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STATE OF RHODE ISLAND

IN GENERAL ASSEMBLY

JANUARY SESSION, A.D. 2023

A N A C T

RELATING TO HEALTH AND SAFETY -- SOLAR NEIGHBORHOODS ACT

Introduced By: Representatives Boylan, McGaw, Speakman, Donovan, Ajello, Handy,  
Cortvriend, Fogarty, Potter, and Stewart

Date Introduced: March 01, 2023

Referred To: House Corporations

It is enacted by the General Assembly as follows:

1 SECTION 2. Title 23 of the General Laws entitled "HEALTH AND SAFETY" is hereby  
2 amended by adding thereto the following chapter:

3 CHAPTER 27.5

4 SOLAR NEIGHBORHOODS ACT

5 **23-27.5-1. Short title.**

6 This chapter shall be known and may be cited as the "Solar Neighborhoods Act."

7 **23-27.5-2. Definitions.**

8 As used in this chapter the following words shall have the following meanings unless the  
9 context clearly requires otherwise:

10 (1) "Commission" means the Rhode Island state building code commission.

11 (2) "Developer" means any person or company that constructs residential or commercial  
12 buildings.

13 (3) "Effective solar area" means the portion of a building roof on which the output from a  
14 solar energy system, taking into account shading from existing permanent natural or manmade  
15 barriers external to the building (including, but not limited to, trees, hills, and adjacent structures),  
16 would be equivalent to seventy percent (70%) or greater of the output of an unshaded solar energy  
17 system on an annual basis.

18 (4) "Green roof" means a layer of vegetation planted over the roof of a building.

19 (5) "Large commercial building" means a commercial building with ten thousand (10,000)

1 or more square feet of gross floor area.

2 (6) “Multi-family dwelling” means a building intended to be inhabited as a primary or  
3 secondary residence by multiple individuals or groups of individuals living in separate residential  
4 units.

5 (7) “New building” means any newly constructed residential or commercial building that  
6 requires a building permit to proceed.

7 (8) “New renewable energy generating sources” means the energy generating sources  
8 known as Class I renewable energy generating sources. A Class I renewable generating source may  
9 be located behind the customer meter within the ISO-NE Regional Transmission Organization  
10 control area if the output is verified by an independent verification system participating in the  
11 (NEPOOL GIS) New England Power Pool Generation Information System accounting system and  
12 approved by the commission. A Class I renewable energy generating source is one that began  
13 commercial operation after December 31, 1997, or represents the net increase from incremental  
14 new generating capacity after December 31, 1997 at an existing facility, where the facility generates  
15 electricity using any of the following:

16 (i) Solar photovoltaic or solar thermal electric energy;

17 (ii) Wind energy;

18 (iii) Ocean thermal, wave or tidal energy;

19 (iv) Fuel cells utilizing renewable fuels;

20 (v) Landfill gas;

21 (vi) Low emission advanced biomass power conversion technologies using fuels such as  
22 wood, by-products or waste from agricultural crops, food or animals, energy crops, biogas, liquid  
23 biofuel including, but not limited to, biodiesel, organic refuse-derived fuel, or algae;

24 (vii) "Marine or hydrokinetic"; and

25 (viii) "geothermal energy".

26 (9) “Single-family dwelling” means a building intended to be inhabited as a primary or  
27 secondary residence by one individual or group of individuals.

28 (10) “Solar energy system” means any solar photovoltaic system that is installed on site  
29 and uses solar energy to provide all or a portion of the electrical needs of a residential or commercial  
30 building.

31 (11) “Solar hot water heater” means any system that uses solar energy to heat water for use  
32 in a residential or commercial building.

33 (12) “Substitute renewable energy system” means a renewable energy generating source,  
34 as set forth in § 23-27.5-5(b), that is not a solar photovoltaic system, is installed on site, and

1 provides all or a portion of the electrical needs of a residential or commercial building.

2 **23-27.5-3. New construction requirements -- Solar energy systems.**

3 (a) All new buildings regulated by this chapter shall be built to accommodate the  
4 installation of a solar energy system on their roofs. The commission shall develop and adopt  
5 amendments to the state building code within one year from the effective date of this chapter, in  
6 consultation with the office of energy resources, to establish this requirement.

7 (b) In drafting the amendments to the building code, the commission shall take into account  
8 existing building code requirements and compliance costs. The commission shall also consult with  
9 scientists, engineers, and professional societies with relevant expertise in solar energy systems and  
10 building construction, and shall hold at least one public hearing.

11 (c) At a minimum, the amendments to the building code shall include requirements for:

12 (1) Static load roof strength, with a requirement that roofing where solar equipment could  
13 be placed be capable of supporting a minimum of six pounds per square foot (6 psf);

14 (2) Placement of non-solar related rooftop equipment, taking into account positioning that  
15 avoids shading of solar equipment and maximization of continuous roof space;

16 (3) Sizing and provision of extra electrical panels to accommodate the addition of an  
17 appropriately sized future solar energy system; and

18 (4) Provision of space for a solar energy system DC-AC inverter in the utility room or on  
19 an outside wall.

20 (d) The commission shall also consider including requirements for:

21 (1) Roof orientation and angle;

22 (2) Roof types that are compatible with a solar installation mounting strategy that will  
23 require minimal or no roof penetrations;

24 (3) A conduit for wiring from roof to electric panel; and

25 (4) Electric vehicle charging station infrastructure to include, but not limited to, a  
26 requirement that a garage attached or detached to a new single-family dwelling contain a minimum  
27 of a two hundred forty volts/thirty amps (240v/30A) circuit and outlet capable of fully charging an  
28 electric vehicle within ten (10) hours, and a multi-family dwelling shall have charging stations  
29 available for all residents capable of providing identical or superior performance in charging  
30 capabilities.

31 (e) To the extent necessary, the amendments to the building code shall establish separate  
32 standards for residential and commercial buildings and for different building types and  
33 occupancies.

34 **23-27.5-4. Requirements.**

1 (a) Certain categories of new buildings, as specified in this section, shall be required to  
2 have a solar energy system. The commission shall develop and adopt amendments to the state  
3 building code within one year from the effective date of this chapter, in consultation with the office  
4 of energy resources, to establish this requirement.

5 (b) Single-family dwellings shall have a solar energy system producing sufficient  
6 electricity on an annual basis to meet at least eighty percent (80%) of the estimated average annual  
7 electricity use of dwellings of a similar size; provided, however, the commission may adopt code  
8 provisions reducing the requirement of the energy system to forty percent (40%) of the estimated  
9 average annual use if implemented with required provisions which are grid-friendly to include  
10 battery storage, energy efficiency, and demand-response measures.

11 (c) Multi-family dwellings and large commercial buildings up to ten (10) stories in height  
12 shall have a solar energy system of a minimum generating capacity established by the commission,  
13 which may be based on the size of the roof, building type and occupancy, estimated average annual  
14 electricity use of similar buildings, or other factors.

15 (d) All new construction of outdoor (uncovered) parking lots larger than sixteen thousand  
16 square feet (16,000 sq. ft) shall include raised solar-panel canopies covering at least fifty percent  
17 (50%) of the surface of the parking lot, that five percent (5%) of the parking spaces shall include  
18 electric vehicle (EV) charging stations and that an additional twenty percent (20%) of parking  
19 spaces shall be equipped with the infrastructure to facilitate upgrading to additional EV charging  
20 stations for potential future use.

21 (e) The commission may require other categories of new buildings to have a solar energy  
22 system, and set requirements for the minimum generating capacity of the solar energy system.

23 (f) The commission may reduce the required minimum generating capacity of solar energy  
24 systems for single-family dwellings by up to twenty-five percent (25%) if installed in conjunction  
25 with a battery storage system with a minimum capacity of seven and one-half kilowatt-hours (7.5  
26 kWh) per dwelling unit.

27 (g) The commission, in consultation with the office of energy resources, shall estimate the  
28 average annual electricity use for the categories of buildings described in this section and revise its  
29 determination at least every three (3) years, taking into account changes in electricity use due to  
30 energy efficiency improvements, electric vehicle charging, electric heating and cooling  
31 technologies, and other factors.

32 **23-27.5-5. Exemptions.**

33 (a)(1) Developers may seek an exemption from the commission requirements of §§ 23-  
34 27.5-3 and 23-27.5-4 upon a sufficient showing that the effective solar area is less than eighty (80)

1 contiguous square feet.

2 (2) Developers may seek a reduction in the required generating capacity of a solar energy  
3 system upon a sufficient showing that the effective solar area is eighty (80) contiguous square feet  
4 or greater; however, the area is insufficient to allow for the installation of a solar energy system  
5 meeting the minimum requirements established by the commission.

6 (3) An exemption pursuant to subsection (a)(1) or (a)(2) of this section shall only be  
7 approved if the developer establishes that there is no practical way to design or redesign the housing  
8 or project to comply with the provisions of this chapter.

9 (b) Developers may seek an exemption from the commission requirements of §§ 23-27.5-  
10 3 and 23-27.5-4 upon a sufficient showing that a substitute renewable energy system will be  
11 installed at the time of construction, generating an equal or greater amount of electricity on an  
12 annual basis as the minimum required solar installation under § 23-27.5-4. Developers may seek a  
13 reduction in the required generating capacity of a solar energy system upon a sufficient showing  
14 that a substitute renewable energy system will be installed at the time of construction, generating  
15 sufficient electricity on an annual basis to offset the reduction in electricity produced by the solar  
16 energy system.

17 (c) Developers may seek an exemption from the commission requirements under §§ 23-  
18 27.5-3 and 23-27.5-4, or a reduction in the required generating capacity of a solar energy system,  
19 upon a sufficient showing that a solar hot water heater will be installed at the time of construction.  
20 Such exemption or reduction shall only be granted to the extent that the installation of a solar hot  
21 water heater reduces the portion of the effective solar area available for a solar energy system.

22 (d) The commission may allow exemptions from the requirements of this chapter for  
23 affordable housing developments, if after consulting with affordable housing developers and  
24 operators, community development corporations, organizations that represent affordable housing  
25 residents, and other stakeholders, the commission concludes there is no viable source to fund or  
26 finance the provisions of this chapter relative to affordable housing and failure to provide an  
27 exemption shall prevent the construction of affordable housing units.

28 (e) Nothing in this chapter shall be construed as requiring or encouraging the cutting,  
29 destruction or removal of trees to comply with any provision of this chapter.

30 (f) The commission shall promulgate rules and regulations within one year of the effective  
31 date of this chapter that clearly define the process for seeking an exemption.

32 (g) The provisions of the commission adopted under this chapter shall allow for the  
33 installation of a green roof in conjunction with a rooftop solar energy system.

34 **23-27.5-6. Revisions and amendments.**

1           (a) All future editions and amended versions of the building code, as adopted by the  
2 commission, shall include provisions meeting the requirements of §§ 23-27.5-3, 23-27.5-4, and 23-  
3 27.5-5.

4           (b) The commission may from time to time revise the regulations promulgated under §§  
5 23-27.5-3, 23-27.5-4, and 23-27.5-5, to increase the requirements in accordance with changes in  
6 technology and building practices.

7           **23-27.5-7. Eligibility for incentives, rebates and credits not effected.**

8           Compliance with the provisions of this chapter shall not impair a building's eligibility for  
9 any incentives, rebates, credits, or other programs to encourage development of renewable energy  
10 resources.

11           **23-27.5-8. Compliance.**

12           A building permit for a new building shall not be granted without a showing that the  
13 building complies with the requirements of this chapter.

14           **23-27.5-9. Penalties.**

15           Any person who fails to comply with or otherwise violates this chapter shall be liable for  
16 a civil administrative penalty not to exceed ten thousand dollars (\$10,000) for each violation, or  
17 twice the estimated additional cost that would have been incurred by constructing a building to  
18 meet the requirements of this chapter, whichever is greater.

19           SECTION 3. This act shall take effect upon passage.

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EXPLANATION  
BY THE LEGISLATIVE COUNCIL  
OF  
A N A C T  
RELATING TO HEALTH AND SAFETY -- SOLAR NEIGHBORHOODS ACT

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1           This act would mandate that certain new residential building construction include solar  
2 power capabilities pursuant to the rules and regulations promulgated by the state building code  
3 commission. This act would also require that new residential building construction provide for  
4 electric vehicle charging stations.

5           This act would take effect upon passage.

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