

CARLTON COUNTY

RENEWABLE ENERGY ORDINANCE

#32



Adopted:

December 1, 2017

Carlton County Renewable Energy Ordinance # 32

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ARTICLE 1. TITLE, AUTHORITY, PURPOSE, SCOPE AND SEVERABILITY**Section 1. Title**

This Ordinance shall be known and may be referred to as the Carlton County Renewable Energy Ordinance; when referred to herein, it shall be known as “this Ordinance.”

Section 2. Authority and Jurisdiction

This Ordinance is enacted to set forth a process for permitting Renewable Energy from eligible energy technology as described in Minnesota Statutes 216B.1691, to promote the health, safety, and general welfare of the citizens of Carlton County, and shall apply to the following:

1. Solar energy systems generating 50 megawatts (MW) of power or less. Solar energy systems with a rated capacity greater than 50 MW shall be referred to the Minnesota Public Utilities Commission (MN PUC) for approval.
2. Wind to Energy Conversion Systems (WECS) with a rated capacity of less than 5 megawatts or less (MW). WECS with a rated capacity greater than 5 MW shall be referred to the MN PUC for approval.

This Ordinance is enacted to establish Renewable Energy regulations for the unincorporated areas of Carlton County. This Ordinance does not apply to lands owned or leased by the federal or state government.

Section 3. Purpose

Carlton County finds that it is in the public interest to encourage the use and development of renewable energy resources that result in limited adverse impact on nearby properties. The County supports the use of renewable energy collection systems and the development of renewable energy. Carlton County also finds that the development of renewable energy systems should be balanced with protection of the public health, safety and general welfare. The County resolves that the following standards shall be adopted to ensure that renewable energy systems can be constructed within Carlton County while also protecting public safety and the natural resources of the County. Consistent with the Carlton County Comprehensive Plan, it is the intent of the County with this Ordinance to create standards for the reasonable capture and use by households, businesses, and property owners of their renewable energy resource and to encourage the development and use of renewable energy.

Section 4. Scope and Applicability

In interpreting and applying the provisions of this Ordinance, they shall be held to be the minimum requirements for the promotion of public health, safety, and general welfare. Where the provisions of this Ordinance impose greater restriction than those of any statute, other

ordinance, or regulation, the provisions of this Ordinance shall be controlling. Where the provisions of any statute, other ordinance, or regulation impose greater restrictions than this Ordinance, the provisions of such statute, other ordinance, or regulation shall be controlling.

Section 5. Severability and Repeal of Conflicting Ordinances

The provisions of this Ordinance shall be severable and the invalidity of any paragraph, subparagraph or subdivision thereof shall not make void any other paragraph, subparagraph or subdivision of this Ordinance.

Article 5, Section 17 of Carlton County Zoning Ordinance No. 27 (Wind Energy Conversion Systems), existing at the time of adoption of this Ordinance, is hereby repealed.

ARTICLE 2. DEFINITIONS

The following words and phrases shall have the meanings assigned to them in this Ordinance. If not specifically defined in this Article or in Article 2 of the Carlton County Zoning Ordinance No. 27, terms used in this Ordinance shall have the same meaning as provided in the standards adopted by reference. Words or phrases that are not defined here or in the standards adopted by reference shall have common usage meaning. For purposes of this Ordinance, the words “must” and “shall” are mandatory and the words “may” and “should” are permissive.

1. **Accessory use or structure.** Any use or structure on the same lot with, and of a nature customarily incidental and subordinate to, the principal use or structure.
2. **Array (Solar).** Any number of solar photovoltaic modules or panels connected together to provide a single electrical output.
3. **Commercial Solar Energy System.** A Solar Energy System that is capable of generating less than 50 MW of power and is designed to supply energy for off-site users or export to the wholesale market on the distribution grid.
4. **Commercial Wind Energy Conversion System.** A Wind Energy Conversion System or combination of Wind Energy Conversion Systems that are designated to have a capacity in excess of the amount needed for residential and agricultural uses and that has a combined nameplate capacity of 125 kilowatts (kW) or more.
5. **Ground Mounted Panels.** Freestanding solar panels mounted to the ground by use of racks, poles, or similar apparatus.
6. **Non-commercial Solar Energy System.** A Solar Energy System that is capable of generating less than 50 MW of power and which is accessory to the principal land use and designed to supply energy for the principal use.

7. **Non-Commercial Wind Energy Conversion System.** A Wind Energy Conversion System or combination of Wind Energy Conversion Systems with a nameplate capacity of less than 125 kilowatts (kW) and which is accessory to the principal land use and designed to supply energy for the principal use.
8. **Photovoltaic System.** An active solar energy system that converts solar energy directly into electricity.
9. **Roof or Building Mounted Solar Energy System.** A solar energy system that is mounted to the roof or building using brackets, stands, or other apparatuses.
10. **Solar Energy System (SES).** An active solar energy system that collects or stores solar energy and transforms solar energy into another form of energy or transfers heat from a collector to another medium using mechanical, electrical, thermal, or chemical means.
11. **Solar Farm.** A commercial facility that converts sunlight into electricity, whether by photovoltaics (PV), concentrating solar thermal devices (CST), or other conversion technology, for the principal purpose of wholesale sales of generated electricity.
12. **Solar Garden (also called a Community Solar Energy System).** A solar-energy system (photovoltaic array) that provides retail electric power or a financial proxy for retail power to multiple community members or businesses residing or located off site from the location of the solar energy system.
13. **Wind Energy Conversion Systems (WECS).** Any device, such as a windmill, wind charger, or wind turbine, and associated facilities, that convert wind energy to electrical energy.

ARTICLE 3. SOLAR ENERGY SYSTEMS

Section 1. Scope, Application and General Standards

Subd. A. Scope. The requirements and standards in this Article govern Solar Energy Systems (SES) that are capable of generating less than 50 MW of power. Large Energy Power Generated Plants (LEPGP) capable of generating 50 MW of power or more shall fall under the jurisdiction of the MN PUC.

Subd. B. Application. Except as set forth in this Ordinance, applications for all SES shall be made on forms available from the County, including a Zoning Permit Application as set forth in Carlton County Zoning Ordinance No. 27, Article 3, Section 1. All SES applications shall be subject to Carlton County Zoning Ordinance No. 27, Article 5, Section 7 and must include horizontal and vertical elevation drawings drawn to scale that depict the location of the system components on the property, as well as other elements described on the Zoning Permit Application.

Subd. C. General Standards. All SES shall comply with the following standards:

1. All SES connecting in any way to the distribution or transmission system must obtain an interconnection agreement from the appropriate electric utility. Off-grid systems are exempt from this requirement.
2. Electric solar system components that are connected to a building electric system must have an Underwriters Laboratory (UL) listing.
3. All solar installations must comply with the Minnesota and National Electric Code.
4. All Roof or Building Mounted solar systems shall comply with the Minnesota Building Code and shall not exceed the maximum allowed height in any zoning district.

Section 2. Non-commercial SES

Subd. A. Permitting. Non-commercial SES are considered permitted uses in the A-1, A-2, R-1, C-1, C-2, and M-1 Zoning Districts. This Ordinance allows for and regulates the following non-commercial types of SES:

1. Roof or Building Mounted SES.
2. Ground Mounted SES.

Subd. B. Regulation. Non-commercial SES shall be regulated as follows:

1. Roof or Building Mounted SES are a permitted accessory use, which shall be subject to the standards for the district, including overlay districts, in which it is located, and do not require a Zoning Permit and are not subject to Article 3, Section 1, Subdivision B.
2. Grounded Mounted SES are considered an accessory structure which shall be subject to the standards for the district, including overlay districts in which it is located, and require a Zoning Permit.

Section 3. Commercial SES

Subd. A. Permitting. Commercial SES are allowed as conditional or interim uses in the A-1, A-2, C-2, and M-1 Zoning Districts. This Ordinance allows for and regulates the following commercial types of solar energy systems:

1. Solar Gardens (Community Solar Energy Systems).
2. Solar Farms.

Subd. B. Regulation. Commercial SES shall be regulated as follows:

1. Solar Gardens
 - a. Solar Gardens shall be located on parcels of land no less than five acres in size.
 - b. Solar Gardens shall require a Conditional or Interim Use Permit in accordance with Carlton County Zoning Ordinance No. 27, Article 3, Section 5 and Article 5, Section 12.
 - c. The County prohibits Solar Gardens within the following areas:
 - i. Within three hundred (300) feet of a classified lake, river or stream as listed in Carlton County Zoning Ordinance No. 27;
 - ii. Within six hundred (600) feet of areas protected from development by Federal, State, or County agencies as wildlife habitat, wildlife management areas or designated as National Wild and Scenic land or corridor;
 - iii. Wetlands, to the extent prohibited by the Minnesota Wetland Conservation Act;
 - iv. The Floodplain District.
 - d. Solar Gardens shall require a Zoning Permit and shall comply with the setback, height, and coverage standards for the district in which they are located. Setbacks shall be measured to the nearest solar array or other structure within the Solar Garden, excluding security fencing, screening or berm. In addition, Solar Gardens shall be located a minimum of two hundred (200) feet from a residential dwelling unit not located on the property.

- e. The following provisions relating to the clearing of existing vegetation and establishment of vegetated ground cover shall apply to all Solar Gardens, in addition to any requirements set forth by the Board.
 - i. Restrictions on tree clearing or mitigation for cleared trees may be required by the Board.
 - ii. The project site design shall include the installation and establishment of ground cover meeting the beneficial habitat standards consistent with Minnesota Statutes, Section 216B.1642, or successor statutes and guidance as set by the Minnesota Board of Water and Soil Resources.
 - iii. Beneficial habitat standards shall be maintained on the site for the duration of operation, until the site is decommissioned.
- f. All on-site power and communication lines running between banks of solar panels and buildings shall be buried underground on premise. The Board may grant exemptions to this requirement in instances where shallow bedrock, water courses, or other elements of the natural landscape interfere with the ability to bury lines.
- g. Decommissioning Plan: The owner/operator shall submit a decommissioning plan for the Solar Garden to ensure that the owner or operator properly removes the equipment and facilities upon the end of project life or after their useful life. The owner or operator shall decommission the solar panels in the event they are not in use for twelve (12) consecutive months. The plan shall include provisions for the removal of all structures and foundations, the removal of all electrical transmission components, the restoration of soil and vegetation, and a soundly-based plan ensuring financial resources will be available to fully decommission the site. As an alternative to the full restoration of soil and vegetation, the decommissioning plan may provide for the installation, establishment, and continuation of beneficial habitat standards. The disposal of structures and/or foundations shall meet the requirements of the Carlton County Solid Waste Ordinance. The owner/operator shall provide a current-day decommissioning cost estimate, and shall post a bond, letter of credit, or establish an escrow account, including an inflationary escalator, in an amount determined by the County Board, to ensure proper decommissioning.

2. Solar Farms

- a. Solar Farms shall be located on parcels of land no less than five acres in size.
- b. Solar Farms shall require a Conditional or Interim Use Permit, in accordance with Carlton County Zoning Ordinance No. 27, Article 3, Section 5 and Article 5, Section 12.
- c. The County prohibits Solar Farms within the following areas:
 - i. Within six hundred (600) feet of a classified lake, river or stream as listed in Carlton County Zoning Ordinance No. 27;

- ii. Within six Hundred (600) feet of areas protected from development by Federal, State or County agencies such as wildlife habitat, wildlife management areas or designated as National Wild and Scenic land or corridor;
 - iii. Wetlands, to the extent prohibited by the Minnesota Wetland Conservation Act;
 - iv. The Floodplain District.
- d. Solar Farms shall require a Zoning Permit and shall comply with the setback, height, and coverage standards for the district in which the system is located. In addition, Solar Farms shall be located a minimum of two hundred (200) feet from a residential dwelling unit not located on the property. Setbacks shall be measured to the nearest solar array or other structure within the solar farm, excluding security fencing, screening or berm.
- e. The following provisions relating to the clearing of existing vegetation and establishment of vegetated ground cover shall apply to all Solar Gardens, in addition to any requirements set forth by the Board.
 - i. Restrictions on tree clearing or mitigation for cleared trees may be required by the Board.
 - ii. The project site design shall include the installation and establishment of ground cover meeting the beneficial habitat standards consistent with Minnesota Statutes, Section 216B.1642, or successor statutes and guidance as set by the Minnesota Board of Water and Soil Resources.
 - iii. Beneficial habitat standards shall be maintained on the site for the duration of operation, until the site is decommissioned.
- f. All on-site power and communication lines running between banks of solar panels and buildings shall be buried underground on premise. The Board may grant exemptions to this requirement in instances where shallow bedrock, water courses or other elements of the natural landscape interfere with the ability to bury lines.
- g. Decommissioning Plan: The owner/operator shall submit a decommissioning plan for Solar Farm to ensure that the owner or operator properly removes the equipment and facilities upon the end of project life or after their useful life. The owner or operator shall decommission the solar panels in the event they are not in use for twelve (12) consecutive months. The plan shall include provisions for the removal of all structures and foundations, the removal of all electrical transmission components, the restoration of soil and vegetation and a soundly-based plan ensuring financial resources will be available to fully decommission the site. As an alternative to the full restoration of soil and vegetation, the decommissioning plan may provide for the installation, establishment, and continuation of beneficial habitat standards. The disposal of structures and/or foundations shall meet the requirements of the Carlton County Solid Waste

Ordinance. The owner/operator shall provide a current-day decommissioning cost estimate, and shall post a bond, letter of credit or establish an escrow account, including an inflationary escalator, in an amount determined by the County Board, to ensure proper decommissioning.

- h. A detailed site plan for both existing and proposed conditions must be submitted, showing location of all solar arrays, other structures, property lines, right-of-ways, service roads, floodplains, wetlands and other protected natural resources, topography, electric equipment, and all other characteristics requested by the County.
- i. For Solar Farms located within 500 feet of an airport or within the A or B safety zones of an airport, the applicant must complete and provide the results of the Solar Glare Hazard Analysis Tool (SGHAT) for the Airport Traffic Control Tower cab and final approach paths, consistent with the Interim Policy, FAA Review of Solar Energy Projects on Federally Obligated Airports, or most recent version adopted by the FAA.

Subd. C. Application. The following information shall be provided to the County prior to any issuance of an Interim or Conditional Use Permit for any Commercial SES:

1. A site plan showing the following:
 - a. Existing property lines and property lines extending two hundred (200) feet from the exterior boundaries, including the names of the adjacent property owners and current use of those properties.
 - b. Existing public and private roads, showing widths of the roads and any associated easements.
 - c. Location and size of any abandoned wells, sewage treatment systems, and dumps.
 - d. Existing buildings and any impervious surface.
 - e. Topography at two (2) foot intervals and source of contour interval. A contour map of the surrounding properties may also be required.
 - f. Existing vegetation, listing the type (e.g. grassland, plowed field, wooded areas) and percent of coverage of each type.
 - g. Waterways, watercourses, lakes, and public water wetlands.
 - h. Delineated wetland boundaries.
 - i. The 100-year flood elevation and Regulatory Protection Elevation, if available.
 - j. Floodway, flood fringe, and/or general flood plain district boundary, if applicable.
 - k. Mapped soils according to the Carlton County Soil Survey.
 - l. Surface water drainage patterns.
 - m. Location and spacing of solar panels.
 - n. Location of access roads.
 - o. Planned location of underground and overhead electric lines connecting the SES to the building, substation, or other electric load.

- p. New electrical equipment other than at the existing building or substation that is the connection point for the SES.
 - q. Proposed erosion and sediment control measures.
 - r. Proposed stormwater management measures.
 - s. Location, number, and caliper of any trees to be removed, for trees with a trunk size greater than six (6) inches in girth.
2. Manufacturer’s specifications and recommended installation methods for all major equipment, including solar panels, mounting systems, and foundations for poles or racks.
3. The number of panels proposed to be installed.
4. A description of the method of connecting the array to a building or substation.
5. A copy of the interconnection application and/or agreement.

ARTICLE 4. WIND ENERGY CONVERSION SYSTEMS

Section 1. Scope, Application and General Standards

Subd. A. Scope. The requirements and standards in this Article govern Wind Energy Conversion Systems (WECS) that are capable of generating less than five (5) MW of electrical power. The State of Minnesota has jurisdiction over the siting and regulation of WECS generating five (5) MW or more of electrical power.

Subd. B. Application. Applications for all WECS shall be made on forms available from the County, including a Zoning Permit Application as set forth in Carlton County Zoning Ordinance No. 27, Article 3, Section 1. All WECS applications shall be subject to Carlton County Zoning Ordinance No. 27, Article 5, Section 7 and must include horizontal and vertical elevation drawings drawn to scale that depict the location of the system components on the property, as well as other elements described on the Zoning Permit Application.

Subd. C. General Standards. All WECS shall comply with the following standards:

1. All WECS connecting in any way to the distribution or transmission system must obtain an interconnection agreement from the appropriate electric utility. Off-grid systems are exempt from this requirement.
2. A non-commercial WECS shall not exceed 150 feet in height as measured from the ground to the highest point of the tower, rotor, or blade. A commercial WECS shall not

exceed 380 feet in height as measured from the ground to the highest point of the tower, rotor, or blade.

3. WECS shall be set back at least 750 feet from any existing residence other than a residence occupied by the applicant. WECS shall be set back a minimum distance equal to the highest point of the WECS from all property lines, roadways, and existing structures. No WECS shall be located in an area so that its placement diminishes the public enjoyment of scenic highways, scenic overlooks, public parks, and other areas determined by the County Board.
4. No WECS blade shall extend closer than 30 feet to the ground.
5. WECS towers, blades, and turbines shall be non-reflective and be designed to blend in with the skyline and natural setting to the extent possible.
6. WECS facilities shall not be lighted except for security purposes and in accordance with Federal Aviation Administration requirements.
7. Signage setting forth the identification of the owner/operator and public safety information, including emergency contact information, shall be placed on the site. All other signs shall be subject to Carlton County Zoning Ordinance No. 27, Article 5, Section 16.
8. WECS shall be fenced in unless towers are designed without ladders or other accessible climbing devices. All equipment or appurtenances that pose a potential danger to animals or humans shall be fenced in.
9. WECS shall be designed to prevent any stray voltage from affecting adjacent properties or causing interference with the operation of electrical appliances or electronic equipment on adjacent properties. In the event such disturbances occur or are alleged to occur, such disturbances shall be mitigated to the satisfaction of the County Board.
10. WECS shall be designed, constructed, operated, and maintained in a manner consistent with all applicable federal, state, and local laws, rules, standards, codes, and ordinances.
11. A WECS that has not operated for a period of twelve (12) months shall be considered abandoned and shall be removed by the owner or operator. If a WECS has not been removed according to an order by the County, the County may contract the removal and renovation of the site. The County may use any funds established for site rehabilitation for such action or may assess such costs against the property.

Section 2. Non-commercial WECS

Subd. A. Permitting. Non-commercial WECS are considered permitted uses in the A-1, A-2, C-2, and M-1 Zoning Districts.

Subd. B. Application. In addition to the requirements set forth in Article 4, Section 1, Subd. B, above, applications for Non-commercial WECS shall include the following information:

1. A site plan showing the location of all property lines, existing structures, roadways, and proposed WECS equipment and appurtenances.
2. A description of the proposed WECS equipment and appurtenances, including but not limited to tower height, blade dimensions, color, and generating capacity.
3. The location and description of any power lines, residences, other structures, wetlands, and water bodies within 750 feet of the proposed WECS, on the subject property, and affected adjacent property.

Section 3. Commercial WECS

Subd. A. Permitting. Commercial WECS are considered conditional or interim uses in the A-1, A-2, C-2, and M-1 Zoning Districts.

Subd. B. Regulation. Commercial WECS shall be regulated as follows:

1. Commercial WECS shall require a Conditional or Interim Use Permit in accordance with Carlton County Zoning Ordinance No. 27, Article 3, Section 5 and Article 5, Section 12.
2. The County prohibits Commercial WECS within the following areas:
 - a. Within seven hundred and fifty (750) feet of a classified lake, river or stream as listed in Carlton County Zoning Ordinance;
 - b. Within seven hundred and fifty (750) feet of areas protected from development by Federal, State, or County agencies such as wildlife habitat, wildlife management areas or designated as National Wild and Scenic land or corridor;
 - c. Wetlands, to the extent prohibited by the Minnesota Wetland Conservation Act;
 - d. The Floodplain District.
3. The following provisions relating to the clearing of existing vegetation and establishment of vegetated ground cover shall apply to all Commercial WECS, in addition to any requirements set forth by the Board.
 - a. The applicant for the Commercial WECS Conditional or Interim Use Permit shall minimize removal of mature trees on the site. Restrictions on tree clearing or mitigation for cleared trees may be required by the Board.

- b. To the extent that the existing ground cover is removed and not restored during the operation of the Commercial WECS, the project site design shall include the installation and establishment of ground cover meeting the beneficial habitat standards consistent with Minnesota Statutes, Section 216B.1642, or successor statutes and guidance as set by the Minnesota Board of Water and Soil Resources. Such beneficial habitat standards shall be maintained on the site for the duration of operation, until the site is decommissioned.
4. Decommissioning Plan: The owner/operator shall submit a decommissioning plan for Commercial WECS to ensure that the owner or operator properly removes the equipment and facilities upon the end of project life or after their useful life. The owner or operator shall decommission the WECS in the event they are not in use for twelve (12) consecutive months. The plan shall include provisions for the removal of all structures and foundations, the removal of all electrical transmission components, the restoration of soil and vegetation, and a soundly-based plan ensuring financial resources will be available to fully decommission the site. As an alternative to the full restoration of soil and vegetation, the decommissioning plan may provide for the installation, establishment, and continuation of beneficial habitat standards. The disposal of structures and/or foundations shall meet the requirements of the Carlton County Solid Waste Ordinance. The owner/operator shall provide a current-day decommissioning cost estimate, and shall post a bond, letter of credit, or establish an escrow account, including an inflationary escalator, in an amount determined by the County Board, to ensure proper decommissioning.

Subd. C. Application. In addition to the requirements set forth in Article 4, Section 1, Subd. B, above, applications for Commercial WECS shall include the following:

1. A certificate of survey showing the location of all property lines, pipelines, power lines, easements, roadways, existing structures, proposed WECS equipment and appurtenances, topographic contours, wetlands, water bodies, and other natural features on properties within one-half (½) mile of the proposed WECS.
2. A description of the proposed WECS equipment and appurtenances, including but not limited to tower height, blade dimensions, color, and generating capacity.
3. Engineering design certification and descriptions of individual and combined electrical power generation and evidence of permitting or compatibility with all applicable laws, rules, standards, codes, and ordinances.
4. A description of proposed electrical distribution facilities required to service the proposed WECS, including but not limited to power lines and substations.

- 5. Evidence of site ownership or wind easements secured from property owners, necessary to the operation of the WECS.
- 6. The interconnection application and/or agreement.
- 7. A decommissioning plan which describes the economic life of the WECS, the manner in which WECS facilities will be removed at the end of WECS operations, the manner in which vegetation will be restored, the estimated costs of WECS facility demolition, salvage or removal, and the financial assurances for complete site rehabilitation after WECS operations have ceased.

ARTICLE 5. FEES AND ENFORCEMENT

Section 1. Fees, Charges, and Expenses

The fees, charges, and expenses assessed by the County under this Ordinance shall be established by the Board in accordance with Carlton County Zoning Ordinance No. 27.

Section 2. Enforcement, Violations, and Penalties

Enforcement of this Ordinance shall be done in accordance with the processes and procedures established by the Board in Carlton County Zoning Ordinance No. 27.

ARTICLE 6. EFFECTIVE DATE

Approved and adopted this 14th day of November 2017, by the Carlton County Board of Commissioners.

This Ordinance shall be in full force and effect on 1st day of December 2017, after its approval and publication as provided by law.

1st Gary E. Peterson

 Gary Peterson, Board Chair

ATTEST:

1st Paul G. Gassert

 Paul G. Gassert, County Auditor

