

**AN ORDINANCE TO AMEND THE TORCH LAKE TOWNSHIP
ZONING ORDINANCE TO ADD CHAPTER III C: WIND
ENERGY CONVERSION SYSTEMS (WECS), AND AMEND
CHAPTER XXIII: DEFINITIONS, RESPECTIVELY.**

TORCH LAKE TOWNSHIP HEREBY ORDAINS:

Section 1. Addition to Chapter III.

Chapter III of the Torch Lake Township Zoning Ordinance is hereby amended by adding a new Chapter III C to read in its entirety as follows:

Chapter III C - Small Wind Energy Conversion Systems (WECS)

- A. **Intent.** It is the purpose of this Chapter to promote the safe, effective, and efficient use of small wind energy conversion systems (WECS) installed to enable the on-site production of electricity.
- B. **Regulations.** Small WECS are a permitted use in any district if they meet the standards and regulations of this Chapter.
1. **Small WECS Height.** Small WECS total height shall be limited to one-hundred and ten (110) feet. For the purposes of this Chapter, total small WECS height shall be measured from the average grade at the base of the small WECS tower or building (for building-mounted WECS) to the top of the small WECS blade when the tip is at its highest point.
 2. **Increase in Allowable Small WECS Height.** The Zoning Administrator may allow for an increase in allowable small WECS height by up to an additional thirty (30) feet where site conditions dictate, impact on neighboring properties is minimal, and all other requirements of this Chapter are met, including the setback provisions.
 3. **Small WECS Setback.** Small WECS towers setbacks shall be the fall zone. Fall zone setbacks shall be measured from the proposed tower location to all adjoining property lines (unless written permission is granted from the

affected land owner or neighbor), adjacent right-of-ways (public or private, unless written permission is granted by the governmental entity with jurisdiction over the road), and any overhead utility lines (unless written permission is granted by the effected utility). No part of the small WECS, including guy wire anchors, may extend into any required setback.

4. **Small WECS Location.** In addition to the setback requirements above, a small WECS shall meet all location standards for an accessory building found under Section 2.06 Accessory Building.
5. **Noise.** The applicant shall provide evidence that a small WECS will not cause sound in excess of 60 dB (A-scale) as measured at any property line.
6. **Electrical Wires.** Other than the wires necessary to connect the wind generator to the tower wiring, lightning protection, tower guy wires and wiring affixed to the tower itself, all wires shall be placed in conduit and located underground as required by the Antrim County Building Inspections Department.
7. **Additional WECS.** Up to three (3) small WECS may be permitted at a single parcel of land if all other requirements of this Chapter and the Torch Lake Township Zoning Ordinance are met, and the electric generation capacity of all small WECS on the site does not exceed a total of thirty (30) kilowatts (kW).
8. **Approval Required.** Small WECS shall obtain all permits required from the Antrim County Building Inspections Department. The applicant shall demonstrate to the Torch Lake Township Zoning Administrator that all components of the proposed WECS meets all applicable safety standards and is UL certified.
9. **Utility Notification.** No small WECS intended to be connected to the grid 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. Small WECS that connect to the electric utility shall comply with the Michigan Public Service Commission's "Rules for Interconnecting Distributed Generation Facilities." Off-grid small WECS shall be exempt from this requirement.
10. **Shadow Flicker.** The applicant shall provide evidence to demonstrate that no shadow flicker will fall on adjacent properties, ingress or egress easements or transportation right-of-ways. (Shadow flicker calculators may be found online, e.g. www.windpower.org/en/tour/env/shadow.index.htm.)
11. **Signs.** All signs, visible from any public road shall be prohibited. No small WECS tower, MET tower or anemometer tower or site shall include any

permanent advertising sign. Job site signs are allowed from contract date to thirty (30) days after construction is substantially complete.

12. **Lighting.** A small WECS shall not be artificially lighted.
13. **WECS and Tower Color:** WECS and associated towers shall be painted and well-maintained as flat gray or flat, light gray in color.
14. **Minimum Rotor Vane or Blade Clearance.** Blades or rotor vanes on small WECS shall have a minimum clearance from the ground or adjacent structures of ten (10') feet for a VAWT, and fifteen (15') feet for a HAWT.
15. **Abandonment.** A small WECS that is inoperable and has not functioned for at least twelve (12) continuous months shall be deemed to have been abandoned. The Zoning Administrator may issue a Notice of Abandonment to the owner of a small WECS that is deemed to have been abandoned. The Owner shall have the right to respond to the Notice of Abandonment within thirty (30) days from Notice receipt date. The Zoning Administrator shall withdraw the Notice of Abandonment and notify the owner that the Notice has been withdrawn if the owner provides adequate information that demonstrates the small wind energy system has not been abandoned. If the small wind energy system is determined to be abandoned, the owner of a small WECS shall remove the small WECS, tower, guy and electrical wires, and any associated concrete bases(s) and/or anchor(s) at the Owner's sole expense within three (3) months of receipt of Notice of Abandonment. If the owner fails to remove the wind generator and associated infrastructure, including the tower, the Zoning Administrator and Township may pursue a legal action to have the wind generator removed at the Owner's expense.
16. **Small WECS Safety Measures.**
 - a. Each small WECS shall be equipped with controls to limit the rotational speed of the rotor blade so it does not exceed the design limits of the rotor.
 - b. Any small WECS tower, system regulator, control/conversion and other electronics devices, and guy wires shall be grounded to safely sustain natural lightning strikes in conformance with the national Electrical Code.
 - c. All ground mounted and electrical control equipment shall be labeled and secured to prevent unauthorized access.
 - d. Any small WECS facility shall be equipped with anti-climbing devices to a height eight (8) feet above grade.

17. **MET towers** shall be permitted under the same standards, permit requirements, restoration requirements, and permit procedures as a small WECS.
18. **Wind Monitoring Stations.** Wind monitoring stations proposed prior to the installation of a small WECS shall be subject to all applicable requirements and application procedures of any small WECS regulated under this Chapter.
19. **Violations.** It is unlawful for any person to construct, install, or operate a small WECS that is not in compliance with this Chapter. Small WECS installed prior to the adoption of this Chapter are exempt.

C. Permit Procedure.

In compliance with and addition to the requirements of Chapter XIX Administration, Section 19.02A Zoning Permit Required and Section 19.03 Permits, an Owner shall submit an application to the Zoning Administrator for a Zoning Permit for a small WECS.

1. The application must be on a form approved by the Zoning Administrator and must be accompanied by two (2) copies of the plot plan.
2. The Zoning Administrator shall issue a Zoning Permit or deny the application within one (1) month of the date on which the application is received.
3. The Zoning Administrator shall issue a Zoning Permit for a small WECS if the application materials show that the proposed small WECS meets the requirements of this Ordinance.
4. If the application is approved, the Zoning Administrator will return one (1) signed copy of the application with the permit and retain the other copy with the application.
5. If the application is rejected, the Zoning Administrator will notify the applicant in writing and provide a written statement of the reason why the application was rejected. The applicant may appeal the Zoning Administrator's decision pursuant to Michigan statute. The applicant may reapply if the deficiencies specified by the Zoning Administrator are resolved.
6. The Owner shall conspicuously post the permit on the premises so as to be visible to the public at all times until construction or installation of the small WECS is complete.

D. Additional Requirements for Small WECS Permit Application.

In addition to information required in Section 19.02A Zoning Permit application, a zoning permit application for small WECS shall include:

1. Any overhead utility lines and utility easements;
2. Small WECS specifications, including manufacturer and model, rotor diameter, tower height, tower type (i.e. free standing or guyed), WECS and tower color;
3. Tower foundation blueprints or drawings;
4. Tower blueprint or drawing;
5. A shadow flicker analysis to demonstrate expected areas of shadow flicker throughout the year; and
6. A small WECS maintenance plan and any other information deemed necessary by the Planning Commission to demonstrate compliance with the standards and requirements of this Chapter.

The application for a zoning permit for a small WECS shall comply with Section 19 Administration.

E. Administration and Enforcement

In compliance with and addition to the requirements of Section 19 Administration and Chapter XXII Enforcement and Violations,

1. This Ordinance shall be administered by the Zoning Administrator or other officials as designated.
2. The Zoning Administrator may reasonably enter any property for which a permit has been issued under this Ordinance to conduct an inspection to determine whether the condition stated in the permit have been met.
3. The Zoning Administrator may issue orders to abate any violation of this Ordinance.
4. The Zoning Administrator may issue a citation for any violations of this Ordinance.
5. The Zoning Administrator may refer any violation of this Ordinance to legal counsel for enforcement.

Section 2. Additions to Chapter XXIII Definitions.

Chapter XIII Definitions of the Torch Lake Township Zoning Ordinance is hereby amended by adding the following:

Decibel - A logarithmic unit of measurement of sound that expresses the magnitude of a physical quantity, or sound intensity, relative to a specified sound reference level. Decibel is a ratio of two quantities with the same unit, and is therefore dimensionless. A decibel is one tenth of a bel, a seldom-used unit of sound measurement.

Fall zone - The potential fall area for a WECS measured as 1.5 times of the total height of the WECS, shall be measured as the radius from the center point of the base of a WECS tower or the average grade building for WECS mounted on a building.

HAWT - A horizontal axis wind turbine, mounted on a tower or building.

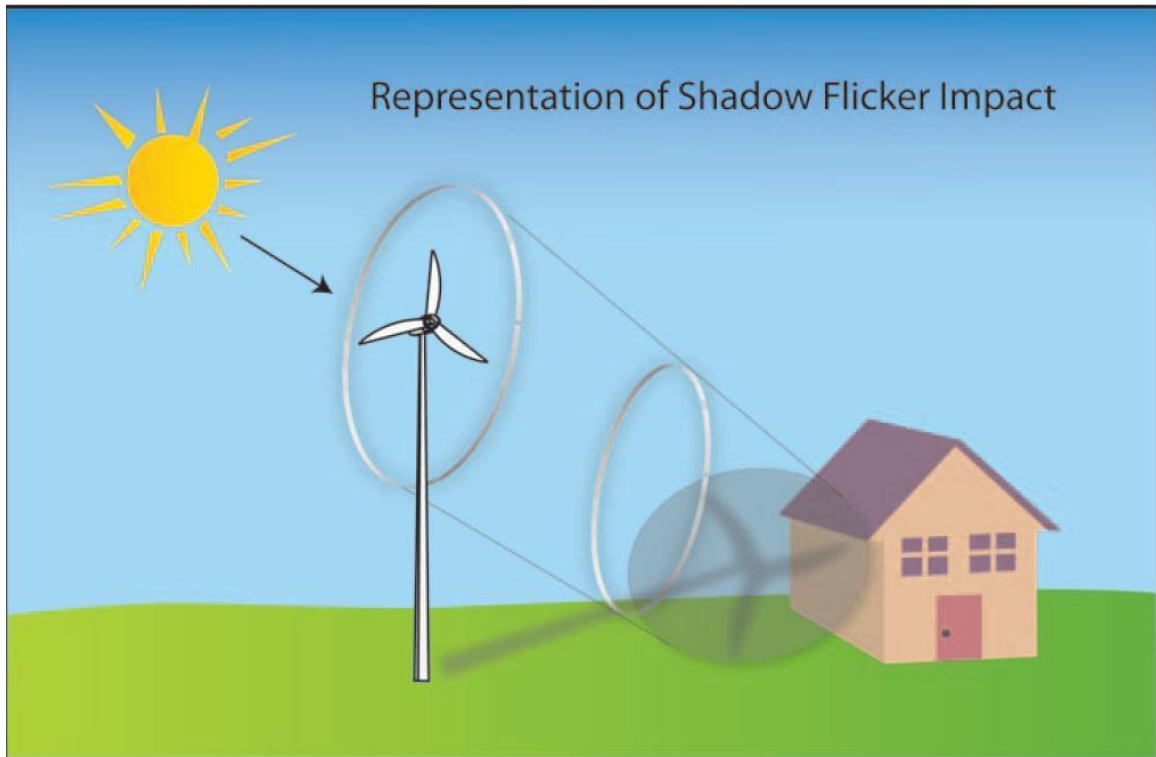
Meteorological Tower (MET tower) - Includes the tower, base plate, anchors, guy cables and hardware, anemometers (wind speed indicators), wind direction vanes, booms to hold equipment anemometers and vanes, data logger, instrument wiring, and any telemetry devices that are used to monitor or transmit 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.

Net Metering - The difference between the electricity supplied over the electric distribution system, i.e. the “grid,” and the electricity generated by the small WECS which is fed back into the grid over a period of time in accordance with Michigan’s Clean, Renewable and Efficient Energy Act (Public Act 295 of 2008) and Michigan Public Service Commission’s statewide net metering program.

Owner - The individual or entity that intends to own and operate the small wind energy system in accordance with this ordinance.

Rotor diameter - The diameter of the circle swept by the rotating blades.

Shadow Flicker - The moving shadow created by the sun shining on the rotating blades of a WECS.



Total Small WECS Height - The vertical distance from the average grade at the base of the small WECS tower or building (for building-mounted WECS) to the top of the small WECS blade when the tip is at its highest point.

WECS Tower - The monopole, freestanding, or guyed structure that supports a WECS.

VAWT - A vertical axis wind turbine, mounted on a tower or building.

Wind Energy Conversion Systems (WECS) - “Wind Energy Conversion System” (WECS) shall mean any wind driven device which converts wind energy into electrical or mechanical energy.

Wind Energy Conversion System, Small - A WECS which has a rated capacity of not more than thirty (30) Kilowatts (kW) and which is intended to primarily produce electricity for on-site use.

Wind Monitoring Station - An instrument for measuring and/or recording the force or speed of wind, also known as an anemometer. Includes the tower, base plate, anchors, guy wires, hardware, anemometers, 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.