.

iv) Abutting property owners may grant easements to allow SWES closer than 110% setback. See Section E - Waivers.

b. Tower: The purpose of setting a maximum System Height is to protect abutting property owners and minimize visual impacts, while still allowing SWES owners to reach heights that allow efficient operation of the system.

i) System Height shall not exceed 120 feet.

ii) Only monopole style towers will be allowed.

c. Sound Level: The SWES shall meet the Noise Standards in Section 812.S. of the Windham Land Use Ordinance.

d Signs: All signs including flags streamers and decorative items, both temporary and permanent, are prohibited on the SWES, except for manufacturer identification or appropriate warning signs.

e. Code Compliance: The SWES shall comply with all applicable sections of the National Electrical Code and the current Town of Windham building code.

f. Aviation: The SWES shall be built to comply with all applicable Federal Aviation Administration regulations including but not limited to 14 C.F.R. part 77, subpart B regarding installations close to airports.

g. Visual Impacts: It is inherent that SWES may pose some visual impacts due to the system height needed to access wind resources. The purpose of this section is to reduce the visual impacts, without restricting the owner's access to the optimal wind resources on the property.

i) All electrical conduits shall be underground.

ii) The color of the SWES shall either be the stock color from the manufacturer or painted with a non-reflective, unobtrusive color.

iii) A SWES shall not be artificially lit unless such lighting is required by the Federal Aviation Administration (FAA). If lighting is required, the applicant shall provide a copy of the FAA determination to establish the required markings and/or lights for the small wind energy system.

h. Approved Wind Generators: The manufacturer and model of the wind generator to be used in the proposed SWES must have been approved by the California Energy Commission or the New York State Energy Research and Development Authority, or a similar list approved by the state of Maine, if available.

i. Utility Connection: If the proposed small wind energy system is to be connected to the power grid through net metering, it shall adhere to Maine Public Utilities Commission Rules, including Chapter 313.

j. Access: The tower shall be designed and installed so as not to provide step bolts or a ladder readily accessible to the public for a minimum height of 15 feet above the ground. Lattice or guyed towers shall have no climbable features within 15 feet of the ground. All ground-mounted electrical and control equipment shall be labeled and secured to prevent unauthorized access.

k. Moving parts: A tower mounted SWES will not have moving parts, including blades, within 25 feet of the ground. Building mounted SWES will not have moving parts, including blades, within 15 feet of the ground.

l. Clearing: Clearing of natural vegetation shall be limited to that which is necessary for the construction, operation and maintenance of the small wind energy system and as otherwise prescribed by applicable laws, regulations, and ordinances, including the Shoreland Zoning Ordinance.

m. Rotor controls: The conformance of rotor and over-speed control design and fabrication with good engineering practices shall be certified by the manufacturer.

n. Multiple Towers: Multiple towers will be permitted on a single parcel of land, provided that setback standards can be met, and the total rated capacity of the turbines does not exceed 100 kW.

E. Waivers

Applicants may request waivers from the following performance standards:

1. Tower style: The CEO or Planning Board, as appropriate, may approve tower styles other than monopole towers if the applicant can demonstrate that a monopole tower is not best suited for their location.

2. Setbacks: The CEO or Planning Board, as appropriate, may approve Small Wind Energy Systems closer to property lines than 110% of the total System Height, provided that the applicant acquires an easement on abutting property or properties that are within the area of 110% the system height.

F. Abandonment:

1. Upon abandonment or discontinuation of use, the owner shall physically remove the small wind energy system within 90 days from the date of abandonment or discontinuation of use. This period may be extended at the request of the owner and at the discretion of the Code Enforcement Officer. "Physically remove" shall include, but not be limited to:

    a. Removal of the wind generator and tower and related above-grade structures.

    b. Restoration of the location of the small wind energy system to its natural condition, except that any landscaping, grading or below-grade foundation may remain in its same condition at initiation of abandonment.

2. Owners of SWES must submit to the CEO proof that the system is still operating on an annual basis.
    a. For SWES that are connected to the power grid, owners must submit a single monthly statement from the electrical utility provider to the Code Enforcement Office once a year from the date of approval to prove that the system is operating.
    b. For SWES that are not connected to the power grid, owners must submit some other evidence that the system is operational.

3. In the event that an applicant fails to provide the proof required in subsection 2, the system shall be considered abandoned or discontinued if the system is out-of-service for a continuous 12-month period. After the 12 months of inoperability, the Code Enforcement Officer may issue a Notice of Abandonment to the owner of the SWES. The owner shall have the right to respond to the Notice of Abandonment within 30 days from the date of the Notice. After review of the information provided by the owner, the Code Enforcement Officer shall determine if the SWES has been abandoned. If it is determined that the SWES has not been abandoned, the Code Enforcement Officer shall withdraw the Notice of Abandonment and notify the owner of the withdrawal.

4. The CEO's determination of abandonment may be appealed to the Zoning Board of Appeals, as an administrative appeal, in accordance with Section 1105 of the Town's Land Use Ordinance.

5. If the owner fails to respond to the Notice of Abandonment or if, after review by the Code Enforcement Officer, it is determined that the SWES has been abandoned or discontinued, the owner of the SWES shall remove the wind generator and tower at the owner's sole expense within 3 months of receipt of the Notice of Abandonment. If the owner fails to physically remove the SWES after the Notice of Abandonment procedure, the Code Enforcement Officer may pursue legal action to have the SWES removed at the owner's expense.

G. Fee Schedule:

CEO Review = $200.00, plus mailing costs
Planning Board Review = $400.00, plus mailing costs

H. Violation:

It is unlawful for any person to construct, install, or operate a SWES that is not in compliance with this ordinance. Any SWES installed prior to the adoption of this ordinance are exempt from this ordinance except when modifications are proposed to the SWES.

I. Enforcement and Penalties:

Any person who fails to comply with any provision of this ordinance or a building permit issued pursuant to this ordinance shall be subject to enforcement and penalties in accordance with Title 30-A M.R.S.A §4452.