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## Chapter 8: Solar Energy Systems Ordinance

### SECTION 1: TITLE:

This Ordinance shall be known and cited as the “Solar Energy Systems Ordinance” of China, Maine, (hereinafter referred to as the “Ordinance”).

### SECTION 2: AUTHORITY

This ordinance is adopted pursuant to the enabling provisions of Article VIII, Part 2, Section 1 of the Maine Constitution; the provisions of Title 30-A M.R.S.A. Section 3001 (Home Rule), and the provisions of the Planning and Land Use Regulation Act, title 30-A M.R.S.A. Section 4312 *et seq.*

### SECTION 3: PURPOSE

The purpose of this ordinance is to provide a process and a set of standards for the construction and maintenance of solar energy systems.

- (a) Solar energy is a local, renewable and non-polluting energy resource that can reduce fossil fuel dependence and emissions. Energy generated from solar energy systems can be used to offset energy demand on the grid, with benefits for system owners and other electricity consumers.
- (b) The use of solar energy equipment for the purpose of providing electricity and energy for heating and/or cooling is an important component of the Town of China’s] sustainability goals.
- (c) The standards that follow enable the accommodation of solar energy systems and equipment in a safe manner while still allowing the quiet enjoyment of property.
- (d) This ordinance is intended to balance the need for reasonable standards and expedited and streamlined development review procedures.

### SECTION 4: APPLICABILITY

- (a) Notwithstanding the provisions of 1 M.R.S.A section 302 or any other law to the contrary, the requirements of this Ordinance shall apply to all roof-mounted and ground-mounted solar energy systems modified or installed after the date of its enactment.
- (b) All solar energy systems shall be designed, erected, and installed in accordance with all applicable codes, regulations and standards.
- (c) Any upgrade, modification or structural change that materially alters the size, placement or output of an existing solar energy system shall comply with the provisions of this Ordinance.
- (d) For the purpose of this Ordinance, the [Town of China’s] zoning districts are mapped and categorized as follows:

#### **Permitting**

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(a) A solar energy system or device shall be installed or operated in China provided it is in compliance with this ordinance.

(b) Permitting shall be determined by the zoning district within China, type of solar system, and proposed size. China has designated the proper permitting process for each solar system in the matrix below entitled “Permitting Required for Solar Energy Systems.”

(c) Permitted Use: Roof-mounted solar energy systems and Small-scale/Medium-scale Ground mounted SESs when an accessory use are permitted in all zoning districts, subject to the dimensional standards of [Sec. 5] and the additional standards outlined in [Sec. 5] and [Sec. 6]. Medium-scale and Large-scale Ground mounted solar energy systems as principal uses are permitted the Resource Protection District, Rural District, and Stream Protection District, subject to the standards herein.

**Permitting Required for Solar Energy Systems**

			<b>Resource Protection District</b>	<b>Rural District</b>	<b>Shoreland District</b>	<b>Stream Protection District</b>
<b>Principal Use</b>						
<b>Medium-scale Ground-mounted SES</b>			<b>SPR</b>	<b>SPR</b>	<b>N</b>	<b>SPR</b>
<b>Large-scale Ground-mounted SES</b>			<b>SPR</b>	<b>SPR</b>	<b>N</b>	<b>SPR</b>
<b>Accessory Use</b>						
<b>Rooftop SES</b>			<b>CEO</b>	<b>CEO</b>	<b>CEO</b>	<b>CEO</b>
<b>Small-scale Ground-mounted Solar</b>			<b>SPR</b>	<b>CEO</b>	<b>SPR</b>	<b>SPR</b>
<b>Medium-scale Ground-mounted Solar</b>			<b>SPR</b>	<b>CEO</b>	<b>SPR</b>	<b>SPR</b>

Y = Allowed; N = Prohibited; CU = Conditional Use; SPR = Site Plan Review, CEO =CEO Permit

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## SECTION 5: REVIEW AND APPROVAL AUTHORITY

### Site Plan Application and Review

(a) Applicability:

(i) Roof-mounted systems and small-scale ground-mounted systems are not subject to Site Plan Review.

(ii) Medium-scale ground-mounted solar energy systems are not subject to Site Plan Review, except in natural resource protection districts and as may be required if conditional use permits are needed.

(iii) Large-scale ground-mounted solar energy systems are subject to Site Plan Review.

(b) In addition to the [Town's] site plan application requirements, the Applicant shall submit the following supplemental information as part of a site plan application:

(i) A site plan showing:

(1) Property lines and physical features, including roads, for the project site;

(2) Proposed changes to the landscape of the site, grading, vegetation clearing and planting, exterior lighting, screening vegetation or structures;

(3) Drawings of the solar energy system showing the proposed layout of the system, any potential shading from nearby structures, the distance between the proposed solar collector and all property lines and existing on-site buildings and structures, and the tallest finished height of the solar collector;

(4) Documentation of the major system components to be used, including the panels, mounting system, and inverter(s);

(5) Name, address, and contact information of the proposed system installer, the project proponent, project proponent agent, and all co-proponents or property owners, if any; and

(6) A one- or three-line electrical diagram detailing the solar photovoltaic installation, associated components, and electrical interconnection methods.

(7) Locations of important plant and animal habitats identified by the Maine Department of Inland Fisheries and Wildlife or [Town of China], or rare and irreplaceable natural areas, such as rare and exemplary natural communities and rare plant habitat as identified by the Maine Natural Areas Program.

(8) Locations of wetlands and waterbodies and other protected areas..

(9) Locations of "Prime Farmland" and "Farmland of Statewide Importance".

(10) Locations of floodplains.

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(11) Locations of local or National Historic Districts.

**Review Processes**

(a) For projects that are subject to permitted uses, [Town staff] will review the application and make final determination within 5 days of receipt.

(b) For all projects that require Site Plan Review, the following administrative procedures shall take effect:

(i) Prior to submitting an application and the start of the review process, a pre-application conference is recommended. The conference is initiated by the Applicant and is scheduled with the Applicant and a member of the planning staff to discuss pertinent requirements.

(ii) The Applicant shall submit the required number of copies of their application at least seven days in advance of the meeting when the project is scheduled for review by the Planning Board.

(iii) Applications are processed in the order in which they are received (iv) Within 10 days of receipt of the application, the Applicant will be notified if their application is complete or incomplete. If it is incomplete, a list of outstanding items will be included in the notification letter. Each time revisions are submitted on an incomplete application, the Town has another 10 days to review the revised materials to make a determination of completeness.

(v) Once an application is deemed to be complete, the project will be reviewed by [Town staff] for compliance with the ordinance standards. The Applicant will be notified of staff comments regarding the project and the Applicant may make revisions to address these comments.

(vi) When the project is scheduled for a decision by the [Planning Board] , the planning staff will prepare a written report that discusses the project and makes a recommendation to the [Planning Board] as to a decision. The report is available to the Applicant on the [\_\_ day] preceding the [Planning Board] meeting. The [Board] will hold the public hearing on the application within 30 days of receipt of a complete application and make a decision within 10 days of that hearing. A decision may be postponed, with agreement of the applicant, to allow time for revisions to a plan.

(vii) The applicant or a duly authorized representative should attend the [Planning Board] meeting to discuss the application.

**SECTION 6: APPROVAL PROCESS**

A public hearing shall be required, with all notification costs to be borne by the applicant.

**SECTION 7: STANDARDS OF REVIEW**

**Standards for Accessory Use. Roof-Mounted and Accessory Ground-Mounted Solar Energy Systems**

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(a) Roof-mounted and building-mounted solar energy systems and equipment are permitted by right, unless they are determined by the Code Enforcement Officer, and the appropriate Fire Chief to present one or more unreasonable safety risks, including, but not limited to, the following:

- (i) Weight load;
- (ii) Wind resistance;
- (iii) Ingress or egress in the event of fire or other emergency; or
- (iv) Proximity of a ground-mounted system relative to buildings.

(b) All solar energy system installations shall be installed in compliance with the photovoltaic systems standards of the latest edition of the National Fire Protection Association (NFPA1) adopted by the Town.

(c) All wiring shall be installed in compliance with the photovoltaic systems standards of the latest edition of the National Electrical Code (NFPA 70) adopted by the Town.

(d) Prior to operation, electrical connections must be inspected and approved by an Electrical Inspector.

**Additional Standards for Principal Use. Medium- and Large-Scale Ground-Mounted Solar Energy Systems**

In addition to the standards set forth above, medium- and large-scale ground-mounted solar energy systems shall comply with the following:

- (a) Utility Connections: Overhead or pole-mounted electrical wires shall be avoided to the extent possible within the facility.
- (b) Safety: The solar system owner or project proponent shall provide a copy of the Site Plan Review application to the appropriate [Fire Chief] for review and comment. The appropriate [Fire Chief] shall base any recommendation for approval or denial of the application upon review of the fire safety of the proposed system.
- (c) 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.
- (d) Land Clearing, Soil Erosion, and Habitat Impacts: Clearing of natural vegetation shall be limited to what is necessary for the construction, operation and maintenance of ground-mounted solar energy systems or as otherwise prescribed by applicable laws, regulations, and bylaws/ordinances. Ground-mounted facilities shall minimize mowing to the extent practicable. Removal of mature trees shall be avoided to the extent possible.

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Native, pollinator-friendly seed mixtures shall be used to the extent possible. Herbicide and pesticide use shall be minimized. Removal of prime agricultural soil or any significant volume of topsoil shall be avoided to the greatest extent possible from the site for installation of the system.

(e) Fencing: Where fencing is used, fences should be elevated by a minimum of 5 inches to allow for passage of small terrestrial animals.

(f) Removal: Solar energy systems that have reached the end of their useful life or that has been abandoned consistent with this ordinance shall be removed. The owner or operator shall physically remove the installation no more than 365 days after the date of discontinued operations. The owner or operator shall notify the Code Enforcement Officer by certified mail of the proposed date of discontinued operations and plans for removal.

Decommissioning shall consist of:

(i) Physical removal of all components of the solar energy system, including but not limited to supports, structures, equipment, batteries, security barriers, and transmission and/or distribution lines from the site.

(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 through an Erosion Control Plan based on DEP's Best Management Practices and approved by the CEO. Native, pollinator-friendly seed mixtures shall be used to the maximum extent possible.

(iv) Final Site Review and permittee release by the CEO.

### **Additional Standards for Large-Scale Solar Energy Systems**

(a) Large-scale ground-mounted solar energy systems shall not be considered accessory uses.

(b) Operations and Maintenance Plan: The project proponent shall submit a plan for the operation and maintenance of the large-scale ground-mounted solar energy system, which shall include measures for maintaining safe access to the installation as well as other general procedures for operational maintenance of the installation.

(c) Signage: A sign shall be placed on the large-scale solar energy system to identify the owner and provide a 24-hour emergency contact phone number.

(d) Emergency Services: The large-scale ground-mounted solar energy system owner or operator shall provide a copy of the project summary, electrical schematic, and site plan to the [Fire Chief]. Upon request, the owner or operator shall cooperate with the [Fire Department] in developing an emergency response plan. All means of shutting down the system shall be clearly marked. The owner or operator shall provide to the [Code Enforcement Officer] the name and contact information of a responsible person for public inquiries throughout the life of the installation.

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### **Dimensional Standards**

(a) Height: In mixed-use and non-residential commercial/industrial zones, solar energy systems shall be considered to be mechanical devices and, for purposes of height measurement, are restricted only to the extent consistent with other building-mounted mechanical devices.

(b) Height standards for ground-mounted solar energy systems are dependent on location and zoning district:

(i) In residential and mixed-use zoning districts, such systems shall not exceed twelve (12) feet in height when oriented at maximum tilt, except that the maximum height is twenty-two (22) feet for systems set back at least thirty (30) feet from any property line. May need to tweak to rural perhaps look at sliding scale and property line more indepth

(ii) In all other zoning districts, such systems shall conform to the building height requirements of the zoning districts in which they are located.

(c) Setbacks for Ground-Mounted Solar Energy Systems

(i) Notwithstanding any other provision of this ordinance to the contrary, the setbacks for ground-mounted solar energy systems shall meet all prescribed setbacks for structures as specified elsewhere in the China Land Use Ordinance.

(ii) Additional setbacks may be required to mitigate visual and functional impacts. (d) Lot Coverage: Solar Arrays shall not be considered “structures” for purposes of calculating maximum lot coverage pursuant to Section 5(A)(I) of Chapter 2, the Town of China Land Use Ordinance.

### **SECTION 8: AMENDMENT TO AN APPROVED APPLICATION**

Any changes to an approved application must be approved by the CEO or the Planning Board, in accordance with Section 5 of this ordinance.

### **SECTION 9: ABANDONMENT**

Absent notice of a proposed date of decommissioning or written notice of extenuating circumstances, a large-scale ground-mounted solar energy system shall be considered abandoned when it fails to operate for more than one year as determined by the CEO.

If the owner or operator of the solar energy system fails to remove the installation within 365 days of abandonment or the proposed date of decommissioning, the Town of China retains the right to use all available means to cause an abandoned, hazardous, or decommissioned large-scale ground-mounted solar energy system to be removed.

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## SECTION 10: APPEALS

Any person aggrieved by a decision of the CEO or the Planning Board under this ordinance may appeal the decision to the Board of Appeals, as provided by Chapter 9 of the China Land Development Code. Written notice of an appeal must be filed with the Board of Appeals within thirty (30) days of the decision. The notice of appeal shall clearly state the reasons for the appeal. Verify Chapter

## SECTION 11: ADMINISTRATION, ENFORCEMENT AND PENALTIES

Administration, enforcement, and penalties under this ordinance shall be consistent with Chapter 10 of the China Land Development Code. Verify Chapter

## SECTION 12: CONFLICT AND SEVERABILITY

### Conflicts with other Ordinances

Whenever a provision of this ordinance conflicts with or is inconsistent with another provision of this ordinance or of any other ordinance, regulation, or statute, the more restrictive provision shall apply. Consult Chapter 1, Purpose and Administration, of the China Land Development Code for guidance.

### Severability

The invalidity of any part of this ordinance shall not invalidate any other part of this ordinance.

## SECTION 13: EFFECTIVE DATE

The Ordinance becomes effective on (insert date)

DEFINITIONS – Move this section to definitions in the China Ordinance

**Electrical Equipment:** Any device associated with a solar energy system, such as an outdoor electrical unit/control box, that transfers the 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).

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**Height of building:** The vertical measurement from grade to the highest point of the building, except that utility structures such as chimneys, TV antennae, HVAC systems, and roof-mounted solar energy systems shall not be included in this measurement, nor shall any construction whose sole function is to house or conceal such structures.

**Mounting:** The manner in which a solar PV system is affixed to the roof or 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 Alternative Current (AC).

**Solar Array:** Multiple solar panels combined together to create one 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:** 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. It may be roof-mounted or ground-mounted, and may be of any size as follows:

1. Small-scale Solar Energy System is one whose physical size based on total airspace projected over a roof or the ground is less than 15,000 square feet (approximately one-third of an acre);
2. Medium-scale Solar Energy System is one whose physical size based on total airspace projected over a roof or the ground is equal to or greater than 15,000 square feet but less than 87,120 square feet (two acres); and
3. Large-scale Solar Energy System is one whose physical size based on total airspace projected over a roof or the ground is equal to or greater than 87,120 square feet (two acres).

**Solar Energy System, Ground-Mounted:** A Solar Energy System that is structurally mounted to the ground and is not roof-mounted; may be of any size (small-, medium- or large-scale).

**Solar Energy System, Roof-Mounted:** A Solar Energy System that is mounted on the roof of a building or structure; may be of any size (small-, medium- or large-scale).

**Tilt.** The angle of the solar panels and/or solar collector relative to horizontal. Tilt is often between 5 and 40 degrees. Solar energy systems can be manually or automatically adjusted throughout the year. Alternatively, fixed-tilt systems remain at a static tilt year-round.

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