Town of Penobscot
SOLAR ENERGY ORDINANCE

TABLE OF CONTENTS

1. Purpose

A. To be consistent with the philosophy of the Planning Board, as stated in the Land Use Regulations, of “reasonable and orderly growth… without the undesirable impact of an undue surge of speculation and development within the boundaries of the Town of Penobscot.”
B. To support the intent of the Planning Board, as stated in the Shoreland Zoning Ordinance, “to further the maintenance of safe and healthful conditions” and “to conserve natural beauty and open space.”
C. To balance the rights of property owners to derive benefit from their land with the value of the rural and scenic qualities that are prized by our residents and visitors.
D. To protect the town’s natural and rural character while allowing for development that responds to the effects of a changing climate and the desire for energy independence.
E. To uphold the vision expressed in the Comprehensive Plan that the town will “encourage development in a manner that maintains our rural and scenic qualities.”

2. Authority

A. This ordinance is enacted pursuant to the Home Rule Authority granted to the Town in accordance with provisions of 30 MRSA ¶ 3001.
B. The Penobscot Planning Board (PPB) is vested with the authority to approve, approve with conditions, or reject any application for a Solar Energy System (SES) as defined in this ordinance.
C. The PPB may hire independent professional consultants to review SES applications to 1) determine the impact to nearby properties, 2) determine public safety implications, or 3) address other issues with any SES application, construction, or operation.
D. The cost (if any) for such professional consultancy will be borne by the applicant. The PPB will notify the applicant with the consultant's name and qualifications, the reason for the consultation, and the estimated cost.
E. The CEO and PPB will have the authority to monitor the construction, operation, and decommissioning of any project covered by this ordinance.

3. Definitions

Decommissioning: The physical removal of all components of a solar energy development, including but not limited to solar panels and associated anchoring systems, foundations and all electrical equipment. Part of the decommissioning process includes returning the site to a state that is safe and usable for other purposes.

Electrical Equipment: Any device associated with a Solar Energy System, such as an outdoor electrical unit/control box, that transfers energy from the Solar Energy System to the intended location.

Electricity Generation (production, output): The amount of electric energy produced by transforming other forms of energy, commonly expressed in kilowatt-hours (kWh) or megawatt-hours (MWh).

Height of building: The vertical measurement from grade to the highest point of a building, excluding chimneys, television antennae, and HVAC systems.

Mounting: The manner in which a Solar Energy System (SES) or Photovoltaic (PV) system is affixed to a roof or the ground (i.e., roof mount, or ground mount).

Power: The rate at which work is performed (the rate of producing, transferring, or using energy). Power is measured in Watts (W), kilowatts (kW), Megawatts (MW), etc., in Alternating Current (AC).

Solar Array: Multiple solar PV panels combined to create a source of electrical power, a part of a Solar Energy System.

Solar Collector: A solar PV cell, panel, or array, or solar thermal collector device, that relies upon solar radiation as an energy source for the generation of electricity or transfer of stored heat.

Solar Energy System (SES): A system of devices or structural design features, including all related equipment, 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.

SES as defined by this ordinance:

Private Residential Solar Energy System (PRSES): A solar energy system primarily or solely for on-site residential use, with a rated nameplate capacity of up to 40 (forty) kilowatts.

Commercial Solar Energy System (CSES): A solar energy system primarily or solely for on-site use by a business or a group of buildings, with a rated nameplate capacity of up to a total of 120 (one hundred and twenty) kilowatts.

Distributive Generation Solar Energy System (DGSES): A solar energy system primarily or solely for off-site grid use, with a surface area of up to 10 (ten) acres, including any required setbacks, and a rated nameplate capacity of up to 1 (one) Megawatt.

Solar Energy System, Ground-Mounted: A solar energy system that is structurally mounted to the ground and is not roof-mounted.

Solar Energy System, Roof-Mounted: A Solar Energy System that is mounted on the roof of a building or structure.

Tilt: The angle of the solar panels or solar collector relative to horizontal. Fixed tilt and adjustable tilt are utilized depending on equipment.

4. Applicability

The provisions of this Ordinance shall apply to:

A. Private Residential Solar Energy Systems (PRSES):
A solar energy system principally used to capture solar energy, convert it to electrical energy or thermal power, and supply electrical or thermal power, primarily or solely for on-site residential use. The system consists primarily of one or more roof-mounted or free-standing ground mounted solar arrays or modules and solar related equipment, intended primarily to reduce on-site consumption of utility power and/or fuels. Solar arrays or modules that are mounted on the roofs or walls of private residences shall not be subject to permit requirements but shall adhere to SES standard of the National Electric code. Ground mounted systems shall require a permit and shall be required to meet land use regulation setbacks but shall be exempt from maximum lot coverage regulations. Rated nameplate capacity can be up to 40 (forty) kW.

B. Commercial Solar Energy Systems (CSES):
An area of land or other area used by a business or a group of buildings for a solar energy system principally used to capture solar energy, convert it to electrical energy or thermal power, and supply electrical or thermal power, primarily or solely for commercial use or the use of buildings located nearby. A CSES consists of one or more free-standing, ground or roof mounted solar arrays or modules, and solar related equipment, intended primarily to reduce on-site consumption of utility power and/or fuels. Rated nameplate capacity of a CSES can be up to a total of 120 (one hundred and twenty) kW.

C. Distributive Generation Solar Energy Systems (DGSES):
An area of land or other area used by a property owner and/or corporate entity for a solar energy system principally used to capture solar energy, convert it to electrical energy or thermal power, and supply electrical or thermal power, primarily or solely for off-site utility grid use, and consisting of one or more free-standing ground-mounted solar arrays or modules, or solar related equipment, intended primarily to reduce off-site consumption of utility power and/or fuels. A DGSES can be up to 10 (ten) acres in surface area, and is limited to a rated nameplate capacity of up to 1 (one) megawatt. The 10 (ten) acre limit includes any required setbacks.

5. Dimensional Standards

A. Ground-Mounted Solar Energy Systems shall be limited to 22 (twenty-two) feet in height. Height shall be measured from the lowest point of each individual structure above grade to the maximum height through all angles of tilt. Maximum height of roof mounted systems shall be kept as close to original structure roof lines as possible.
B. SES setbacks shall conform to the Land Use Regulations. A DGSES shall be required to maintain a 75- (seventy-five) foot setback from any property line or public road right-of-way.

6. Performance and Installation Standards

A. Standards for roof-mounted and ground-mounted SES: All SES and associated wiring shall be installed in compliance with the PV systems standards of the latest edition of the National Electric Code (NEC). The PRSES shall also conform with the Town of Penobscot's Land Use Regulations. PRSES ground-mounted systems are required to apply for a building permit and be approved by the Penobscot Planning Board before construction.

B. Additional Standards for CSES and DGSES Ground-Mounted: In addition to the standards listed in section 6.A above, CSES and DGSES shall comply with the following:

1) The applicant for an SES permit will supply the Penobscot Planning Board (PPB) with a construction permit application.

2) Visual and environmental buffers must be maintained at the project's periphery and shall extend the width of the required setback, by the preservation of native vegetation (tree and woody-shrub species) or by the planting of native species.

3) If utilizing cleared land for proposed "meadow" based stormwater treatment, semi-annual (spring and fall) inspection of the meadow areas shall be performed until a meadow grass sod is established. Grading of washouts and reseeding of eroded "meadow" areas shall be performed according to Maine Department of Environmental Protection (ME DEP) Best Management Practices.

4) Meadow stormwater treatment areas shall be managed by mowing in lieu of herbicide treatment.

5) For safety reasons, the entire periphery of the SES shall be surrounded by an agricultural welded wire type fence 72 (seventy-two) inches high (at a minimum) positioned 6 (six) inches off the ground.

6) The property owner of record will be the responsible party for maintaining and operating the SES on a parcel, unless a lease or equivalent instrument is executed between the property owner of record and a proposed operator of the SES. A copy of the instrument shall be submitted to the PPB.

7) Approval of an SES application via this ordinance is conditional upon compliance with all applicable local, state, and federal laws and regulations, including but not limited to the Penobscot Land Use Regulations, Maine Natural Resources Protection Act, Maine Site Location of Development Law, Maine Stormwater Management Law, and state statutes governing the siting of solar energy systems on agricultural lands. (See Appendix A)

8) An SES shall not be constructed until an SES application has been approved, or approved with conditions, by the Penobscot Planning Board, and a building permit has been issued by the PPB.

9) Any SES site lighting shall be shielded and downcast such that light does not spill onto an adjacent parcel or the night sky, and is Dark Sky compliant.

10) The Planning Board may require a scenic assessment for a DGSES, consisting of a landscaping plan indicating the proposed placement of the facility on the site, location of existing trees and other significant site features, and the method of fencing and vegetative buffer.

11) To the greatest practical extent, all electrical wiring and utility connections shall be installed underground, except for transformers and controls. The Planning Board will take into consideration prohibitive costs and site limitations in making their determinations.

12) Transfer of ownership: Any approval for a DGSES is non-transferable to a new owner or operator without written notification to the Penobscot Planning Board. The new owner or operator shall provide documentation to the Board acknowledging their full acceptance of all terms and conditions of the original permit approval, including the decommissioning plan and financial guarantee, prior to the finalization of the transfer. The town reserves the right to review and approve the transfer of the financial guarantee to ensure it remains valid and sufficient.

C. Additional Standards for DGSES: In addition to the standards listed in sections 6.A and 6.B above, DGSES shall comply with the following:

1) Any DGSES must maintain a minimum one-mile radius from any other DGSES.
2) Signage on the access gate to the SES will identify the owner and list a 24-hour emergency contact phone number.
3) The SES owner will provide to the Penobscot Fire Chief a site plan, electrical schematic of the facility, standard security measures for the facility, an emergency response plan and the Material Safety Data Sheets (MSDS) of the panels and any other equipment.

D. Abandonment, Decommissioning and Removal of DGSES: In addition to all standards listed in sections 6.A, 6.B, and 6.C above, DGSES Ground Mounted SES shall comply with the following:

1) The owner or operator of the SES shall notify the PPB by certified mail with the date of discontinued operations, or the expiration of a lease to operate the facility, and shall physically remove the entire SES installation no more than 365 days from the date of discontinued operations.

2) Decommissioning and removal shall consist of the physical removal of PV panels, array support structures, foundations to a depth of at least 4 (four) feet below grade (or to bedrock, whichever is less), electrical switchgear, and associated transmission lines from the site.

3) Decommissioning and removal shall also consist of off-site disposal of all solid and liquid waste in accordance with local, state and federal regulations.

4) Stabilization of the site via revegetation shall be performed and shall use ME DEP Best Management Practices as necessary, to avoid erosion.

5) Absent a notice of decommissioning or written notice of extenuating circumstances, a DGSES will be considered abandoned when it fails to operate for more than one year. The PPB will notify the party responsible by certified mail that they must remove the facility and restore the site within one year. A copy of this notice will be sent to the Penobscot Select Board.

6) If the owner or operator of the DGSES fails to remove the installation within 365 days of abandonment, the town retains the right to use all available means to cause an abandoned DGSES to be removed. All costs thus incurred will be paid from the decommissioning bond for that purpose held by the Town of Penobscot.

7. Site Plan Review and Application Materials

The following materials shall be submitted for evaluation of all DGSES permit applications as part of the PPB site plan review process.

A. A site plan showing proposed system components and their dimensions, exterior lighting, and vegetation clearing areas, stamped and certified by a State of Maine Licensed Professional Engineer.
B. Proof of title, right, or interest, such as ownership, easement, lease, or purchase option for the location being considered.
C. Evidence of a formal application submitted to the electrical utility for an interconnection study. Final issuance of a building permit by the town shall be contingent upon the applicant providing a copy of an executed Interconnection Agreement with the utility, demonstrating that the utility has approved the project's connection to the grid. The document shall show available extra capacity for future use. The Planning Board may refuse an application if capacity of equipment would limit future PRSES and CSES projects because of limited capacity.
D. A site location map which shows the boundaries of the proposed facility, property boundary lines, contiguous properties under total or partial control of the applicant, any significant resources or historic sites within 1/2 (one-half) mile of the proposed development, and any significant wildlife habitat (per ME DEP under the Site Location of Development Law) and the ME Natural Resources Protection Act which may be impacted.

E. Written confirmation that all applicable State agencies with jurisdiction over the project have been notified of the application and the location of all system components covered by this application.
F. A description of the proposed facility to include specifications for, and numbers of, the solar panels, transformers, rectifiers, other components, and all associated equipment. A listing of nominal sound levels at the SES periphery, and an outline of emergency shutdown procedures.
G. A revegetation plan for any cleared areas.
H. A decommissioning plan that meets the requirements of Section *6* above, signed by the party responsible for the removal of the SES and the owner of the parcel where the SES is proposed. This plan shall be recorded in the Hancock County Registry of Deeds prior to SES operation.
I. A Waste Stream Management Plan (including recycling percentages) for demolition waste and debris at the SES site. This waste includes concrete, wood, scrap metal and wire, and clearing and grading waste.
J. Documentation of abutting property owner notification by certified mail of the application for SES. This notification by the applicant at least 15 (fifteen) days prior to the initial PPB or CEO consideration, shall indicate the time, place, and date of the initial consideration. If a public hearing is called by the PPB or CEO, a notice will be posted by the town at least 15 (fifteen) days prior to the hearing, and include the date, time, and place of the hearing.
K. The applicant will submit 7 (seven) copies of the above materials at least 10 (ten) days in advance of a PPB meeting date when the applicant wishes to be on the agenda.
L. The PPB will review the application packet for completeness; if incomplete, a list of outstanding items will be sent to the applicant in a timely fashion. When complete, the application will be preliminarily reviewed by the PPB for compliance with the ordinance standards.
M. A final PPB review documenting any conditions of approval will take place subsequent to the preliminary review. If approved, the application will be sent to the CEO for the issuance of a construction permit within 60 (sixty) days.
N. The applicant shall submit the manufacturer’s specification sheets, including Material Safety Data Sheets (MSDS), for all solar panels, inverters, and major components to be installed. The Planning Board, at its discretion and at the applicant’s expense, may require an independent, third-party inspector, approved by the Board, to periodically verify that the materials being installed match those specified in the application and that construction conforms to the approved site plan.

8. Guarantee of Removal

At the time of approval of a proposed DGSES and prior to starting construction of a DGSES the applicant must guarantee to cover the costs of removal of the facility.

A. The amount of the guarantee shall be equal to the estimated SES removal cost provided by a licensed professional engineer, or an estimate provided by a professional array construction company. These estimates are to be provided by the applicant.
B. An updated estimate shall be provided by the applicant to the town Select Board every 5 (five) years from the date of the permit issued, using these types of estimate sources. If the estimated cost increases more than 15% from the previous estimate, the facility owner shall provide additional security in the amount of the increase within 90 days of the town's request. Failure to provide the required additional security shall constitute a violation of this ordinance and be grounds for the Select Board to declare the facility in default and call upon the existing bond to secure the town's future decommissioning costs.
C. Type and contents of guarantee - Decommissioning Bond. A Decommissioning Bond shall detail the condition of the bond, the method for release of the entire bond or portions thereof to the Town of Penobscot, and the procedures for collection by the Town. The bond documents shall specifically reference the SES facility for which approval is sought.

9. Application and Permit Fees

A. SES building permit applications shall be accompanied by a permit fee as required by the PPB.
B. If SES construction is not completed within two years of the date of issuance of the building permit for the SES, the building permit will expire. All permits will expire upon decommissioning.

10. Severability

This ordinance is severable; if any phrase, clause, sentence, or provision is declared to be contrary to law, the validity of the remainder shall not be affected, unless the application of any remaining portion of the ordinance would result in action which would be inconsistent with the objectives of this ordinance.

Appendix A

Penobscot Solar Energy Ordinance
Findings of Fact

Name of applicant_____ **Date**_____
*(eg: **Motion:** The Board finds as a fact that based upon the information presented by the applicant the proposed use …….. for each of the 9 criteria below)*

After the submission of a completed application to the Planning Board, the Board shall approve an application or approve it with conditions if it makes a positive finding based on the information presented that the proposed use:

(1) Will maintain safe and healthful conditions;
(2) Will not result in water pollution, erosion, or sedimentation to surface waters;
(3) Will adequately provide for the disposal of all wastewater;
(4) Will not have an adverse impact on spawning grounds, fish, aquatic life, bird or other wildlife habitat;
(5) Will conserve shore cover and visual as well as actual points of access to inland and coastal waters;
(6) Will protect archaeological and historic resources as designated in the comprehensive plan;
(7) Will not adversely affect existing commercial fishing or maritime activities in a Commercial Fisheries/Maritime Activities District;
(8) Will avoid problems associated with floodplain development and use; and
(9) Is in conformance with the provisions of the Land Use Regulations of the Town of Penobscot.

Final Overall Motion:

Conditions (if any):

If a permit is either denied or approved with conditions, the reasons as well as conditions shall be stated in writing. No approval shall be granted for an application involving a structure if the structure would be located in an unapproved subdivision or would violate any other local ordinance, or regulation or statute administered by the municipality.