

THE RENEWABLE ENERGY ORDINANCE

of

OTTER TAIL COUNTY

Adopted November 23, 2021  
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OTTER TAIL COUNTY RENEWABLE ENERGY ORDINANCE

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## SECTION 1. TITLE, PURPOSE, AND INTENT

### Subp. 1. Title:

This ordinance from the date of its passage shall be known as the Renewable Energy Ordinance of Otter Tail County, Minnesota.

### Subp. 2. Purpose:

This Ordinance is established to set forth processes for permitting Renewable Energy from eligible energy technology as described in [Minnesota Statute §216B.1691](#), or successor statutes to promote the health, safety, and general welfare of the citizens of Otter Tail County, and shall include, but not limited to, the following:

- **Wind Energy Conversion Systems (WECS)** with a rated capacity of less than 25,000 kilowatts (kW) or twenty-five (25) megawatts (MW), and the regulate the installation and operation of WECS within Otter Tail County not otherwise subject to siting and oversight by the State of Minnesota pursuant to [Minnesota Statute §216F](#), or successor statutes.
- Large and small **Solar Energy Systems**, and to regulate the installation and operation of a Solar Energy System within Otter Tail County pursuant to [Minnesota Statute §216C.25,500.30](#), or successor statutes, and [Minnesota Rules, Chapter 1325.1100](#), as amended.
- Renewable energy by definition includes an energy recovery facility used to capture the heat value of mixed municipal solid waste or refuse-derived fuel from mixed municipal solid waste as a primary fuel, hereafter referred to as Waste-to-Energy. The status of Waste to Energy in Otter Tail County as a renewable energy shall survive any changes to [Minnesota Statute §216B.1691](#). Permitting of Waste-to-Energy activities is exempt from this ordinance. This activity is regulated by the Solid Waste Management Ordinance.

### Subp. 3. Statutory Authorization:

This Ordinance is adopted pursuant to the authorization and policies contained in [Minnesota Statute 394](#) and [216F](#).

### Subp. 4. Legal Authority/Jurisdiction:

The provisions of this Ordinance shall apply to the unincorporated areas of Otter Tail County lying outside the incorporated areas of a City.

### Subp. 5. Compliance:

The use of any land for wind energy development shall be in full compliance with the terms of this Ordinance and any other applicable regulations.

### Subp. 6. Interpretation:

In their interpretation and application, the provisions of the Ordinance shall be held to be the minimum requirements and shall be liberally construed in favor of the governing body and shall not be deemed a limitation or repeal of any other powers granted by Minnesota Statutes.

### Subp. 7. Savings Clause/Severability:

All permits issued under this Ordinance are permissive only and shall not release the permittee from any liability or obligation imposed by Minnesota Statutes, Federal Law, or local Ordinances relating thereto. In the event any section, clause, portion or provision of this Ordinance shall be found contrary to law by a court of competent jurisdiction from whose final judgment no appeal has been taken, such provision shall be considered void. All other provisions of this Ordinance shall continue in full force and effect as though the voided provision had never existed.

**Subp. 8. Abrogation and Greater Restrictions:**

It is not intended by this Ordinance to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this ordinance imposes greater restrictions, the provisions of this Ordinance shall prevail.

**Subp. 9. Owner Liable:**

In addition to any other person or persons involved in a violation or threatened violation of this Ordinance, the owner of record of any property falling under the jurisdiction of this ordinance shall be responsible both criminally and civilly for any construction, alteration, excavation, decommissioning, or any other activity occurring upon his property which is contrary to the provisions of this Ordinance.

**Subp. 10. Right to Access:**

All employees of the Otter Tail County Land and Resource Management Office, members of the County Board of Commissioners, Planning Commission and Board of Adjustment, in the performance of their duties, shall have free access on all land included within the jurisdiction of this Ordinance.

**SECTION 2. DEFINITIONS**

**Subp. 1. Aggregated Project.** “Aggregated projects” means those which are developed and operated in a coordinated fashion, but which have multiple entities separately owning one or more of the individual WECS within the larger project. Associated infrastructure such as power lines and transformers that service the facility may be owned by a separate entity but are also included as part of the aggregated project.

**Subp. 2. Aircraft Detection Lighting Systems (ADLS).** “Aircraft Detection Lighting System (ADLS)” means sensor based systems designed to detect aircraft as they approach an obstruction or group of obstructions; these systems automatically activate the appropriate obstruction lights until they are no longer needed by the aircraft. This technology reduces the impact of nighttime lighting on nearby communities and migratory birds and extends the life expectancy of obstruction lights.

**Subp. 3. Array.** “Array” means any number of solar photovoltaic modules or collectors connected together to provide a single electrical output.

**Subp. 4. C-BED (Community Based Energy Development) Project.** “C-BED (Community Based Energy Development) Project” means, based on the total name plate generating capacity, C-BED Projects are considered to be: (1) Micro-WECS; (2) Non-Commercial WECS; or, (3) Commercial WECS as defined in this Ordinance.

**Subp. 5. Commercial WECS.** A WECS equal to or greater than 100 kW in total name plate generating capacity or 200 feet in total height.

**Subp. 6. Decommissioning Plan.** “Decommissioning Plan” means the planned and orderly removal of the physical components of a renewable energy system and all accessory facilities, and restoration of the site.

**Subp. 7. DNR.** “DNR” means the Minnesota Department of Natural Resources.

**Subp. 8. Eligible Energy Technology.** “Eligible Energy Technology” means as defined by [Minnesota Statute §216B.1691](#).

**Subp. 9. Energy Storage Systems.** “Energy Storage Systems” means mechanisms(s) to contain useful energy which can then be used at some time later in the future. Acceptable methods and technologies used to store various forms of energy include, but are not limited to, batteries (lithium ion, lead acid, lithium iron, or other battery technologies), flow batteries, flywheels, compressed air, pumped hydropower, and thermal.

**Subp. 10. FAA.** “FAA” means the Federal Aviation Administration.

**Subp. 11. Fall Zone.** “Fall Zone” means the area, defined as the furthest distance from the tower base, in which a guyed tower will collapse in the event of a structural failure.

**Subp. 12. Feeder Line.** “Feeder Line” means any power line that carries electrical power from one or more wind turbines or individual transformers associated with individual wind turbines to the point of interconnection with the electric power grid, in the case of interconnection with the high voltage transmission systems the point of interconnection shall be the substations serving the WECS.

**Subp. 13. Flicker.** “Flicker” means the moving shadow cast by the rotating blades of a WECS, or any intermittent, repetitive, or rhythmic lighting effect that is a direct result of rotating WECS blades.

- Subp. 14. Generator Nameplate Capacity.** “Generator Nameplate Capacity” means the maximum rated output of electrical power production of a generator under specific conditions designated by the manufacturer with a nameplate physically attached to the generator.
- Subp. 15. High-Voltage Transmission Line.** “High Voltage Transmission Line” means a conductor of electric energy and associated facilities designed for and capable of operation at a nominal voltage of one hundred (100) kilovolts or more and is greater than 1,500 feet in length.
- Subp. 16. Hub Height.** “Hub Height” means the distance from the ground to the center axis of the turbine rotor.
- Subp. 17. Meteorological Tower (MET).** “Meteorological Tower (MET) means, for the purposes of this Ordinance, Meteorological Towers are those towers which are erected primarily to measure wind speed and directions plus other data relevant to siting WECS. Meteorological Towers do not include towers and equipment used by airports, the Minnesota Department of Transportation, or other similar applications to monitor weather conditions.
- Subp. 18. Micro-WECS.** “Micro-WECS” means a WECS of 1 kW nameplate generating capacity or less and utilizing supporting towers of 40 feet or less, or a WECS which is less than one hundred (100) feet in total height.
- Subp. 19. Nameplate Capacity.** “Nameplate Capacity” means the total maximum rated output of a solar energy system.
- Subp. 20. Native Prairie Plan.** “Native Prairie Plan” means a plan that shall address steps to be taken to identify native prairie within the project area, measures to avoid impacts to native prairie, including foundations, access roads, underground cable and transformers, shall not be placed in native prairie unless addressed in the prairie protection and management plan.
- Subp. 21. Non-Commercial WECS.** “Non-Commercial WECS” means A WECS of less than 100 kW in total name plate generating Capacity equal to or greater than one hundred (100) feet in total height, but less than two hundred (200) feet in height.
- Subp. 22. Photovoltaic Meter.** “Photovoltaic Meter” means a meter used for the planning and maintenance of solar energy systems to identify the best location and to check modules for efficiency.
- Subp. 23. Power Purchase Agreement.** “Power Purchase Agreement” means a legally enforceable agreement between two or more persons where one or more of the signatories agrees to provide electrical power and one or more of the signatories agrees to purchase the power.
- Subp. 24. Property Boundary/Property Line.** “Property Boundary/Property Line” means the boundary line of the area over which the entity applying for a WECS permit has legal control for the purposes of installation of a WECS. This control may be attained through fee title ownership, easement, or other appropriate contractual relationship between the project developer and landowner.
- Subp. 25. Public Conservation Lands** “Public Conservation Lands” means land owned in fee title by State or Federal agencies and managed specifically for conservation purposes, including but not limited to State Wildlife Management Areas, State Parks, State Scientific and Natural Areas, Federal Wildlife Refuges and Waterfowl Production Areas. For the purposes of this section public conservation lands will also include lands owned in fee title by non-profit conservation organizations. Public conservation lands do not include private lands upon which conservation easements have been sold to public agencies or non-profit conservation organizations.
- Subp. 26. Renewable Energy System.** “Renewable Energy System” means a collection of energy from sources that are not easily depleted such as moving water (hydro, tidal and wave power), biomass, geothermal energy, solar energy, wind energy, and energy from solid waste treatment plants.
- Subp. 27. Repowering.** “Repowering” means rebuilding a renewable energy system on a previously impacted site, preserving the existing compatible land uses.
- Subp. 28. Repowering, Full.** “Repowering, Full” means a full decommissioning and repowering of a renewable energy system on a previously impacted site.
- Subp. 29. Repowering, Partial.** “Repowering, Partial” means a partial rebuilding of a renewable energy system where existing components are retrofitted or replaced to improve efficiency and extend the life of the system (e.g., replacing, refurbishing or retrofitting turbines, blades, gearboxes, generators, switchgears, panels, etc.)
- Subp. 30. Rotor Diameter** “Rotor Diameter” means the diameter of the circle described by the moving rotor blades.
- Subp. 31. Solar Collector.** “Solar Collector” means a device, structure, or part of a device or structure for which the primary purpose is to transform solar radiant energy into thermal, mechanical, chemical, or electrical energy.
- Subp. 32. Solar Energy.** “Solar Energy” means radiant energy received from the sun that can be collected in the form of heat or light by a solar collector.

- Subp. 33. Solar Energy Device.** “Solar Energy Device” means a system or series of mechanisms designed primarily to provide heating, cooling, electrical power, mechanical power, solar daylighting or to provide any combination of the foregoing by means of collecting and transferring solar generated energy into such uses either by active or passive means. Said systems may also have the capacity to store energy for future utilization. Passive solar energy systems shall clearly be designed as a solar energy device, which as a trombe wall, and not merely part of a normal structure, such as a window.
- Subp. 34. Solar Energy Easement.** “Solar Energy Easement” means a set of devices and associated facilities, including energy storage systems, whose primary purpose is to collect solar energy and convert and store it for useful purposes including heating and cooling buildings or other energy-using processes, or to produce generated power by means of any combination of collecting, transferring, or converting solar-generated energy.
- Subp. 35. Solar Energy System, Accessory Use.** “Solar Energy System, Accessory Use” means a solar energy system that is secondary to the primary use of the parcel on which it is located, and which is directly connected to or designed to serve the energy needs of the primary use. Excess power may be sold to a power company.
- Subp. 36. Solar Energy System, Active.** “Solar Energy System, Active” means a solar energy system whose primary purpose is to harvest energy by transforming solar energy into another form of energy or transferring heat from a collector to another medium using mechanical, electrical, or chemical means.
- Subp. 37. Solar Energy System, Grid-Intertie.** “Solar Energy System, Grid-Intertie” means a photovoltaic solar energy system that is connected to an electric circuit served by an electric utility company.
- Subp. 38. Solar Energy System, Ground Mounted.** “Solar Energy System, Ground Mounted” means a solar collector(s) located on the surface of the ground. The collector(s) may or may not be physically affixed or attached to the ground. Ground-mounted systems include pole-mounted systems.
- Subp. 39. Solar Energy System, Large.** “Solar Energy System, Large” means a solar energy system with a nameplate capacity of forty (40) kilowatts or more.
- Subp. 40. Solar Energy System, Off-Grid.** “Solar Energy System, Off-Grid” means a photovoltaic solar energy system in which the circuits energized by the solar energy system are not electrically connected in any way to electric circuits that are served by an electric utility company.
- Subp. 41. Solar Energy System, Passive.** “Solar Energy System, Passive” means a solar energy system that captures solar light or heat without transforming it to another form of energy or transferring the heat via a heat exchanger.
- Subp. 42. Solar Energy System, Primary Use.** “Solar Energy System, Primary Use” means a solar energy system which is the primary land use for the parcel on which it is located, and which generates power for sale to a power company, or other off-premise customer.
- Subp. 43. Solar Energy System, Roof-Mounted.** “Solar Energy System, Roof-Mounted” means a solar collector(s) located on the roof of a building or structure. The collector(s) may or may not be physically affixed or attached to the roof.
- Subp. 44. Solar Energy System, Small.** “Solar Energy System, Small” means a solar energy system with a nameplate capacity of less than forty (40) kilowatts.
- Subp. 45. Solar Energy System, Wall-Mounted.** “Solar Energy System, Wall-Mounted” means a solar collector(s) located on the wall of a building or structure.
- Subp. 46. Substation.** “Substation” means any electrical facility containing power conversion equipment designed for interconnection with power lines.
- Subp. 47. Total Height.** “Total Height” means the distance between the ground level at the base of the structure and its tallest vertical extension including any attachment thereon.
- Subp. 48. Total Nameplate Capacity.** “Total Nameplate Capacity” means the total of the maximum rated output of the electrical power production equipment for a WECS project.
- Subp. 49. Tower, Renewable Energy.** “Tower, Renewable Energy” means vertical structures that support the electrical generator, rotor blades, or meteorological equipment.
- Subp. 50. Tower Height.** “Tower Height” means the total height of the WECS exclusive of the rotor blades.
- Subp. 51. Tracking Solar Systems.** “Tracking Solar Systems” means a solar system that follows the path of the sun during the day to maximize the solar radiation it receives.
- Subp. 52. Transmission Line.** “Transmission Lines” means those electrical power lines that carry voltages of at least 41,600 volts (41.6 kV) and are primarily used to carry electric energy over medium to long distances rather than directly interconnecting and supplying electric energy to retail customers.

**Subp. 53. Wind Easement.** “Wind Easement” means a right, whether or not stated in the form of a restriction, easement, covenant, or condition, in any deed, will, or other instrument executed by or on behalf of any owner of land or air space for the purpose of ensuring adequate exposure of a wind power system to the winds. Required contents of a Wind Easement are defined in [Minnesota Statute, Section 500.30](#), or successor statutes.

**Subp. 54. Wind Energy Conversion System (WECS).** “Wind Energy Conversion System (WECS) means an electrical generating facility comprised of one or more wind turbines and accessory facilities, including but not limited to: power lines, transformers, and substations that operate by converting the kinetic energy of wind into electrical energy, and MET. The energy maybe used on-site or distributed into the electrical grid.

**Subp. 55. Wind Turbine.** “Wind Turbine” means a wind turbine is any piece of electrical generating equipment that converts the kinetic energy of blowing wind into electrical energy through the use of airfoils or similar devices to capture the wind.

**Subp. 56. Windmill, Functional.** “Windmill, Functional” means a structure utilizing wind power for the pumping of water for agricultural use on the parcel of property on which the windmill is located.

**Subp. 57. Windmill, Ornamental.** “Windmill, Ornamental” means a non-functional windmill used for decoration.

### SECTION 3. ADMINISTRATION

#### Subp. 1. Permits Required for WECS

A. The following wind energy conversion systems require a structure permit from the county:

- 1) Micro wind energy conversion systems;
- 2) Non-commercial wind energy conversions systems; and,
- 3) Meteorological towers;

B. The following wind energy conversion systems require a conditional use permit from the county:

- 1) Commercial wind energy conversion systems;

C. The following wind energy conversion systems are exempt from the provisions of this ordinance:

- 1) Functional and ornamental windmills

#### Subp. 2. Permitted and Conditional Uses for Wind Energy Conversion Systems

District	Micro WECS	Non-Commercial <100 kW	Commercial ≥ 100 kW	Meteorological Tower
Shoreland	P	P	N	P
Non-Shoreland	P	P	C	P

P – Permitted Use

C – Conditional Use

N – Prohibited Use

#### Subp. 3. Permit Application for WECS

Permits, Conditional Use Permits and Variances shall be applied for and reviewed under the appropriate procedures established within the County's [Shoreland Management Ordinance](#) and [Minnesota Statute 394](#), or successor statutes, except where noted below. An application under this section is not complete unless it contains the following:

- A. If required, a letter from the State Agency responsible for size determination of a project, pursuant to [Minnesota Statute §216F.011](#), or successor statutes;
- B. The name(s) and address(es) of project applicant(s);
- C. The name(s) and address(es) of the project owner(s);
- D. The legal description(s), parcel number(s), and E-911 address(es) of the project;
- E. A description of the project including: number, type, name plate generating capacity, tower height, rotor diameter, and total height of all wind turbines and means of interconnecting with the electrical grid (written confirmation from the affected electrical utility company required);
- F. Site layout, including the location of project area boundaries (wind rights purchased, leased, or acquired by easement), property lines, roads, wind turbines, electrical wires, interconnection points with the electrical grid, and all related accessory structures. The site layout shall include distances and be drawn to scale;
- G. Detailed Decommissioning Plan according to Section 7 of this ordinance;



- H. Documentation of land ownership or legal control of the property within a project boundary and current land use on the site and surrounding area;
- I. Signed copy of the Power Purchase Agreement or documentation that the power will be utilized on-site;
- J. The latitude and longitude of all individual wind turbines and Meteorological towers;
- K. A USGS topographical map, or map with similar data, of the property and surrounding area, including any other WECS within ten (10) rotor diameters of the proposed WECS;
- L. Location of wetlands, scenic, and natural areas, including bluffs, within 1,320 feet of the proposed WECS;
- M. Copies of all permits or documentation that indicates compliance with all other applicable State and Federal Regulatory Standards, including, but not limited to:
  - 1) Uniform Building Code, as amended;
  - 2) National Electric Code, as amended;
  - 3) Federal Aviation Administration (FAA), as amended;
  - 4) Minnesota Pollution Control Agency (MPCA)/Environmental Protection Agency (EPA), as amended;
  - 5) Microwave Beam Path Study;
  - 6) Preliminary Acoustical Analysis;
  - 7) Noise Abatement Mitigation Plan;
  - 8) Flicker Analysis;
  - 9) Minnesota Pollution Control Agency, [Minnesota Rules, Chapter 7030, Noise Standards](#), as amended;
  - 10) Wake Loss Study, if proposed boundary is within a one (1) mile radius of another WECS project boundary;
- N. Location of all known communications towers and microwave beam paths within a five (5) mile radius of the proposed WECS;
- O. Additional information stated in [Minnesota Rules, part 7854.0500 \(subpart 1\)](#), as amended;
- P. Identification of all potential haul routes to be utilized for material transportation and construction activities including state, federal, county, township or private roads within the County. Must provide written documentation prior to construction commencement that all haul routes have been approved by each of the road authorities with jurisdiction through a signed Road Use Agreement and a Developer Agreement;
- Q. Locations and site plans for all temporary, non-residential construction sites and staging areas;
- R. Additional information, that due to the unique nature or characteristics of the specific project, the County deems necessary or desirable to properly process the application.

**Subp. 4. Permits Required for Solar Energy Systems**

- A. The following solar energy systems require a structure permit from the county:
- 1) A ground mounted small solar energy systems in the Shoreland District.
  - 2) A roof mounted small solar energy systems in the Shoreland District.
    - a. The addition of a roof mounted solar energy system on a non-conforming structure in the Shoreland District is considered an improvement, and does not require a variance as an expansion of the structure.
- B. The following solar energy systems require a conditional use permit from the county:
- 1) A large solar energy system.
- C. The following solar energy systems are exempt from the provisions of this ordinance:
- 1) Wall mounted solar energy systems that are an accessory use to the property.
  - 2) A small solar energy system outside of the Shoreland District.
  - 3) Any solar energy system under 1 kW.

**Subp. 5. Permitted and Conditional Uses for Solar Energy Systems**

District	Small Solar Accessory Use <40kw	Small Solar Primary Use <40kw	Large Solar ≥40kw
Shoreland	P	P	C
Non-Shoreland	P	P	C

P – Permitted Use

C – Conditional Use

N – Prohibited Use

**Subp. 6. Permit Application for Solar Energy Systems**

Permits, Conditional Use Permits and Variances shall be applied for and reviewed under the appropriate procedures established within the County's [Shoreland Management Ordinance](#) and [Minnesota Statute 394](#), or successor statutes, except where noted below. An application under this section is not complete unless it contains the following:

- A. The name(s) and address(es) of project applicant(s);
- B. The name(s) and address(es) of the project owner(s);
- C. The legal description(s), parcel number(s), and E-911 address(es) of the project;
- D. A site plan of existing conditions showing the following:
  - 1) Existing property lines and property lines extending one hundred (100) feet from the current exterior boundaries, including names of the adjacent property owners and current use of those properties;
  - 2) Existing public and private roads, showing widths of the roads and any associated easements;
  - 3) Location and size of any abandoned wells, sewage treatment systems and dumps;
  - 4) Existing buildings and any imperious surface;
  - 5) Topography at two (2) foot intervals and source of contour elevation data. A contour map of the surrounding properties may also be required;
  - 6) Existing vegetation (list type and percent of coverage; i.e. grassland, plowed field, wooded areas, etc.);
  - 7) Waterways, watercourses, public waters and wetlands;
  - 8) Delineated wetland boundaries;
  - 9) Mapped soils according to the Web Soil Survey (Natural Resource Conservation Service);
  - 10) Surface water drainage patterns;
- E. Site Plan of Proposed Conditions showing the following:
  - 1) Location and spacing of solar collectors;
  - 2) Location of access roads;
  - 3) Planned location of underground or overhead electric lines connecting the system to the building, substation or other electric load;
  - 4) New electrical equipment other than at the existing building or substation that is the connection point for the system;

- 5) Proposed erosion and sediment control measures;
- 6) Proposed stormwater management measures;
- 7) Sketch elevation of the premises accurately depicting the proposed solar energy system and its relationship to any building or structures on adjacent lots;
- 8) Location of energy storage system, if any;
- F. Manufacturer's specifications and recommended installation methods representative of all major equipment, including solar collectors, mounting systems and foundations for poles or racks;
- G. The number of collectors to be installed;
- H. A description of the method of connecting the system to a building or substation;
- I. A signed copy of the interconnection agreement with the local electric utility, a draft of the interconnection agreement with the local utility that must be signed and submitted prior to construction commencement, or a written explanation outlining why an interconnection agreement is not necessary;
- J. Additional information, that due to the unique nature or characteristics of the specific project, the County deems necessary or desirable to properly process the application.

**Subp. 7. Permitting Requirements for Other Forms of Renewable Energy**

All other forms of renewable energy sources described in [Mn Statute 216B.1691](#), except for waste-to-energy systems, require a conditional use permit.

**SECTION 4. WIND ENERGY CONVERSION SYSTEMS GENERAL STANDARDS**

**Subp. 1. Setbacks**

All towers shall adhere to the setbacks established in the following table and subject to the provisions of this section.

Setbacks	Micro WECS	Non-Commercial <100 kW	Commercial ≥ 100 kW	Meteorological Tower
Property Boundary/Property Lines	1.1 times total height	1.1 times total height	3 RD east-west axis and 5 RD north-south axis	1.1 times total height, minimum 250 feet
Dwelling(s), other than the project owners	1.1 times total height	500 feet and sufficient distance to meet state noise standards	1000 feet and sufficient distance to meet state noise standards	1.1 times total height, minimum 250 feet
Noise Standard	Minnesota Rules, Chapter 7030, as amended	Minnesota Rules, Chapter 7030, as amended	Minnesota Rules, Chapter 7030, as amended	NA
Road Right-of-Way	1.1 times total height	1.1 times total height	1.1 times total height	1.1 times total height, minimum 250 feet
Other Rights-of-Way (recreational trails, power line easements, etc.)	1.1 times total height	1.1 times total height	1.1 times total height	1.1 times total height, minimum 250 feet
Public Conservation Lands	1.1 times total height	1.1 times total height	3 RD east-west axis and 5 RD north-south axis	1.1 times total height, minimum 250 feet
Wetlands, USFW Type III, IV and V, greater than 10 acres	1.1 times total height	1.1 times total height	3 RD east-west axis and 5 RD north-south axis	1.1 times total height, minimum 250 feet
Other Structures	1.1 times total height	1.1 times total height	1.1 times total height	1.1 times total height, minimum 250 feet
Other existing WECS and Internal Turbine spacing	NA	3 RD east-west axis and 5 RD north-south axis	3 RD east-west axis and 5 RD north-south axis	NA

**Subp. 2. Additional Setback Requirements for WECS**

- A. Native Prairie – WECS and associated facilities shall not be placed in native prairie unless approved in native prairie protection plan. Native prairie protection plan shall be submitted if native prairie is present. The permittee shall, with the advice of the DNR or the appropriate SWCD office, prepare a prairie protection and management plan and submit it to the Land and Resource Management Director and DNR Commissioner sixty (60) days prior to the start of construction.
- B. Sand and Gravel Operations – WECS and associated facilities shall be prohibited in active sand and gravel operations.
- C. Aviation (public and private airports) – No WECS or associated facilities shall be located to create an obstruction to navigable airspaces of public and private airports in Otter Tail County. Setbacks or other limitations determined in accordance with MnDOT Department of Aviation and Federal Aviation Administration (FAA) requirements.
- D. The setback for dwellings, schools, places of worship, health care facilities, and campgrounds shall be reciprocal other than those owned by the project owner.
- E. All guy wires must meet the setbacks listed above.

**Subp. 3. WECS Safety Design Standards:**

- A. Engineering Certification — For all WECS, the manufacture’s engineer or another qualified engineer shall certify that the turbine, foundation and tower design of the WECS is within accepted professional standards, given local soil and climate conditions.
- B. Clearance — At all times, rotor blades or airfoils must maintain at least thirty (30) feet of clearance between their lowest point and the ground surface. Micro-WECS systems are exempt from this requirement and must comply with the clearance per the manufacturer’s recommendations.
- C. Warnings
  - 1) For all WECS, a sign or signs shall be posted on the tower, transformer and substation warning of high voltage. Signs with emergency contact information shall also be posted on the turbine or at another suitable point.
  - 2) For all guyed towers, visible and reflective objects, such as plastic sleeves, reflectors, or tape, shall be placed on the guy wire anchor points and along the outer innermost guy wires up to a height of eight (8) feet above the ground surface. Four marker balls shall be placed sixteen (16) feet above grade and at fifty (50) foot intervals along the guy wires from the ground surface. Visible, anti-climbing fencing shall be installed around anchor points of guy wires and the tower base.
  - 3) All WECS and Meteorological towers more than one-hundred (100) feet in overall height shall be required to have safety lighting.

**Subp. 4. WECS Height Standards:**

- A. Total Height — Non-Commercial WECS shall have a total height of less than 200 feet.

**Subp. 5. WECS Tower Configuration Standards**

- A. All WECS must use self-supporting towers. The base for such towers shall be designed to anchor and support the tower for the site and shall be guarded against unauthorized climbing. The first twelve (12) feet of the tower shall be unclimbable by design or be enclosed by a six (6) foot high unclimbable fence with a secured access.
- B. Meteorological towers may be guyed.
- C. Color and Finish — All wind turbines and towers that are part of a WECS shall be white, grey or another non-obtrusive color. Blades may be black in order to facilitate deicing. Finishes shall be matt or non-reflective.
- D. Lighting — Lighting, including lighting intensity and frequency of strobe, shall adhere to but not exceed requirements established by Federal Aviation Administration permits and regulations. Red strobe lights are preferred for night-time illumination to reduce impacts on migrating birds. Red pulsating incandescent lights should be avoided. Aircraft Detection Lighting Systems may be used in accordance with FAA regulations.

**SECTION 5 SOLAR ENERGY SYSTEMS GENERAL STANDARDS**

All Solar Energy Systems shall adhere to requirements and standards of this section and are also subject to the General Regulations in Section 6 of this ordinance.

**Subp. 1. Standards for Large Solar Energy Systems**

- A. Solar energy systems that have a nameplate capacity of 40kw or greater and or solar energy systems that are the primary land use for the parcel on which the system is located and are distinguished from solar systems that are a secondary or accessory use. Solar energy systems are composed of multiple solar collectors on multiple mounting systems (poles or racks), and generally have a Direct Current (DC) rated capacity greater than one hundred (100) kilowatts.
- B. All components of a large solar energy system, including converters and inverters, but not including roads, collector lines and fencing, must meet be located a minimum of 200 feet from a residential dwelling not located on the property, and a minimum of one hundred (100) feet from the right-of-way of all roads. Fencing must be located a minimum of fifty (50) feet from the right-of-way of all roads.
- C. Stormwater Management and Erosion and Sediment Control shall meet the requirements of the MPCA Stormwater Construction Stormwater Permit requirements.
- D. Foundations. The manufacturer’s engineer or another qualified engineer shall certify that the foundation and design of the solar collectors are within accepted professional standards, given local soil and climate conditions.

- E. Ground cover. Ground cover shall consist of perennial vegetation and incorporate pollinator friendly species.
- F. Other standards and codes. All solar energy systems shall be in compliance with any applicable local, state and federal regulatory standards, including the State of Minnesota Uniform Building Code, as amended; and the National Electric Code, as amended.
- G. Power and communication lines. Power and communication lines running between the banks of the solar panels may be placed above ground, provided the lines are placed no higher than top of the solar modules. Power and communication lines to electric substations or interconnections with buildings shall be buried underground. Exemptions may be granted by the County Board in the following instances:
  - 1) Where shallow bedrock, water courses, or other elements of the natural landscape interfere with the ability to bury lines;
  - 2) When required by the utility company;
  - 3) Unless otherwise determined by the County Board.

### **Subp. 2. Standards for Solar Energy Systems, Accessory**

Small solar energy systems are a permitted accessory use, subject to the following standards:

- A. Height. Active solar energy systems are subject to the following height requirements:
  - 1) Building – or roof-mounted solar energy systems shall not exceed the maximum allowed height in the Shoreland district.
  - 2) Ground – or pole-mounted solar energy systems shall not exceed fifteen (15) feet in height when oriented at maximum tilt.
- B. Location within Lot. Solar energy systems must meet structure setbacks within the Shoreland district.
  - 1) Roof-mounted Solar Energy Systems. In addition to the building setback, the collector surface and mounting devices for roof-mounted solar energy systems that are parallel to the roof surface shall not extend beyond the exterior perimeter of the building on which the system is mounted or built. The collector and racking for roof-mounted systems that have a greater pitch than the roof surface shall be set back from all roof edges by at least two (2) feet. Exterior piping for solar hot water systems shall be allowed to extend beyond the perimeter of the building on a side yard exposure.
  - 2) Ground-mounted Solar Energy Systems. Ground-mounted solar energy systems must meet the same setbacks as a structure as specified in the Shoreland Management Ordinance and may not extend into the side-yard, rear, or road right-of-way setback when oriented at minimum design tilt. Ground-mount systems are exempt from impervious surface standards if the soil under the collector is maintained in vegetation and not compacted.
  - 3) Large Ground-mounted Solar Energy Systems. Ground-mounted solar energy systems that result in the creation of one (1) or more acres of impervious surface, must comply with the MPCA Construction Stormwater Permit requirements.
- C. Maximum Coverage
  - 1) Roof or building mounted solar energy systems, excluding building-integrated systems, shall not cover more than eighty percent (80%) of the south-facing or flat roof upon which the collectors are mounted. The total collector surface area of pole or ground mount systems shall not exceed one percent (1%) of the lot area.
- D. Approved Solar Components. Electric solar system components must have an Underwriters Laboratory (UL) listing or equivalent.
- E. Compliance with other applicable State and Federal Regulatory Standards, including, but not limited to: Uniform Building Code, and the National Electric Code, as amended.
- F. Utility Notification. No grid-intertie photovoltaic system shall be installed until evidence has been given to the Land & Resource Management department that the owner has notified the utility company of the customer's intent to install an interconnected customer-owned generator. Off-grid systems are exempt from this requirement.

## SECTION 6 GENERAL REGULATIONS

### Subp. 1. Other Applicable Standards

- A. Other Signage — The manufacturer's or owner's company name and/or logo may be placed upon the nacelle, compartment containing the electrical generator, of the Renewable Energy System.
- B. Feeder Lines — All communications and feeder lines, equal to or less than 34.5 kV in capacity, installed as part of a WECS shall be buried and located within the right-of-way, subject to prior approval of the road authority. Feeder lines installed as part of a Renewable Energy System shall not be considered an essential service.
- C. Waste Disposal — Solid and Hazardous Wastes, including but not limited to crates, packaging materials, damaged or worn parts, as well as used oils and lubricants, shall be removed from the site promptly and disposed of in accordance with all applicable Local, State and Federal regulations.
- D. Orderly Development — Upon issuance of a Conditional Use Permit, all Renewable Energy Systems, as defined in [Minnesota Statute 216F, 216C.25, 500.30](#), or successor statutes, and/or [Minnesota Rules 1325.1100](#), as amended, if applicable shall notify the Minnesota Public Utilities Commission (PUC) Energy Facilities Permitting program staff of the project location and details on the survey form specified by the PUC.
- E. Upon issuance of a conditional use permit, all Renewable Energy Systems shall notify the Environmental Quality Board Staff of the project location and details on forms specified by the Environmental Quality Board.
- F. Noise — All WECS shall comply with [Minnesota Rules 7030](#) governing noise.
- G. Electrical Codes and Standards — All Renewable Energy Systems and accessory equipment and facilities shall comply with the National Electrical Code and other applicable standards.
- H. Federal Aviation Administration— All WECS shall comply with FAA standards and permits.
- I. Solar Glaze Hazard Analysis Tool. The MnDOT Aeronautics shall complete an analysis of a solar project when said project is within two (2) miles of an airport using the MnDOT Solar Glaze Hazard Analysis Tool. A copy of the results shall be submitted to the Land & Resource Management Director.
- J. Local Emergency Services Notification. The applicant shall provide a copy of the project summary and site plan to local emergency services, including paid or volunteer Fire Department(s), that serve the project area. The applicant shall coordinate with local emergency services to develop and implement an emergency response plan for the project. A copy of the plan shall be submitted to the Land & Resource Management Director.

## SECTION 7 ABANDONMENT AND DECOMMISSIONING

A Renewable Energy System shall be considered a discontinued use after one (1) year without energy production, unless a plan is developed and submitted to the Land & Resource Management Director outlining steps and schedule for returning the Renewable Energy System to service.

### A. Abandonment and Decommissioning Plan

#### 1) The Plan shall contain:

- a. A description of how the project will be disconnected from the grid;
- b. A detailed description of how the physical components will be removed, transported off-site, and disposed of. The description shall include the stepwise process of removal (e.g. how will the blades be removed, what components need to be broken down on site, what can be salvaged, and what and where will it be landfilled).
- c. If any of the land is leased, a description of decommissioning, abandonment, and removal conditions included in landowner leases (e.g. how is it decided whether roads remain).
- d. A statement of the restoration goal and a detailed description of how restoration will be accomplished.
  - i. All components and accessory facilities shall be physically removed to four (4) feet below ground level.
  - ii. Disposal of all solid and hazardous waste in accordance with local, state and federal waste disposal regulations
  - iii. Stabilization or re-vegetation of the site as necessary to minimize erosion.
- e. A detailed estimate of decommissioning costs. This estimate should detail cost assumptions (e.g. number of days of crane rental, transportation costs, disposal fees, scrap value, etc.) and a timeline for updating the costs. The estimate shall be prepared by a Professional Engineer, a contractor capable of decommissioning. The cost estimate for removal shall include an adjustment for inflation over the expected life of the project.

- f. For Commercial WECS and Large Solar Energy Systems, a plan decommissioning security, including the type of instruments being considered, a timeline for funding of the assurance (e.g. twenty-five percent (25%) of estimated cost in year ten (10), twenty-five percent (25%) in year fifteen (15)), a description of how the amount of money available will be reconciled with the changing cost estimates, and the proposed beneficiary of the security. The plan must be reviewed every five (5) years with a copy of the updated plan submitted to the Otter Tail County Planning Commission. The County Board may require the posting of a bond, letter of credit, or the establishment of an escrow account to ensure proper decommissioning.
- g. The plan shall also address road maintenance during and after completion of the decommissioning in compliance with this ordinance.

## **SECTION 8 REPOWERING**

All repowering of existing Renewable Energy Systems, whether full or partial, must follow the same permitting procedures as that of new, according to Section 3 of this ordinance.

## **SECTION 9 INTERFERENCE**

The applicant shall minimize or mitigate interference with electromagnetic communications, such as radio, telephone, microwaves, or television signals cause by any WECS. The applicant shall notify all communication tower operators within two miles of the proposed WECS location upon application to the County for permits. No WECS shall be constructed so as to interfere with County or Minnesota Department of Transportation microwave transmissions.

## **SECTION 10 AVOIDANCE AND MITIGATION OF DAMAGES TO PUBLIC INFRASTRUCTURE**

### **Subp. 1. Roads**

- A. The applicant shall identify all County, City or Township roads to be used for the purpose of transporting Renewable Energy System components, such as but not limited to, WECS, substation parts, materials, and/or equipment for construction, operation or maintenance of the Renewable Energy System and obtain applicable weight and size permits from the impacted road authority(ies) prior to construction.
- B. Contact the road authority for road closures, road signage removals, road signage relocating, road signage restoring, moving permits, culverts, access/driveway permits, tile outlet permits, widening road intersections, standard utility permits and any other road activities that may require permits.
- C. Contact Otter Tail County Dispatch prior to any road closures for the re-routing of emergency vehicles during the closure.
- D. Contact the road authority to conduct an inspection of the road conditions of the haul routes on or prior to pre-construction meeting and after construction.
- E. Provide a performance bond to be held by Otter Tail County until the Township and/or County road authority(ies) have provided the Otter Tail County Auditor with a written release that all haul routes within their jurisdiction in Otter Tail County have been returned to pre-construction condition.
- F. Drainage System — The applicant shall be responsible for immediate repair of damage to public drainage systems stemming from construction, operation or maintenance or decommissioning of the Renewable Energy System.

## **SECTION 11 PRE-CONSTRUCTION MEETING**

The applicant for a renewable energy system requiring a conditional use permit will conduct a pre-construction meeting prior to construction commencement with a written notice sent to the following individuals a minimum of one week prior to said meeting:

- A. Township Chairman
- B. Otter Tail County Highway Engineer
- C. Otter Tail County Ditch Inspector
- D. Otter Tail County Sheriff
- E. Otter Tail County Land & Resource Management Director
- F. Area Hydrologist, Mn Department of Natural Resources
- G. Minnesota Pollution Control Agency



- H. United States Farm Agency
- I. West Otter Tail County SWCD
- J. East Otter Tail County SWCD
- K. Minnesota State Historical Society
- L. Otter Tail County Planning Commission Chair
- M. Mn Department of Transportation

## **SECTION 12 ENERGY STORAGE SYSTEM**

- A. If the Renewable Energy System consists of some form of energy storage, adequate design must be provided to ensure all local, state and federal requirements regulating energy storage are met.
- B. All energy storage structures must meet the required structure setbacks.

## **SECTION 13 ENFORCEMENT, VIOLATIONS, REMEDIES AND PENALTIES**

The Land and Resource Management Administrator is responsible for the administration and enforcement of this Ordinance. Any violation of the provisions of this ordinance or failure to comply with any of its requirements shall constitute a misdemeanor and shall be punishable as defined by law. Each 24 hour day that a violation continues shall constitute a separate offense.

In the event of a violation or a threatened violation of this Ordinance, the County Board and/or the Administrative Officer, in the addition to other remedies may institute appropriate actions or proceedings to prevent, restrain, correct or abate such violations or threatened violations, and it shall be the duty of the County Attorney to institute such action. This will include, but not be limited to, actions for injunctive relief before a court of competent jurisdiction.

## **SECTION 14 FEES**

Fees for permits and conditional use permits required for a renewable energy system shall be set forth by the Otter Tail County Board of Commissioners.

## **SECTION 15 REPEAL**

Otter Tail County Wind Energy Conversion System Ordinance, as adopted by the Otter Tail Board of Commissioners on February 15, 2011, is hereby repealed and replaced with this Ordinance.

## **SECTION 16 EFFECTIVE DATE**

The regulations contained in this Ordinance shall become effective upon passage by the County Board and publication according to law.

Passed by the Otter Tail County Board of Commissioners on November 23, 2021 with an effective date of December 1, 2021.

**ADOPTION OF THE RENEWABLE ENERGY ORDINANCE  
OF OTTER TAIL COUNTY**  
Otter Tail County Resolution No. 2021 - 177

WHEREAS; Minnesota Statute 216B allows a local unit of government to adopt local regulations related to the installation of renewable energy sources; AND

WHEREAS, Otter Tail County adopted the Wind Energy Conversions Systems Ordinance on February 15, 2011; AND

WHEREAS the purpose of the proposed revisions to the Wind Energy Conversions System Ordinance is to add provisions regarding Solar Energy Systems and subsequently retitle the ordinance to the Renewable Energy Ordinance of Otter Tail County;

NOW THEREFORE BE IT RESOLVED THAT, Otter Tail County by this resolution adopts the proposed Renewable Energy Ordinance of Otter Tail County.

The motion for the adoption of the foregoing resolution was introduced by Commissioner Johnson, duly seconded by Commissioner Buchholz and, after discussion thereof and upon vote being taken thereon, passed unanimously.

Adopted at Fergus Falls, MN this 23rd day of November 2021.

OTTER TAIL COUNTY BOARD OF COMMISSIONERS

Dated: November 23, 2021

By: Leland R. Rogness  
Leland R. Rogness, Board of Commissioners Chair

Attest Nicole Hansen  
Nicole Hansen, Clerk

STATE OF MINNESOTA )

COUNTY OF OTTER TAIL )

I, Nicole Hansen, the County Administrator, do hereby certify that the foregoing resolution is a true and correct copy of the resolution presented to and adopted by Otter Tail County at a duly authorized meeting therefore held on the twenty third day of November, 2021.

Nicole Hansen  
Nicole Hansen, Clerk