State of Rhode Island

RENEWABLE ENERGY GUIDELINES:

Solar Energy Systems
Model Ordinance Templates
Zoning & Taxation



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Prepared by
The Rhode Island Office of Energy Resources &
The Division of Statewide Planning

RI Division of Statewide Planning

The Rhode Island Statewide Planning Program is established by § 42-11-10 of the Rhode Island General Laws as the central planning agency for Rhode Island. The State Planning Council, comprised of federal, state, local, public representatives, and the staff of the Department of Administration Division of Statewide Planning make up the Program. The objectives of the Program are to:

- Advise and prepare long term policy for the State within the State Guide Plan
- coordinate activities of the public /private sectors within the framework of the State Guide Plan
- assist municipal governments with planning, and
- advise the Governor and others on physical, social, and economic planning related topics.

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- Division of Statewide Planning
- Office of Energy Resources
- Department of Environmental Management
- RI League of Cities and Towns
- RI Builders Association
- Northeast Clean Energy Council
- RI American Planning Association
- RI Land Trust Council
- Acadia Center
- The Nature Conservancy
- Green Energy Development
- RI Tree Council
- Clean Energy Collective
- Green Energy Consumers Alliance
- Audubon Society of Rhode Island
- Grow Smart RI
- Conservation Law Foundation
- Energy Development Partners
- Civic Alliance for a Cooler Rhode Island
- Nexamp Solar
- Turning Point Energy
- RI Tree Council
- Newport Solar
- RI Farm Bureau
- Burrillville Land Trust
- Handy Law
- RI Distributed Generation Board
- West Bay Land Trust
- RI Forest Conservators Organization
- Kearsarge Energy
- Heartwood Group
- Municipal Planning Offices: Coventry, Cranston, Narragansett, Exeter, Charlestown, Richmond

Public Outreach

In addition to working with the advisory group, a series of public presentations and workshops was conducted between June and October in 2018. The workshops and presentations were held throughout the State to present general information on solar energy systems and gather public feedback. The OER and DOSP thank the more than 150 persons who took time out of their busy lives to attend and participate in the workshops providing valuable comments and local viewpoints on the preliminary recommendations. The workshops were held as follows:

- Providence – June 6th
- Cranston – July 18th
- Charlestown – July 23rd
- Coventry – August 2nd
- Hopkinton – August 27th
- Westerly - September 13th
- Jamestown – September 19th
- Bristol – September 24th
- Providence – September 26th
- Burrillville – October 4th
- Narragansett – October 11th
- Warwick – October 16th

Abstract

The Statewide Planning Program is charged by RI General Law §42-11-10-(f)7 to produce renewable energy facility siting guidelines. The Statute directs the Program to consider guidelines for the location of renewable energy resources within commercial, industrial, and agricultural areas, areas occupied by public and private institutions, and property of the State, as appropriate. The Division of Statewide Planning (DOSP) provides staff to the Program and has produced this second volume of renewable energy siting guidelines jointly with the Office of Energy Resources (OER).

Standards for wind energy systems were previously issued by the Statewide Planning Program and the Office of Energy Resources. The principles reflected herein are **voluntary** guidance and represent the participation of state and local officials, renewable energy developers, residents, property owners, business and utilities, and non-governmental organizations. **Nothing in this guidance is construed to supersede or diminish any regulatory or planning authority delegated to a municipality by state or federal statute.** The recommendations within are responsive to the reality that our State is a small place with high population density, a decreasing amount of undeveloped land, and a diversity of environments, landscapes, built and natural resources, and community types.

This paper is one of three resources concerning the siting of solar energy systems (SES) in Rhode Island. The documents should be reviewed together in their entirety; starting with the general information presented in the PowerPoint, then, the report on comprehensive plans, and last, this report which contains the templates for zoning and taxation ordinances. Taking one document in insolation, without reading the others, will not provide the reader with the benefit of the comprehensive and interlinked advice within all the documents. A glossary and the references used throughout the project are included in the *Comprehensive Plans & Solar Energy Systems Report.* The three documents are:

1. *Solar Siting Information- February 2018 (PowerPoint)*
2. *Comprehensive Plans & Solar Energy Systems Report – February 2018*
3. *Renewable Energy Guidelines: Solar Energy Systems – Model Ordinance Templates Zoning & Taxation– February 2018*

Within this document, there are two explanatory templates which are intended to guide municipalities interested in regulating solar energy system (SES) development; 1) zoning, and 2) taxation. The zoning template outlines typical siting issues and impacts which should be reviewed and offers guidance for municipalities to consider when approving SES, bearing in mind that there is no one size fits all ordinance for siting SES. An inventory of adopted municipal solar related ordinances in Rhode Island, with links to adopted standards is included in Appendix A. Case Studies of various types of RI solar installations can be found in the PowerPoint, *Solar Siting Information - February 2018.* OER worked with the RI League of Cities and Towns, RI Tax Assessors Organization and the renewable energy community to develop the model renewable taxation ordinance in the Summer/Fall of 2016. The guidance provided in this document is intended to facilitate a fair balancing of interests in considering solar energy systems.

Renewable Energy in Rhode Island – Background & Goals

Rhode Island is committed both to accelerating the development of renewable energy resources and to protecting our natural resources and the unique character of our communities. Currently just over 15% of Rhode Island's electricity is generated with renewable sources, including wind power, hydroelectric power, municipal solid waste, and landfill gas. **The Renewable Energy Standard (RES), established by Rhode Island General Law §39-26, requires that 38.5% of electricity sold in the State be generated from renewable sources by 2035.** Technologies eligible for the RES include solar, wind, biomass, hydro, landfill gas, anaerobic digestion, and fuel cells.

Rhode Island's State Guide Plan Element: *Energy 2035, Rhode Island State Energy Plan*

The Rhode Island State Energy Guide Plan, *Energy 2035*[1] describes the existing state of Rhode Island's energy system and sets a vision, and goals and policies to improve energy security, cost-effectiveness, and sustainability in all sectors of energy production and consumption. It is intended to advance the effectiveness of public and private stewardship of the State's use of energy resources and identifies activities needed to keep the energy systems on which the state depends functioning optimally. The vision is to provide energy across all sectors-electricity, thermal, and transportation, using a secure, cost-effective and sustainable energy system. Municipal planning officials should familiarize themselves with the full plan. Important points to consider from the Plan are:

> "*Rhode Island cannot achieve the Energy 2035 Vision without bold steps to increase the generation and use of clean, renewable sources of energy—wind, solar, hydropower, anaerobic digestion, and others.*
>
> *Renewable energy will diversify the state's energy supply portfolio, help mitigate long-term energy price volatility, stimulate the state's economy through industry growth and job creation, and set Rhode Island on pace to meet ambitious greenhouse gas emission reduction targets*."

Energy 2035 suggests the State could develop over 1,800 megawatts (MW) of solar energy by 2035. Information on the status and types of other energy resources of the State can also be found in *Energy 2035*. The 2016 *Rhode Island Greenhouse Gas Emissions Reduction Plan* further indicates that, according to the 2016 report, *Rooftop Solar Photovoltaic Technical Potential in the United States: A Detailed Assessment* by the National Renewable Energy Laboratory (NREL), the technical potential for rooftop solar in RI is estimated to be greater than 55% of the total electricity sales of the State in 2013. The NREL report also indicates that technical potential would be greater if installing on less suitable roof area, mounting over spaces like parking lots, or by integrating photovoltaic technology into building facades. In March of 2017, Governor Raimondo issued Executive Order 17-06 that set a goal of at least 1,000 megawatts of clean energy by the end of 2020, a 10-fold increase, by building on existing policies and programs and by identifying new opportunities to secure cost-effective clean energy resources to benefit all Rhode Islanders. As of this report, Rhode Island has 304 megawatts of clean energy, with the megawatt capacity coming from projects in Rhode Island and the New England region. Rhode Island's renewable generation consists of solar, offshore wind and land-based wind. The OER and National Grid has multiple programs promoting renewable energy in Rhode Island and more information on Rhode Island's energy programs and incentives can be found on the OER website.

[1] *Energy 2035: Rhode Island State Energy Plan*, http://www.planning.ri.gov/documents/LU/energy/energy15.pdf

Rhode Island Principles for Renewable Energy Siting

In March of 2018, an advisory stakeholder group to the Office of Energy Resources and Division of Statewide Planning adopted thirteen principles to integrate competing interests in drafting guidance for the development of renewable energy in the State. The principles were developed with input from state and local officials, renewable energy developers, residents, property owners, businesses and utilities, and non-governmental organizations. The purpose of the principles was to guide the Office of Energy Resources and the Division of Statewide Planning in developing voluntary guidance on solar siting. The guidance within this document respects the commitments that Rhode Island has made to mitigate greenhouse gas emissions from energy produced by non-renewable methods and enable people throughout the State to participate in and benefit from renewable energy programs. The Principles are:

1. Accelerate the pace toward achieving Rhode Island's renewable energy and greenhouse gas reduction goals through thoughtful and strategic development of renewable energy projects of all sizes.
2. Build support for achieving Rhode Island's renewable energy and greenhouse gas reduction goals by increasing public understanding of the multiple benefits of renewable energy including to the economy, the environment, to promote equity and to cultivate climate resiliency.
3. Provide predictability, consistency and fairness in state and local rules, regulations, zoning and ordinances to support development of renewable energy projects.
4. Promote proactive, comprehensive utility distribution system planning.
5. Ensure that regulations governing renewables are applied in a fair and balanced manner with those governing other land uses, while recognizing that local zoning is the authority of communities to establish public health and safety standards.
6. Honor commitments to keep permanently protected land free from development.
7. Encourage renewable energy development on commercial and industrial zoned land, on already developed land, and in other locations with environmental alterations such as closed landfills, brownfields, parking lots, commercial and residential rooftops, sand and gravel pits.
8. Support the economic viability of farms through appropriate renewable energy development as a complementary use in a manner which keeps farms in agricultural production while preserving agricultural soils.
9. Promote policies that recognize ecological services and sensitivity as well as habitat connectivity in the siting of renewable energy projects.
10. Respect landowner rights to realize value from their property within the context of established planning and zoning principles.
11. Ensure equitable access to renewable energy installations for all consumers and recognize that delaying the transition to renewable energy disproportionately burdens environmental justice communities.
12. Provide local governments with guidance on smart renewable energy siting and to ensure consistency between the state guide plan and local ordinances and policies. Establish a timeline for all municipalities to adopt renewable energy siting ordinances and associated processes.
13. Provide opportunities for state and municipal governments to lead by example and use renewables to exercise more control over their energy use and production in meeting their energy needs.

Solar Energy Systems (SES) Ordinance Template

(The use of italics in text boxes indicate commentary and guidance. The commentary is not intended to be included in ordinances.)

Zoning is authorized in Rhode Island by Rhode Island General Law § 45-24. Town / City Councils are given authority by the Statute to adopt zoning and zoning is required to be consistent with the comprehensive community plan. Zoning Ordinances are typically written by the Planning Board/Commission (without or without technical assistance) and recommended to the Council for adoption. The Council must hold a public hearing before it can adopt or change a zoning ordinance. If requested by a Council and/or Planning Boards/Commissions, the Office of Energy Resources and Division of Statewide Planning will provide technical assistance on adopting for the first-time, or updating, solar siting or taxation ordinance(s).

Communities should address solar energy systems as a land use within their zoning ordinance. Solar installations are a form of development and zoning ordinances need to incorporate the variety of development forms taken by solar installations. Solar development regulation can help educate the staff and the community, as well as alleviate potential conflicts or confusion. ***Rhode Island State Statute leaves solar development regulation to local governments; the State does not pre-empt or guide solar development except for enabling local governments to regulate through development regulations that must be consistent with their community comprehensive plan.*** *Various development review concerns are discussed herein with recommendations such as; defining solar energy related terms, determining what types of systems are appropriate for a community, stating where solar energy systems will be allowed as primary or accessory use in each zoning district, and setting development standards such as buffers, height, storm water control, and more. The standards should relate to the context of siting solar energy systems in relation to existing residential development, farms (*as *classified as Farmland recognized through the RI DEM Farm, Forest, and Open Space Program (RIGL 44-27), commercial, industrial, other nonresidential uses, protected open space, unprotected natural resource areas, future capacity for other development, infill development, or redevelopment when establishing such standards.*

Municipalities based on input from residents, businesses, community organizations, and solar developers may decide which standards of review are desirable, with consideration for staff capabilities, land use, and natural and built resources. Urban communities where the primary form of solar development is likely to be accessory uses on rooftops or previously disturbed land may have significantly different ordinances than rural communities, where solar development is more likely to be accessory installations and/or large ground mounted solar installations as a principal use. The suggestions contained in this template are for informational purposes only and are not intended to constitute any legal advice. ***Municipalities should always consult with their legal staff/solicitor before enacting or amending any ordinances.*** *Nothing in this guidance is construed to supersede or diminish any regulatory or planning authority granted or delegated to a municipality by state or federal statute.*

The purpose of this guidance is to assist municipalities in the regulation of solar energy systems, to promote the creation of roof- and ground-mounted solar installations by ensuring that adopted ordinances properly address standards for the placement, design, construction, operation, monitoring, modification and removal of such installations. Such standards should address public safety, minimizing direct impacts to scenic resources, the preservation of natural and historic resources and abutting properties, and ensuring compatibility with the neighborhood in which they are located, along with general consistency with the goals and policies of the comprehensive plan for the community in which they are proposed.

The model zoning template is laid out as follows:
Title
1.0 Purpose and Consistency with Comprehensive Plan
2.0 Definitions
3.0 Permits Required
4.0 District Use Regulations
5.0 Site Requirements Generally
6.0 Review Requirements
6.1 Additional Development Plan Review requirements for Primary Use Solar Energy Systems
6.2 Reviews for Accessory Solar Energy Systems
7.0 Abandonment and Removal
8.0 Violations
9.0 Severability

An ordinance needs to consider:

+ all the types (residential scale to large scale) of solar energy systems that the community is likely to see
+ where solar installation opportunities exist for all types of solar energy systems,
+ a balance between permitting solar development and protecting other valuable local resources, and
+ consistency with the goals and policies contained within the community comprehensive plan.

TITLE: Solar Energy Systems (SES)

1.0 Purpose and Consistency with Comprehensive Plan

This is a required provision of an ordinance per § 45-24-32 (the Zoning Enabling Act). *It is the citation of the basic police power of the community to adopt zoning. This is where the intent and the "why" (protecting public, health, welfare, etc.) of the municipality adopting the ordinance should be described. Simply put, the purpose of this section in an ordinance is to describe the reasons for the ordinance.*

The Statute empowers each town and city to establish and enforce standards and procedures for the management and protection of land, air, and water as natural resources, and to employ contemporary concepts, methods, and criteria in regulating the type, intensity, and arrangement of land uses, and provides authority to employ new concepts as they may become available and feasible. Solar energy systems are an example of a new land use that municipalities may choose to regulate.

The Town/ City Council finds that it is in the public interest and will ensure the health, safety, and welfare of the community through the safe, effective and efficient use of Solar Energy Systems (SES) that minimize impacts on scenic, natural, cultural resources, increase resiliency, reduce the use of and reliance on fossil fuels for power production, reduce carbon and other greenhouse gas emissions of utility-supplied electric energy, and provide clean, domestically-sourced alternatives to our existing energy supply.

The goals listed below are illustrative. *They should be reviewed individually and tailored to correlate with each municipality's desired land use within the comprehensive community plan. Communities can use all of them (with modification as needed), none of them, or compose their own.*

It is a statutory requirement that for any adoption or amendment of a zoning ordinance, a Planning Board/Commission must, among its findings and recommendations to the Town /City Council, include a statement on the general consistency of any zoning proposals with the community's comprehensive plan. The statement is not an item that must be included within an ordinance, but an example of such a statement is provided among the illustrative goals.

This model is specific to the adoption of solar energy systems as a new land use. Because planning boards/commissions must already include a demonstration of recognition and consideration of each of the applicable overall purposes of zoning from the Enabling Statue in their findings and recommendations for any zoning changes, other purposes and intents of zoning do not need to be repeated here. It would be redundant and unnecessarily.

Further, the model is meant to be included as a part of an existing ordinance of a community which, as authorized by the RI Zoning Enabling Act (§ 45-24), must be collectively used in its entirety by a municipality for effective land use regulation, development of renewable energy systems, and economic development.

- To preserve the health, safety, and welfare of the Town's/City's citizens by promoting the safe, effective, and efficient use of solar energy systems to reduce the consumption of fossil fuels, increase resiliency and mitigate climate change.
- To encourage the use of solar energy systems as local renewable energy resources.
- To improve the resiliency and economic strength of and assist homeowners, local businesses, commercial/industrial users, and farms (as classified as Farmland through the RI DEM Farm, Forest, and Open Space Program, RIGL 44-27) with options for improving resiliency, economic strength, and environmental sustainability.
- To spur effective investment in and management of public energy infrastructure systems to support existing and future development.
- To reduce our dependence on nonrenewable energy resources and decrease the air and water pollution that results from the use of conventional energy sources.
- To upgrade and enhance the reliability and power quality of the power grid.
- To encourage local economic development.
- To offer additional energy choice to local consumers, improve competition in the electricity supply market, and empower residents, businesses, and farms (as classified as Farmland through the RI DEM Farm, Forest, and Open Space Program, RIGL 44-27) to have more control over their respective energy supplies.
- To incorporate local renewable energy resources in such a manner as to be consistent with and provide for orderly growth and development that recognizes the goals and patterns of land use contained in the comprehensive plan of the Town/City of _____.
- To generate local tax revenue.
- To protect the natural resources of the Town/City, including forests and other valuable habitats, by siting solar energy systems in locations that minimize environmental impacts, and discourages the loss of natural areas with substantial value for reducing greenhouse gas emissions.

2.0 Definitions

Definitions are another required provision of zoning ordinances. This is the section where terms that will appear in the ordinance are explained. This part or the ordinance should include specific definitions that have meanings only for this use (solar energy systems). Any specific or technical terms related to the review of solar energy systems should be explained here. This can be a standalone section or incorporated into the overall general definition section of the zoning ordinance. Many people prefer to keep it within the section on solar energy systems, so all information related to the topic is found in one place. This is the most user-friendly way. It is not necessary to repeat any items already contained in the general definition section of the zoning ordinance. Include only those terms used in the ordinance. A general glossary of more terms related to solar energy systems is contained in the Comprehensive Plans & Solar Energy Systems Report.

a. Abandoned Solar Energy System - A solar energy system that has either reached the end of its useful life or is disconnected and/or with no plan to reconnect it.

b. Array area – The area covered by panels and interrow spacing.

c. Decommissioning / Restoration Plan – A plan for dismantling a solar energy system, along with, a plan for the site restoration of the land where the system is located, and a financial guarantee for the completion of the dismantling and restoration after the system is no longer operational.

d. DEM – Rhode Island Department of Environmental Management.

e. Fenced Area – The area within the perimeter of the safety fence that surrounds the solar system and associated infrastructure.

f. Interconnection – The point at which the solar system is connected to the electric distribution system. The interconnection of the system by the electric distribution company will generally be located at the street or along an access driveway outside of the fenced area.

g. Preliminary Interconnection Study – A study assessing the estimated interconnection costs of a solar energy system to the electric distribution system.

h. Inverter – A piece of equipment that converts Direct Current electricity from the solar panels into Alternating Current electricity on which the electric distribution company operates.

i. Photovoltaic ("PV") Panels aka Solar Panels / aka Solar Modules - absorb sunlight as a source of energy to generate electricity.

j. Solar Energy – Radiant energy received from the sun that can be collected in the form of heat or light by a solar panel.

k. Solar Energy System (SES) - Sum of the components and subsystems required to convert solar energy into electric energy suitable for use. The area of the system includes all the land inside the perimeter of the system which extends to any fencing. Solar Energy Systems are further defined as one of three system types:

    1. Level 1 SES - An accessory SES for electricity generation secondary to the use of the premises for other lawful purposes. An accessory SES cannot exist without a primary use on the same lot. Level 1 SES include the following:

        a. Roof-mounted on any code compliant structure.

        b. Ground mounted on an area of up to 49 % of the footprint of the primary structure on the parcel but no more than X acre(s) in area in total.

        c. Building integrated.

        d. Solar Canopies - A SES covering existing or future permitted use(s), provided all setbacks and landscaping for the use(s) itself are met and do not exceed a height as determined by the Planning Board/Commission.

        e. Solar Carports - A SES covering existing or future permanent parking lots provided all setbacks and landscaping for the parking lot itself are met and do not exceed a height as determined by the Planning Board/Commission.

    2. Level 2 SES – A SES that does not meet the requirements of Level 1 and for which the primary use of land on a given lot or lots is for the commercial generation of power. These SES are ground-mounted with a footprint of no more than X acre(s) in area in residential or agricultural districts, and no more than X acres in area in commercial, business, and industrial districts. Level 2 systems could also potentially be located on closed landfills, defunct gravel banks, and/or brownfield locations regardless of the type of district if a municipality wanted to map and adopt a solar overlay district. Subject to additional solar development standards described by this ordinance and approval through Development Plan Review.

3. Level 3 SES – A primary use SES that does not meet the requirements of Level 1 or Level 2. All Level 3 SES shall be subject to the Level 2 SES plan review standards, in addition to Major Land Development Review by the Planning Board/Commission.

Solar Energy Systems as Principal or Accessory Uses: *Section § 45-24-31, Definitions, sets forth standardized definitions that communities must use in their ordinances. Two of these terms are principal use and accessory use. Zoning ordinances allow that landowners may use their land for a principal permitted use and for other activities (accessory) that are related to the principal use. Accessory uses are uses of land that are found on the same parcel as the principal use but are subordinate and incidental to the principal use. Accessory uses cannot exist without a principal use. Accessory SES can be installed as roof or ground amounted systems, much like heating and cooling units for buildings. Solar energy systems can also be the primary use of a lot where large arrays are the only use of the property. As a primary land use there are different issues that need to be addressed, and in a different manner than accessory uses.*

The zoning ordinance gives a community the authority to regulate SES as a land use. This means a municipality can stipulate whether a SES will be an accessory use to an existing use on the same property or the primary use of a proposed site. And, as for any land use, communities can set siting standards for SES that must be met. More specific siting recommendations will be discussed in Section 5. ***Solar energy systems and the amount of power production generated are affected by the interconnection requirements of National Grid, Pascoag Utility, or Block Island Power and are regulated by the Public Utilities Commission.*** *Municipalities should focus on defining SES as a land use and not the amount of power to be generated or any regulatory responsibilities of the State. The definitions provide a suggested tiered system of SES based on the footprint of a potential SES as a land use and then suggestions for review options. This is not a one size fits all approach but illustrates how municipalities may match the impacts of a SES with the appropriate level of desired review. Consider as an option differing maximum sizes within the definition of a SES for differing types of districts in the community.*

This Report is intended to provide illustrative guidance for municipalities. A maximum area for establishing tiered sizes to be permitted as an accessory use or as primary use should be considered and discussed when developing an ordinance in relation to the districts present in the community. There is no one maximum area appropriate for all communities; each municipality will have to set an appropriate area(s) for their community. This will vary community by community. In some cases, an accessory use for a Level 1 SES may be sought on a site of many acres in areas zoned for commercial or industrial use which could differ from the amount needed within a residential district. In those cases, communities should consider varying maximum project area allowed for Level 1 SES in areas zoned for commercial or industrial use. Heights for solar carports will vary depending upon what is to be parked underneath or covered and need to take into consideration vehicle types and other constraints. Solar carports can range in height, typically they are 20-30 feet for most normal business and residential installations. Municipalities should consider whether they need to set a height restriction in the ordinance or authorize the Planning Board/Commission to do so during their review as their will be a difference between ground mounted solar systems compared to solar carports.

3.0 Permits Required

This is where the general requirement for permits and review of SES as a land use should be established. The purpose of a zoning ordinance is to regulate the nature and extent of the use of land for residential, commercial, industrial, institutional, recreational, agricultural, open space, or other uses including SES, or combination of uses, as determined by the Community Comprehensive Plan. It is also the way municipalities are authorized to permit, prohibit, limit, and restrict buildings, structures, land uses, and other development by setting siting standards, or other requirements, related to air, water, and groundwater quality, noise and glare, energy consumption, wildlife habitat, aesthetic quality, historic and cultural resources, soil erosion and sedimentation, and/or other concerns and resources.

All solar energy systems shall require reviews, and approvals as outlined in this Ordinance. Solar energy systems must be consistent with all applicable State and Federal fire and electrical safety codes and shall obtain all necessary statewide solar, building, and electrical permits from the Building Official prior to commencement of construction.

The municipality should insert the appropriate review authorities to be consulted based upon;

- *the various staff and board/commissions available in the city or town;*
- *the distinction between primary or accessory uses (Level 1, 2 or 3) for the systems, and*
- *the types of review deemed necessary for each.*

Be careful to avoid inclusion of concerns not related to zoning in the ordinance, particularly those regulated by other State Laws. RIGL §23-27.3-100.1.7 *, Effect of Local Codes–Repeal of Local Authority, states that municipalities are not allowed to adopt building code standards that exceed statewide building code standards and are not recognized by the RI Building Code Commission (BCC). On January 1, 2018, a single Statewide Solar Building and Electric Permit Application for all scales of solar projects submitted to a municipality was adopted. All Municipal Building Offices are required to use this state application form and can no longer use their local building/electric permit application for solar projects. Also, in February 2018, the RI Fire Safety Code Board of Appeal and Review unanimously adopted a blanket statewide variance for all proposed ground mounted solar projects to have the ability to provide a Vegetative Management Plan and Fire Permit Variance to local fire marshals for review and approval.*

4.0 District Use Regulations

Another general provision from § 45-24-36, *Division into Districts, is that a zoning ordinance divides a community into use districts, which may include overlay / floating zone districts, the number, kind, type, shape, and area of which shall be suitable to carry out the purposes of the comprehensive plan. Regulations and standards shall be consistent for each land use, type of development, or type of building or structure within a district, but may differ district by district. Zoning use districts are depicted by type and location on the zoning map.*

Municipalities should review each of their districts (including special districts such as historic, aquifer, and/or other overlay districts) and determine whether SES will be permitted or prohibited within each district. Careful consideration should be given to preferred areas in the community where SES are desirable versus areas which are not a preferred location. The principles of the Advisory Working Group (see page 6) suggest that preference could be given to already developed areas such as rooftops, parking lots, and previously disturbed areas, and uses such as, but not limited to closed landfills, brownfields, defunct gravel banks, and/or other areas with difficult redevelopment potential for other land uses. Once the decision to permit or exclude SES is made by

district, then communities should determine the best review process based upon where various SES types will be allowed. ***The regulatory options which municipalities should consider for approving SES under zoning enabling in Rhode Island are:***

> Not a permitted use.
> Allowed as a permitted use- no additional review beyond Building/Zoning Officials.
> Allowed by a Special Use Permit from the Zoning Board/Commission in all or only some districts with siting standards to be met.
> Allowed in all or some districts but Development Plan Review is required by the Planning Board/Commission.
> Allowed in all or some districts but Major Land Development Review is required by the Planning Board/Commission.
> Allowed within an Overlay District with siting standards to be met:
- An Overlay can be floating or mapped to limit overlay to certain districts or other defined areas.
- Review can be either Special Use Permit, Development Plan Review, or Major Land Development.

A zoning ordinance must contain a table describing which uses are allowed within the different zoning districts of the municipality, and what permits and review process(es) will be required for the uses. An illustrative table follows. Municipalities should amend their own use table reflecting their own zoning districts with their desired types and locations for different types of SES. The table illustrates how different types of SES and opportunities for varying types of SES could be located somewhere in a community within differing zoning districts. The consensus of the Advisory Stakeholder Group was that planning boards/commissions have the land use knowledge to review the siting of SES, and thus, SES should be reviewed by planning boards/ commissions as opposed to zoning boards/commissions. Additional rationale for this determination is described in the PowerPoint for Solar Siting Information. ***{Note: The Table has been developed for illustrative purposes only.}***

The following Table includes a range of recommendations to consider. It is not a state directive to permit or prohibit, SES in any way. *Permitting or prohibiting SES is the responsibility and authority of* ***local*** *officials in each of the State's municipalities. Nothing in this guidance is construed to supersede or diminish any regulatory or planning authority granted or delegated to a municipality by state or federal statute. The table does not attempt to describe all potential options but rather provides the most common and simple methods as guidance. It is possible that some of these review processes can be combined and used together, but the zoning enabling, and land development laws are complex, so it is suggested that municipalities craft a permitting system that works for them with the advice of their municipal solicitor. Each community must make land use policy decisions as they see fit, consistent with their adopted community comprehensive plan. For detailed examples of individual solar standards already adopted, see Appendix A, Inventory of Solar Ordinances in Rhode Island, September 2018.*

ILLUSTRATIVE SOLAR ENERGY SYSTEM SITING FOR A ZONING USE TABLE*

Types of Permits required; P = Permitted Use; D = Development Plan Review; M = Major Land Development Review; N = Not Permitted

	Zoning Districts*					
	Residential** Low Density/ Agricultural	Residential Medium - High Density	Commercial/ Business	Industrial	Conservation or Open Space	Comments***
Type of Solar Energy Systems (SES)	P	P	P	P	N	See also Historic X, Chapter XX
Level 1 SES						
Level 2 SES	D	D	P	P	N	See also Development Plan Review, Chapter XX****
Level 3 SES	M	N	D	D	N	See also Section X, Subdivision and Land Development Regulations

** **For Illustrative purposes only**. Actual districts will differ in number and complexity by municipality and each existing use table will need to be tailored to address locating SES as desired. If a solar overlay district is preferred, then it should also be included in the zoning use table.*

*** Minimum lot sizes vary in residential districts. Some urban areas may have lot sizes which are too small for large, ground mounted systems and communities may want to prohibit large solar energy systems in these districts. Some preexisting uses in residential zones with difficult redevelopment potential may be appropriate and desirable areas for SES such as landfills, brownfields, scrap yards, and or defunct gravel banks and may warrant special consideration for streamlined review regardless of the district where they are located.*

****Historic and or other regulations may apply. This is the column to cross reference with other portions of the Ordinance that may be relevant.*

*****Development Plan Review (DPR)- The purpose of development plan review is to ensure that the best design and planning practices, as well as best available technology are used by applicants to avoid or minimize impacts of development on the natural and manmade environment. In addition, it ensures that an application for a proposed use demonstrates consistency with the local comprehensive community plan and the design standards of the Subdivision and Land Development Regulations of the community. Communities are authorized and have broad authority to set specific and objective guidelines, standards and minimum requirements for DPR by Rhode Island General Law § 45-24-49. DPR is not a required review under the Statute, but it is recommended that municipalities consider using it as a tool to provide streamlined reviews for Level 2 SES. DPR means essentially, that a use may be a permitted use but it is subject to siting standards for the location, setbacks, buffers, landscaping, signage, safety, and other requirements. In addition, all environmental impacts must be addressed for approval. If the standards are not met, applications can be denied approval. Some communities may not choose this option for reasons specific to the locality. Instead, they may have all Level 2 and 3 SES reviewed as a Major Land Developments by the Planning Board. That is a local land use policy: the decision must be made at the local level.*

*Major Land Developments (MLD) are defined by the Rhode Island Land Development and Subdivision Review Enabling Act, § 45-23**.** All nonresidential land development projects are considered major land development plans under the Statute. A MLD review consists of four stages; preapplication, master plan, preliminary plan, and final plan. Also required is a public informational meeting on the master plan and a public hearing on the preliminary plan. The consensus of the Advisory Stakeholder Group was that larger SES should be subject to a public meeting with notice to abutters, especially in residential districts. Using the MLD process will effectively meet this recommendation. To streamline reviews, the Planning Board/Commission may vote to combine review stages and to modify and/or waive requirements as specified in § 45-23-62. Review stages may be combined only after the Planning Board determines that all necessary requirements have been met by the applicant.*

NOTES:

1. *Consider DPR approval as a tool to provide a streamlined review for SES as primary use on sites with difficult redevelopment potential within all zoning districts. Examples of such sites could be superfund sites, inactive gravel pits, brownfields, closed landfills, and closed metal scrap yards regardless of their zoning district. These types of sites will vary by community. Another option would be to identify these areas as part of an appropriate location for a solar overlay district to signal a municipality's preference for developing SES in specific locations.*

2. *Lot Coverage - The term "lot coverage" is not described in the Zoning Enabling Act(§ 45-24-31), but the term "lot building coverage" is defined. Lot building coverage is defined as that portion of the lot that is, or may be, covered by buildings and accessory buildings. Solar energy systems are not buildings; therefore, municipalities must distinguish between lot building coverage and define another lot coverage standard for SES. If communities wish to regulate how much of a property can be covered by a primary use SES, then, they should adopt a new definition for calculating a separate lot coverage standard. The lot coverage for an SES should be calculated independently of the lot building coverage if buildings are located on the same site. Communities should review existing lot coverage standards in their zoning ordinances for other land uses to determine a coverage standard that would be appropriate for the various types of SES. If a lot coverage standard for a SES is determined to be appropriate, the standard could be set as an allowable percentage of usage of the lot's total acreage. Factors typically considered when setting a standard are: the total area of the parcel where infrastructure and/or equipment associated with the SES can be located; the amount of infrastructure and/or equipment associated with the SES,* the area occupied by panels verses the areas between panels, *the total area of the parcel, the amount area to be disturbed, the area to fenced verses unfenced, desired setbacks and/or visual buffers, the area of wetlands and state required wetland buffers, if the lot can support dual use, and areas where slopes exceed 15%. Flexibility should be considered if dual use is proposed for the parcel and for those areas where the municipality hopes to encourage development of SES. The definition of a SES herein is not intended to be used as the basis for the calculation of lot coverage.*

3. *Height - The height and placement of SES should be a function of the site characteristics and panel design to achieve maximum efficiency and should also consider factors such as placement to allow growing of crops, the movement of farm animals and/or wildlife underneath, and or other uses such as parking under or between the panels. This is commonly called dual use. Consider allowing property owners to have agricultural uses on site that may be compatible with the SES use.*

5.0 Siting Requirements Generally

This is where the general standards for reviews should be delineated. The standards to be applied to every SES application should be outlined here. These standards should be used by local officials to establish a basis for the findings of fact needed for approval. It is way for a municipality to make clear what is valuable and important to the community. In setting the standards, develop the general principles which would apply to all SES first, then, add requirements for specific types of systems, i.e. Level 1, Level 2, vs. Level 3 and what tiered review requirements need to be applied.

Most of the suggestions below have evolved from the Rhode Island Principles for Renewable Energy Siting discussed previously. Others were added because of research conducted on existing ordinances adopted in Rhode Island, input from public meetings conducted in the summer of 2018, and model examples from other states. The inventory of existing ordinances with adopted requirements can be found in Appendix A. The inclusion or exclusion of any or all the standards below by a municipality within an ordinance is a ***local*** *land use decision which should be made after careful study, discussion and deliberation at public meetings. This section illustrates issues to consider and should be tailored to the needs of each individual community.*

a. Solar energy systems shall be manufactured and designed to comply with applicable industry standards, as may amended for time to time, including but not limited to, the American National Standards Institute (ANSI), Underwriters Laboratories (UL), the American Society for Testing and Materials (ASTM), and other appropriate certifying organizations as may be required by Federal, or State Laws or utility regulations.

b. Solar energy systems shall be located, constructed, installed, and operated to minimize potentially adverse impacts to nearby properties, natural resources, and or individuals. Impacts to be minimized include, but are not limited to, those locations and habitats for animals, including birds, and plant species of concern, and habitat/forest fragmentation.

Any potential impacts to water quality and/or wetlands should be addressed through the required state permits of the Department of Environmental Management (DEM) for wetlands and the Rhode Island Pollution Discharge Elimination System (RIPDES) for storm water. Require these permits for SES within the review process in the same way they are required for other land uses subject to development plan review and/or major land developments requirements.

c. Natural vegetation or additional landscape screening shall be provided as determined by the Planning Board/Commission depending upon the existing land use on the site and the adequacy of the site's natural vegetation or lack thereof to mitigate impacts to public views, scenic roads, and abutters. The Board /Commission shall have the authority to set site specific width of buffers, height of plants at planting, and to require an opaque screen to adjacent properties and/or public roads.

d. Pollinator- friendly seed mixtures shall be used along with native plants to the maximum extent possible. All plants and seeds should be native to the greatest extent practicable, and no plants known or suspected (e.g. aggressive spreading non-natives) to be invasive should be used.

e. Solar energy systems shall be constructed and maintained in a way that minimizes the use of herbicides and pesticides.

f. Solar energy systems shall be constructed to be safe and secure. Where fencing is used, consideration for small and large terrestrial wildlife shall be incorporated into the fencing design. Barbed wire fences shall not be permitted. Fences shall be elevated above grade by a minimum of five inches to allow for passage of small terrestrial animals

Fence construction is a standard item regulated by most zoning ordinances in Rhode Island in some way for many types of land uses. Check to see what fencing requirements already exist in the ordinance. Fence construction requirements can depend on the location of the property, proposed use, abutting uses, the location of the fence, height, and construction materials. There are fencing requirements for ground mounted SES in the National Electric Code and the RI State Fire Code that installers must meet for safety purposes. Consult with the Building Inspector and local fire department/district when adding other special fencing requirements for SES. Other site related fencing concerns are local choices such as where should the security fencing be on the parcel; at the perimeter of the lot, or the edge of the solar arrays? Consider if the fence elevation requirement for small terrestrial animals may be waived by the Planning Board/Commission for sites within urban areas without such wildlife.

g. For installations on agricultural lands, the entire lot should be examined by the Planning Board/Commission and farm owner with areas designated within the total acreage for farming use, buffers, and SES should be located as to minimize impact to prime agricultural soils or soils of statewide importance wherever possible. No topsoil or prime agricultural soil shall be removed from the site for installation of the facility. All soils retained should be reused in the landscaping/ vegetative plan for the site.

h. Solar energy systems connecting directly to a distribution or a transmission system must submit a copy of the preliminary interconnection study with the electric distribution company. Any off-site impacts or infrastructure upgrades necessary to enable the SES shall be identified, especially any impacts to existing street trees within the connection and/or affected municipal rights-of-way. Where such street trees may be impacted, the local Tree Warden shall submit an advisory opinion on the extent of the off-site impacts and a recommendation for mitigation of the impacts.

i. All SES are subject to the town/ city soil erosion and sediment control provisions of this Ordinance as well as the storm water control provisions of the Subdivision and Land Development Regulations.

j. Power and communication lines running between banks of solar panels and to the off-site electric distribution system or interconnections with buildings onsite excepting, the poles owned by the electric distribution company which are typically required to be above ground, shall be buried underground. Exemptions may be granted by the Planning Board/Commission in instances where written documentation for shallow bedrock, a high groundwater table, prior environmental contamination or other elements of the natural landscape interfere with the ability to bury lines.

k. Exterior lighting within the SES shall be the minimum necessary. All fixtures shall be full-cut off fixtures approved by the International Dark Sky Association and correlated color temperatures ≤3000K for bulbs.

l. A SES shall not be located on any lot or portion of a lot that is protected from development by a conservation easement, preservation easement, and or deed restriction.

m. The front, side and rear yards shall be at least fifty (50) feet or the minimum front, side and rear yards required in the zoning district where the SES is located, whichever is greater, measured from the property line to the perimeter of the SES. All setbacks shall be treated as a no-cut buffer. Clearing of any existing vegetation within the front, rear and side setbacks is prohibited, unless specifically approved by the Planning Board/Commission above a certain height to prevent shading of the panels. Selective trimming of trees over twenty feet tall by a state licensed forester within the vegetated buffer may be allowed by the Planning Board/Commission to reduce shading on the SES. The Planning Board shall have the authority to require a wider vegetative buffer or a site specific vegetative management plan if selective trimming is requested.

n. Nothing herein shall preclude the town / city of XX from installing SES on any town-owned or controlled property regardless of the zoning district.

6.0 Review Requirements

For all SES, the following requirements supplement the individual application requirements for Development Plan Review (DPR) and or Major Land Development Review (MLD) applications contained in other sections of this Ordinance and or the Town/City Subdivision and Land Development Regulations.

This is where the development criteria for approval of all SES should be spelled out. Applicants should be able to use this section as an additional checklist to prepare the required information they need to submit for review and approval. Solar energy systems are not one size fits all. Based on the various types of systems defined, the municipality should consider differing review requirements and standards to address the anticipated level of impact from the various systems. These requirements would be unique to SES in addition to the normal standards and requirements for applications for Development Plan and/or Major Land Development Review.

The DPR and MLD processes in most communities already have detailed application submission and public notice requirements and should cover the range of general siting conditions that SES should address. There is no need to repeat the same requirements in this portion of the ordinance. ***It is recommended that if an existing DPR process does not have a notice provision for an informational hearing for items reviewed by the Planning Board, such a procedure be added to the existing process.***

6.1 Review Requirements for Level 2 and Level 3 Solar Energy Systems

The applicant shall provide the following documents, which are generally those of the Development Plan or the Major Land Development Review checklists, provided however, that the Planning Board/Commission may, at its discretion, waive any document requirement or ask for more information as it deems appropriate based upon the submission of the applicant.

a. Narrative Report - The applicant shall provide a summary narrative report containing:

1. Name, address and contact information for proposed system installer, system operator, landowner, applicant, and designated agents representing the project.
2. A project construction schedule.
3. An operation and maintenance plan.
4. A rendering or photo simulation showing the proposed completed project with landscaping.
5. Evidence of compliance with any applicable state environmental regulations and state permits.
6. An emergency response plan for public safety officials.
7. A decommissioning /restoration plan and proposed financial security (with supporting calculations).
8. A landscape plan showing seeding / vegetation plan for the project and maintenance schedule.
9. Evidence that a preliminary interconnection feasibility study is underway and a copy of the application with the electric distribution company.
10. An estimation of annual taxation revenue.

b. Development Plans - All plans related to design, construction, installation or modification of a SES shall be prepared, signed and stamped by either a Rhode Island professional engineer, a Rhode Island registered land surveyor (for property line information), and or a Rhode Island registered landscape architect (for landscape information). In addition, to the checklist requirements for the various stages of Development Plan Review and/or Major Land Development Review, site plans shall show the following information:

1. Class I survey site plan showing:
    I. Property lines and all physical features for the project site.
    II. Proposed changes to the landscape of the site, temporary and permanent limits of disturbance, grading, vegetation clearing and planting, exterior lighting, access points, emergency access provisions, fencing, screening vegetation and/or structures.

2. Blueprints or drawings of the entire SES showing the proposed layout of the system.

3. One- and or three-line electrical diagrams detailing the SES, associated components and electrical interconnection methods, with all current state electrical code compliant disconnects and over current devices.

4. Documentation and or equipment specification sheets of the major system components to be used, including the solar panels, mounting system and inverter.

6.2 Streamlined Reviews for Level 1 - Solar Energy Systems

This section should be used to define how Level 1 SES could be permitted without exhaustive reviews. It makes sense to consider such systems as necessary mechanical equipment for the principal use like heating or cooling systems. The size of the principle use(s) will generally dictate the size of the accessory SES in most cases. This section requires that no more information be submitted than for any other type of permit approved and issued by the local building/plumbing/electrical inspectors.

Level 1 SES are allowed as an accessory use in all zoning districts where structures are allowed, subject to requirements of this Section. Level 1 SES shall be located on the same lot as the principal use being served. Where there is no principal use, Level 1 SES are not allowed.

a. Building- or roof- mounted - For height measurement, Level 1 SES shall be given an equivalent exception to height standards as building mounted mechanical devices or other similar equipment.

b. Ground Mounted Level 1 SES are subject to the accessory height limit in the appropriate district.

c. All accessory structure setbacks for the zoning district where the system is located must be met. Ground mounted Level 1 SES may not extend into any required yard setbacks when oriented at minimum design tilt. Setbacks shall be measured as the distance from the outer edge of the system to the property line.

d. No portion of any Level 1 SES shall extend into any easement, right of way or public way.

e. All exterior electrical and plumbing lines shall be buried below ground and placed in suitable conduits.

f. Compliance with State Building Codes - All Level 1 SES applications shall comply with State Building, Electrical, and Plumbing Codes and shall be required to submit the statewide solar permit application to municipal building and electric office for review and approval.

7.0 Abandonment and Removal of Ground Mounted Level 2 or Level 3 Solar Energy Systems

An abandoned Level 2 or Level 3 ground mounted SES shall be removed within 180 days from the date of discontinued operations and the owner shall send notice by certified mail, of the proposed date that the site will be restored to the town/ city zoning enforcement official. A decommissioning plan shall be required to ensure that facilities are properly removed after their useful life. The plan shall include provisions for removal of all structures and foundations, restoration of soil and vegetation, and a financial security ensuring financial resources will be available to fully decommission the site. Decommissioning shall consist of:

a. Physical removal of all SES structures, equipment, security barriers and transmission or other electrical project lines from within the site to the point of interconnection. The electric distribution company to which the system is interconnected to must be contacted within 180 days of system de-energization to schedule removal of the interconnection lines to the site. The schedule shall be submitted to the Zoning Official.

b. Disposal of all solid and hazardous waste in accordance with all federal, state and local laws, regulations and ordinances.

c. Disposal of all components, wiring, and/or foundations in accordance with the provisions of the town/city solid waste ordinance.

d. Stabilization or revegetation of the site as necessary to minimize erosion and in compliance with all state and local laws, regulations and ordinances. Final site conditions shall be set in a restoration plan by the Planning Board/Commission and/or Planning Staff through the Development Plan Review or Major Land Development Review approval for the SES. Compliance with the approved restoration plan shall be inspected and enforced by the town/ city zoning enforcement official.

e. The property owner or company running the system shall remove the system and all associated structures and components and restore the property in accordance with the approved restoration plan as soon as possible within 180 days of the notice to the town/ city zoning enforcement official.

f. The applicant shall submit a decommissioning / restoration plan, a detailed estimate and explanation of the cost of removal and restoration with the application. The Administrative Officer or other designated official shall recommend to the Planning Board/Commission the amount of the financial security the applicant must provide to ensure facility removal and site restoration. The Planning Board/Commission shall set the amount of the financial security.

If specialized knowledge or experience is necessary to evaluate the SES application and/or the accuracy of the cost estimate or the restoration plan, the Planning Board/Commission or Administrative Officer may refer the matter to one of the municipality's consulting professional engineers for review and comment. Ensure that the checklists used state that the applicant shall be responsible for the cost of any such review. This is a standard peer review best practice for other types of major land developments conducted by the municipality.

g. Before the Statewide Solar Building and Electric Permit is issued, the applicant shall submit the financial guarantee to the finance director. The finance officer/director shall approve the form and duration of the guarantee in one acceptable to the municipality.

Consult with the finance officer/director/department as to which forms of security are acceptable. Acceptable and preferred forms could differ by community. Some communities accept cash, bonds, letters of credit, or the establishment of an escrow account to ensure proper decommissioning. The entire cost should be calculated as if the community must remove the inactive system not the property owner or company running the system. Additionally, the cost should include, removal of all mounting frames and hardware, mounts, all underground materials, such as transmission lines and restoration of the original soils, if on or previously undeveloped land or an agricultural property, not only the removal of solar panels. The future use of the site should be considered and factored into the restoration plan and final costs. Remember to include inflation in the calculation for removal over the estimated life of the system. The costs should reflect what it may cost the municipality to restore the property without the benefit of specialized knowledge and or access markets that the SES operators themselves might be able to use. Consider, when setting the security, that there is no certainty that a municipality would be able to recycle or salvage materials from the site. See Appendix B, RI & MA Ground Mount Solar Systems Decommission Data for a survey of actual decommissioning securities set in 2018.

h. If the owner and or operator fail to remove the ground mounted SES in accordance with the provisions of this Section, the town/ city may enter the property and physically remove the SES. The cost of such removal shall be the responsibility of the owner and operator of the SES and the town /city will have all rights associated in compliance with the decommissioning agreement, including the recording of a municipal lien against the system owner and the landowner of record in the land evidence records for all costs associated therewith.

8.0 Violations

It shall be unlawful for any person or entity to construct, install, operate, or substantially modify a SES that is not in compliance with the provisions of this ordinance or with any condition contained in a permit issued pursuant to this ordinance.

9.0 Severability

The provisions of this ordinance are severable, and the invalidity of any section, subdivision, paragraph, or other part of this ordinance shall not affect the validity or effectiveness of the remainder of the ordinance.

Note on Enforcement: *Anyone who fails to comply with an applicable provision of a zoning ordinance or an approval issued pursuant to a zoning ordinance is subject to enforcement and penalties as stipulated in that zoning ordinance. The zoning ordinance is enforced in most areas by the Building / Zoning or Code Enforcement Officials. R.I. General Law § 45-24-60 provides the procedure and penalties for addressing violations including, provisions for legal action for assistance with enforcement. Municipalities may request court actions or injunctions. In extreme cases, municipalities may pursue criminal actions with fines or imprisonment as penalties in court.*

*OER worked with the RI League of Cities and Towns, RI Tax Assessors Organization and the renewable energy community on a model renewable taxation ordinance in the Summer/Fall of 2016. It is recommended that municipalities adopt **both** solar siting and renewable taxation ordinances at the same time to ensure that both Planning and Taxation Offices know the basic rules before solar applications are submitted. As of August 2018, 18 municipalities have adopted taxation ordinances.*

MODEL ORDINANCE NO. XX
ORDINANCES OF THE TOWN/CITY OF

TAXATION
* * *
Article XX

Taxation of Renewable Energy Systems

§XXXX. Findings.

Pursuant to Section 44-3-3 (a) (48) (49) of the Rhode Island General Laws, residential and manufacturing properties that install renewable energy systems are exempt from local taxation.

Pursuant to Section 44-5-3 (c)-(e) of the Rhode Island General Laws, commercial renewable energy systems shall be subject to a tangible tax payment to the municipality through rules and regulations that have been adopted by the Rhode Island Office of Energy Resources for all commercial renewable energy systems.

Pursuant to 44-3-21 of the Rhode Island General Laws, city or town councils of the various cities and towns may, by ordinance, exempt from taxation any renewable energy system located in the city or town.

§XXXX. Action.

In accordance with Section 44-5-3 (c) of the RI General Laws the city/town of XXXX hereby authorizes its assessor to levy a tax on renewable energy tangible property as defined in 39-26-5 in accordance with the rules and regulations executed by the Rhode Island Office of Energy Resources.

In accordance with 44-3-21 of the RI General Laws the city/town of XXXX hereby exempts from taxation commercial net-metered renewable energy systems with the sole purpose to offset electricity bills and not to sell power back to the electric distribution system.

Property owners installing renewable energy systems shall be required to provide the interconnection application between the renewable energy developer and the electric distribution company (National Grid or Pascoag Utility) and any documentation of program enrollment (e.g., renewable energy growth or net metering enrollment forms) to the town/city indicating if the renewable energy system is net-metered or if the system is selling a portion or all of the energy produced back to National Grid under the Renewable Energy Growth Program. A copy of the final interconnection service agreement executed between the renewable energy developer and electric distribution company shall be provided to the city/town prior to construction of the renewable energy system.

Appendix A
Inventory of Solar Ordinances in Rhode Island

This document may be viewed at
http://www.energy.ri.gov/renewable-energy/solar/model-ordinance.php

Municipality	Ordinance Citation	Applicability by Type	Location Applied	Adopted Tax ordinance?	Prohibited Areas	Special Exemptions	Decommissioning Plan	Notes	References
Barrington	N/A			Yes, (Chapter 169-23)			N/A	Tax Exeption for Renewable Systems	https://ecode360.com/30619893
Bristol	N/A			Yes, (Chapter 27, Article II)			N/A		
Burrillville	Sec. 30-211	Roof and ground mounted	SUP in VC, GC, GI	Yes, (Sec. 25-5)		None	Decommissioning plan is required (removal, disposal and re-vegitation)	Insurance required, no more than 20% of lot coverage, clear-cutting of forest prohibited	https://library.municode.com/ri/burrillville/codes/code_of_ordinances?nodeId=PTIIRECOOR_CH30ZO_ARTVISPUSRE_S30-211GROUNSOPHIN
Central Falls	Sec. 506 (not fully addressed)			None found			N/A	No ordinance, but Residential/Roof Mounted allowed above max height	http://clerkshq.com/default.ashx?clientsite=centralfalls-ri
Charlestown	Solar under development (proposed new subsection; not on muni code)	"Solar Farms"		None found			"responsibility of the land 158 owner to remove all obsolete or unused installation systems within (12) months, after cessation..."		http://www.charlestownri.org/vertical/sites/%7BDF98A5B8-A4E3-47A1-A0B7-0411E21C0E1C%7D/uploads/375_-_Chapter_218_Zoning_Major_Solar_Farms.pdf
Coventry	Article 21	Roof and ground mounted	All zones allowed as accessory use(minor), Med. By SUP	Addressed, but not exempt (Chapter 217-26)			Decommision plan is required "proof of financial surety for removal"	Ground system categories (Minor, Medium, and Major) - Max lot coverage is 15%	https://ecode360.com/32721592 Wind: https://ecode360.com/32721452
Cranston	Chapters 17.04.030(Definitions) 17.20.030- Uses 17.24.020- Perf. Stadards		By right in A-80, M-1, M-2 and S-1 zones	Yes, waiver for systems no selling excess power, (Chapter 3.16.060)	All other zones not listed		Defunct systems must be removed within 150 days. Financial surety up to 125% of cost as determined by an engineer(hired by city, but paid for by operator)	By right in A-80, M-1, M-2 and S-1 zones - Addresses decomissioning and abandonment	https://library.municode.com/ri/cranston/codes/code_of_ordinances?nodeId=CO_TIT17ZO_CH17.24PESTGE_17.24.020SOPOPEST
Cumberland	Article 18-8 (Ammed. 2017)	Roof and ground mounted		Yes- systems under 250KW exempt, (Chapter 36-7&8)	" forested areas shall not be cleared for the purpose of installing solar installations"		Removal of structures, disposal and "stabilization or re-vegitation is required. After 150, Town "may remove the facility"	Dimensional guidelines are discussed, Abandonment is addressed	
E. Greenwich	Ord.#873, Article XX, Sec. 260-119 through 260*-123 (Nov.2017)	Roof, Intrgrated, Covered Parking, Ground, Minor, Major		Yes, RIGL 44-3-3 referenced (Chapter 227-50)	Downtown Hist. Dist.(ground)	Tax Exeption for Renewable Systems	Parcel owner must remove obsolete systems within 6 mos. PB "may" require financial security covering removal. Estimate prepared by licensed engineer	20ft vegetated buffer	pdf
E. Providence	Div. 4, Sec. 19-176.	Ground mounted		Yes- Minor systems exempt, major systems fully taxable(Sec 16-98)		City Landfill (FORBES)	Owner OR Operator must remove obsolete systems within 6 mos. Applicants shall provide financial security covering removal. **"The amount shall include a mechanism for calculating increased removal costs due to inflation"**	Large projects subject to Land Dev Projects procedure, Addresses abandonment and decommissioning, Mentions consistency with Comp Plan	http://clerkshq.com/default.ashx?clientsite=eastprovidence-ri
Exeter	Sec. 11.1 (update Pending)	Utility scale	Allowed in B, LB-R, LI, GWOL and PVDD. SUP in RU-4, CR-5 and Planned Dist.	Yes, MAY elect to exempt systems NOT selling power. Other systems are taxes $5/kW (Chapter 227-50)		Net metering allowed in all zones	Decommission plan req. for utility scale installs	Solar Ord. currently being drafted	https://library.municode.com/ri/exeter/codes/code_of_ordinances?nodeId=APXAZO_ARTXIREEN
Foster	Section 23, Solar Installations		All zones	No, but mentions RIGL 44-3-21 (Chaper 34-54(5))			Parcel owner must remove obsolete systems within 6 mos.	Maj. Land Dev. Approval for systems over 250kw or 40%+ of net buildable area	https://www.townoffoster.com/sites/fosterri/files/news/muncipal_codes_2017.pdf

Appendix B
RI & MA Ground Mount Solar Systems Decommission Data 2018

State	Municipality	1-4.99 Megawatt (MW) Solar System Size	Decommissioning Dollar Amount	Payment Type
MA	Belchertown	1.5 MW	$20,000.00	Escrow
MA	Dartmouth	2.8 MW	$42,000.00	Escrow
MA	Fitchburg	4.5 MW	$45,000.00	Surety Bond
MA	Granby	4 MW	$39,990.00	Escrow
MA	Hadley	1.98 MW	$46,300.00	Escrow
MA	Hadley	2.65 MW	$46,300.00	Escrow
MA	Plainfield	2.7 MW	$27,027.00	Escrow
MA	Rutland	2.6 MW	$26,000.00	Escrow
MA	Sutton	1.1 MW	$11,000.00	Escrow
MA	Whatley	1.3 MW	$9,750.00	Escrow
MA	Plymouth	1.321 MW	$185,000.00	Cash Payment
MA	Warren	1.342 MW	$100,000.00	Surety Bond
MA	Freetown	2.877 MW	$40,000.00	Surety Bond
MA	Freetown	2.877 MW	$40,000.00	Surety Bond
MA	Plympton	2.531 MW	$100,000.00	Cash Payment
MA	Barre	1.298 MW	$44,595.00	Cash Payment
MA	Hubbardston	1.298 MW	$55,857.00	Surety Bond
MA	Hubbardston	1.359 MW	$55,857.00	Surety Bond
RI	Warren	4.7 MW	$154,400.00	Surety Bond
RI	Richmond	4.73 MW	$200,000.00	Surety Bond
RI	Hopkinton	1.57 MW	$45,000.00	Line of Credit
RI	Hopkinton	2.94 MW		
RI	Hopkinton	1.3 MW	$9,970.00	Letter of Credit
RI	Coventry	1 MW	$9,100.00	Escrow
RI	Foster	1.25 MW	$6,625.00	Escrow
RI	Johnston	1.591 MW	$32,290.00	Cash Escrow
RI	Johnston	2.203 MW	$44,710.00	Cash Escrow
RI	Johnston	2.734 MW	$49,290.00	Cash Escrow
RI	Warwick	1.038 MW	$20,000.00	Cash Escrow
RI	North Providence	2.659 MW	$56,299.00	Cash Escrow
		Average Decommission Dollar Amount	**$53,874.48**	

State	Municipality	0.100 to 1 Megawatt (MW) Solar System Size	Decommissioning Dollar Amount	Payment Type
RI	Hopkinton	0.998 MW	$9,970.00	Surety Bond
RI	Hopkinton	0.250 MW	$6,598.00	Cash Escrow
RI	Hopkinton	0.250 MW	$6,598.00	Cash Escrow
RI	Hopkinton	0.250 MW	$6,598.00	Cash Escrow
RI	Hopkinton	0.250 MW	$6,598.00	Cash Escrow
RI	Hopkinton	0.250 MW	$6,598.00	Cash Escrow
RI	Hopkinton	0.250 MW	$6,598.00	Cash Escrow
RI	Hopkinton	0.250 MW	$6,598.00	Cash Escrow
RI	Hopkinton	0.250 MW	$6,598.00	Cash Escrow
RI	Foster	0.996 MW	$7,785.00	Escrow
MA	Hardwick	0.646 MW	$49,044.00	Surety Bond
MA	Hardwick	0.649 MW	$49,044.00	Surety Bond
RI	Richmond	0.216 MW	$6,600.00	Surety Bond
RI	Richmond	0.828 MW	$9,970.00	Surety Bond
RI	Hopkinton	0.500 MW	None - Preordinance	None - Preordinance
RI	Hopkinton	0.998 MW	$9,970.00	Surety Bond
		Average Decommission Dollar Amount	**$12,197.94**	

State	Municipality	5 to 10 Megawatt (MW) Solar System Size	Decommissioning Dollar Amount	Payment Type
RI	Warwick	6.272 MW	$117,500.00	Cash Escrow
RI	Richmond	5.85 MW	$200,000.00	Surety Bond
MA	Stafford	6.950 MW	$361,192.00	Surety Bond
		Average Decommission Dollar Amount	**$226,230.67**	

State	Municipality	11 to 20 Megawatt (MW) Solar System Size	Decommissioning Dollar Amount	Payment Type
RI	Hopkinton	18.8 MW	$316,664.00	Surety Bond
RI	Hopkinton	15 MW	$264,500.00	Surety Bond
RI	Cranston	21.29 MW	$269,822.00	Cash Escrow
		Average Decommission Dollar Amount	**$283,662.00**	