

16 SOLAR ENERGY CONVERSION SYSTEMS

16.1 Purpose and Intent

The purpose of this ordinance is to facilitate the effective and efficient use of solar energy conversion systems. The intent is to maintain the natural systems of the site, to encourage the development of solar energy systems and to protect the public health, safety, and welfare of Wiscasset citizens.

16.2 Authority

The Wiscasset Planning Board is vested with the authority to review and approve, conditionally approve, or reject any application for the installation of solar energy conversion systems, expansion of any existing solar energy conversion system, or installation of any associated facilities.

16.2.1 The Planning Board reserves the right to hire independent third-party consultants to review array proposals to determine the impact to surrounding properties or public safety implications or resolve any other issues regarding the proposal.

16.2.1.1 If the Planning Board makes a written finding of fact that professional review of the application is required, the Board shall choose a consultant to complete such review.

16.2.1.2 The applicant shall deposit into escrow an additional fee in an amount determined by the Board to cover the cost of such review.

16.2.1.3 The Planning Board shall not schedule any further review of the application until such professional review fee is paid.

16.2.1.4 When 75% of the escrow has been disbursed, review of the application shall cease until the applicant replenishes the escrow in an amount to be determined by the Board. Any part of this escrow payment in excess of the final costs for review shall be returned to the owner or the owner's agent.

16.3 Conflict

This Ordinance is not intended to interfere with, abrogate or annul any other ordinance, rule, regulation, statute, or other provision of the law except as specifically provided in this ordinance. If any provision in this ordinance imposes restrictions different from any other ordinance, rule, regulation, statute or other provision of the law, the provision that is more restrictive or imposes higher standards shall control.

16.4 Severability

If any section, clause, or provision of this Ordinance is declared unconstitutional or otherwise invalid by a court of competent jurisdiction, said declaration shall not affect the validity of the

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remainder of this ordinance as a whole or any part thereof, other than the part so declared to be unconstitutional or invalid.

16.5 Definitions

Unless specifically defined below, words and phrases used in this ordinance shall have the same meaning as they have at common law and give this ordinance its most reasonable application. Words in the present tense include the future, the singular number includes the plural, and the plural number includes the singular. The word “may” is permissive; “shall” is mandatory and not discretionary.

SOLAR ENERGY: Electromagnetic energy transmitted from the sun (solar radiation).

SOLAR ENERGY CONVERSION SYSTEM: A solar-based energy conversion system that converts solar energy to electric or thermal energy. Facility size is measured by calculating the square footage of solar panels at maximum tilt on the ground below.

16.6 Site Plan Application and Review.

16.6.1 Applicability

- a. Roof-mounted systems serving a single residential dwelling and ground-mounted systems less than 4,200 sq. ft. are not subject to Site Plan Review. **A building permit issued by the Code Enforcement Officer (CEO) is required for roof-mounted systems serving a single residential dwelling and ground-mounted systems less than 4,200 sq. ft. per Article II, Building Laws, Section 1.1.1.**
- b. All other ground-mounted solar energy conversion systems, expansion of any existing solar energy conversion system or installation of any associated facilities shall be approved under this ordinance. In addition, the applicant shall submit a complete Site Plan application, a building permit and any other necessary town or state approvals prior to installation.

16.6.2 Submission Requirements: In addition to the site plan submissions required in 16.6.1 above, the following plans and supporting materials shall be submitted.

- a. An Operations, Maintenance and Decommissioning Plan, providing:
 - i. a description of the regular operation and maintenance of the facility, including the frequency and scope of regular inspections and the frequency and method of vegetation management,
 - ii. the timeline and process of decommissioning of the system,
 - iii. a Maine-licensed civil engineer’s estimate for the cost of decommissioning of the system,

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iv. the amount of the surety (see Section 16.12) equal to the estimated removal cost, provided by the applicant and certified by a Maine-licensed civil engineer licensed.

vii. types and contents of guarantee

(a) Interest-bearing Escrow Account – a cash contribution equal to the estimated removal cost or the establishment of an escrow account shall be made by either a certified check made out to the Town, direct deposit into a savings account, or purchase of a certificate of deposit. For any account opened by the applicant, the Town shall be named as owner or co-owner, and consent of the Town shall be required for a withdrawal. Any interest earned on the escrow account shall be returned to the applicant unless the Town has found it necessary to draw on the account, in which case the interest earned shall be proportionately divided between the amount returned to the applicant and the amount withdrawn to complete the required work,

(b) Performance Bond – a performance bond shall detail the conditions of the bond, the method for release of the entire bond or portions of the bond to the Town, and the procedures for collection by the municipality. The bond documents shall specifically reference the array facility for which approval is sought,

(c) Irrevocable Letter of Credit from a bank or other lending institution shall indicate that funds have been set aside for the removal of the array facility and may not be used for any other project or loan.

b. Solar Energy Conversion System specifications, including manufacturer, model, and facility size.

c. Certification that layout, design and installation conform to and comply with all applicable industry standards such as but not necessarily limited to the National Electrical Code (NEC/NFPA-70), the American National Standards Institute (ANSI), the Underwriter’s Laboratories (UL), the American Society for Testing and Materials (ASTM), the Institute of Electric and Electronic Engineers (IEEE), the Solar Rating and Certification Corporation (SRCC), the Electrical Testing Laboratory (ETL), and other similar certifying organizations, the Maine Uniform Building and Energy Code (MUBEC), fire and life-safety codes (NFPA 1 and NFPA101), and any other standards applicable to solar energy conversion systems.

d. Certification that the project complies with the utility notification requirements contained in Maine law and accompanying regulations through the Maine Public Utility Commission, unless the applicant intends, and so states on the application that the system will not be connected to the electricity grid.

e. An Emergency Action Plan approved by the Wiscasset Fire Chief or designee.

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The solar system owner or project proponent shall provide a copy of the Site Plan application to the Fire Chief for review and comment. The Fire Chief shall base any recommendation for approval or denial of the application upon review of the fire safety of the proposed system.

16.7 Dimensional Standards

16.7.1 Height – Solar energy conversion systems shall be subject to the building height limitation of 35 feet.

16.7.2 Setbacks –

16.7.2.1 Roof-mounted solar systems serving a single-family dwelling and ground-mounted system less than 4,200 square feet shall be subject to the setbacks from the property lines equal to the required minimum setback of the district in which it is located.

16.7.2.2 Solar energy conversion systems greater than 4,200 square feet shall be subject to the setbacks from the property lines equal to the required minimum setback of the rural district ~~district in which it is located~~, plus ten (10) feet for each 100,000 square feet or fraction thereof of array collector surface area.

16.7.3 Open space ratio and impervious calculations - Solar energy conversion systems shall not be included in calculations for open space in a subdivision or impervious cover.

16.7.4 Lot Coverage - The maximum surface area of a ground or pole-mounted panel system, regardless of the mounted angle, shall be calculated as part of the overall lot coverage.

16.7.5 Design Standards – Installations shall not obstruct solar access to neighboring properties and shall be a non-reflective color that blends the system and its components into the surrounding landscape to the greatest extent possible and incorporates non-reflective surfaces to minimize any visual disruptions.

16.8 Siting and Impact

16.8.1 Allowed Location

16.8.1.1 Roof-mounted systems serving a single residential dwelling and ground-mounted systems less than 4,200 sq. ft. are allowed within all zoning districts.

16.8.1.2 Solar conversion energy system panels greater than 4,200 square feet shall only be allowed ~~only~~ in the rural zone.

16.8.2 Solar panels are designed to absorb (not reflect) sunlight; and, as such, solar panels are generally less reflective than other varnished or glass exterior housing pieces. However, solar energy conversion systems should be sited to minimize or negate any solar glare onto nearby properties or roadways without unduly affecting the functionality or efficiency of the solar energy conversion system.

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- 16.8.3. Preference should be given to locating the system on previously developed, degraded, or marginally productive portions of the property. No topsoil or prime agricultural soil shall be removed from the site for the installation of the system, except as necessary to comply with this section or other applicable laws.
- 16.8.4 Approval by the Planning Board of a solar conversion energy system shall not be deemed to constitute or be evidence of any acceptance by the Town of Wiscasset, Maine of any street, easement or other open space shown on such plan and a note to that effect shall be on the final plan(s).
- 16.9 Design
 - 16.9.1 Reasonable efforts, as determined by the approval authority, Planning Board shall be made to place all utility connections underground, depending on appropriate soil conditions, shape and topography of the site and any requirements of the utility provider. Electrical transformers for utility interconnections may be above ground if required by the utility provider.
 - 16.9.2 Site lighting shall be limited to that required for safety and operational purposes and shall meet the performance standards for the same in Article VIII. 9.E (4)
 - 16.9.3 Signage and advertising shall be limited to that which provides identification and contact information of the owner and/or operator or which provides safety or warning messages to the public.
 - 16.9.4 The ground facility shall be fenced. Fencing shall be elevated a minimum of six (6) inches to allow for passage of small terrestrial animals. Any ground facility requiring Site Plan Review shall be fenced.
 - 16.9.5 Solar energy conversion systems shall maintain a clear area of ten (10) feet around the perimeter of the installation.
 - 16.9.6 Visual Impact: Reasonable efforts, as determined by the Planning Board, shall be made to minimize undue visual impacts by preserving native vegetation, screening abutting properties or other appropriate measures, including adherence to height standards and setback requirements.
- 16.10 Vegetation Management Plan. Operators shall submit a vegetation management plan approved by the Wiscasset Fire Chief or designee. The plan must indicate that the vegetation growth will be maintained under and around the installation at levels needed to reduce the risk of ignition from the electrical system while minimizing mowing to the extent practicable. Native, pollinator-friendly seed mixtures shall be used. Herbicide and pesticide application is prohibited.
- 16.11 Standards for roof-mounted and ground-mounted energy systems
 - 16.11.1 Roof-mounted systems serving a single residential development and ground-mounted systems less than 4,200 sq. ft. are not subject to Site Plan Review.

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- 16.11.2 All solar energy conversion_system installations shall be installed in compliance with the photovoltaic systems standards of the latest edition of the National Fire Protection Association (NFPA1).
- 16.11.3 All wiring shall be installed in compliance with the photovoltaic systems standards of the latest edition of the National Electric Code (NFPA70).
- 16.11.4. Before operation, electrical connections shall be inspected and approved by the State Electrical Inspector.
- 16.11.5 Approval under this article is conditional upon compliance with all other provisions of the Zoning Ordinance, the Maine Plumbing and Electrical Codes, Natural Resources Protection Act, Site Law, Stormwater Management Law, or other applicable regulations and requirements of the local utility if an array is to be connected to any existing electric grid.
- 16.11.6 An array shall not be constructed until the Site Plan has been approved by the Planning Board and a Building Permit has been issued by the Code Enforcement Officer and all time for appeal by others has expired during which no appeal has been filed.
- 16.11.7 All arrays shall be operated and located such that no disruptive electromagnetic interference with signal transmission or reception is caused beyond the site. If it has been demonstrated that the system is causing disruptive interference beyond the site, the system operator shall promptly eliminate the disruptive interference or cease operation of the system.
- 16.11.8 All on-site electrical wires or piping associated with the system shall be installed underground except for “tie-ins” from above-ground mounted installations and to public utility company transmission poles, towers and/or lines. This standard may be waived by the Planning Board if the project terrain is determined to be unsuitable for underground installation.
- 16.11.9 The array site shall not display any permanent or temporary signs, writing symbols, logos, or any graphic representation of any kind except appropriate manufacturer’s or installer’s identification and warning signs.
- 16.11.10 Array placement must be designed to minimize or negate any solar glare onto nearby properties, airports, or roadways.
- 16.11.11 If lighting is provided at site, lighting shall be shielded and downcast such that the light does not spill onto the adjacent parcel or the night sky. Motion sensor control is preferred.
- 16.11.12 Any point of potential contact of people or animals with generated electric current must be secured.

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16.11.13 The boundaries of any array that border any road or any abutting residential dwelling lot shall consist of a vegetated buffer the width of the required setback along that border in addition to any fence that may be erected. Existing vegetation should be used to satisfy these planting requirements where possible. No vegetation or fence shall interfere with the required sight distance for intersections. Berms with vegetation are encouraged as a component of any buffer, and the Planning Board may allow up to 15% reduction in the required buffer width with a berm.

16.11.14 Arrays covering permanent parking lots and other hardscape areas approved by the Planning Board are encouraged in order to limit the amount of stormwater flowage. Such installations may have the vegetated buffer requirements substituted by the buffer requirements of the overall project at the discretion of the Planning Board.

16.11.15 If electric storage batteries are included as part of any array system, they must be installed according to all requirements set forth in the National Electric Code and State Fire Code when in operation. When no longer in operation, the batteries shall be disposed of in accordance with the laws and regulations of the Town of Wiscasset and any other applicable laws and regulations relating to sold, special, or hazardous waste disposal.

16.12 Surety

16.12.1 The applicant shall provide financial assurance for the decommissioning costs in the form of a performance bond, surety bond or 'evergreen' letter of credit, for the total cost of decommissioning. The financial assurance mechanism shall be effective prior to the commencement of construction.

16.12.2 The value of the surety shall be based on a professional engineer's estimate submitted by the applicant and approved by the Planning Board. The Town may hire, at the applicant's expense, a qualified professional to review the engineer's estimate.

16.12.3 Every five years after the initial effective date of the surety, the owner shall submit an updated engineer's estimate and surety to the Town for review and approval. The Town may hire, at the applicant's expense, a qualified professional to review the engineer's estimate.

16.12.4 The Planning Board may modify or waive the requirement for surety when the Planning Board determines that because of the special circumstances of the site or project, such application requirements or standards would not be applicable or would be an unnecessary burden upon the applicant and not adversely affect the general health, safety, and welfare of the Town.

16.13 Removal and Decommissioning Requirements. Any solar energy system which has reached the end of its useful life or has been abandoned consistent with this Section shall be removed. The owner or operator shall physically remove the installation no more than 150 days after the date of discontinued operations. The owner or operator shall notify the approval authority by certified mail of the proposed date of discontinued operations and plans for removal. Decommissioning shall consist of:

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- 16.13.1 Physical removal of all solar energy systems, structures, equipment, security barriers and transmission lines from the site.
- 16.13.2 Disposal of all solid and hazardous waste in accordance with local, state, and federal waste disposal regulations.
- 16.13.3 Stabilization of the site to minimize erosion. The approval authority may allow the owner or operator to leave landscaping or designated below-grade foundations in order to minimize erosion and disruption of extant vegetation.
- 16.13.4 Re-vegetation. Native, pollinator-friendly seed mixtures shall be used.
- 16.13.2 All removal and decommissioning shall occur within 12 months of the facility ceasing to operate.
- 16.14 Abandonment absent notice of a proposed date of decommissioning or written notice of extenuating circumstances. The solar energy conversion system shall be considered abandoned when it fails to operate for more than one year without the written consent of the approval authority. If the owner or operator of the solar energy system fails to remove the installation in accordance with the requirements of this section within 150 days of abandonment or the proposed date of decommissioning, the town retains the right to enter and remove an abandoned, hazardous, or decommissioned solar energy system. As a condition of the site plan approval, the applicant and landowner shall agree to allow entry to remove an abandoned or decommissioned installation. Any unpaid costs associated with the removal after one year of removal shall be enforced as a tax lien placed on the real estate of the array site.