

HOUSE No. 3278

The Commonwealth of Massachusetts

PRESENTED BY:

Mike Connolly and Jack Patrick Lewis

To the Honorable Senate and House of Representatives of the Commonwealth of Massachusetts in General Court assembled:

The undersigned legislators and/or citizens respectfully petition for the adoption of the accompanying bill:

An Act establishing solar neighborhoods.

PETITION OF:

NAME:	DISTRICT/ADDRESS:	DATE ADDED:
<i>Mike Connolly</i>	<i>26th Middlesex</i>	<i>2/18/2021</i>
<i>Jack Patrick Lewis</i>	<i>7th Middlesex</i>	<i>2/18/2021</i>
<i>Lindsay N. Sabadosa</i>	<i>1st Hampshire</i>	<i>2/18/2021</i>
<i>Bud L. Williams</i>	<i>11th Hampden</i>	<i>2/26/2021</i>
<i>Danillo A. Sena</i>	<i>37th Middlesex</i>	<i>3/19/2021</i>
<i>Steven C. Owens</i>	<i>29th Middlesex</i>	<i>3/23/2021</i>

HOUSE No. 3278

By Messrs. Connolly of Cambridge and Lewis of Framingham, a petition (accompanied by bill, House, No. 3278) of Mike Connolly, Jack Patrick Lewis and others relative to establishing solar neighborhoods. Telecommunications, Utilities and Energy.

The Commonwealth of Massachusetts

**In the One Hundred and Ninety-Second General Court
(2021-2022)**

An Act establishing solar neighborhoods.

Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:

1 The General Laws, as appearing in the 2018 Official Edition, are hereby amended by
2 inserting after chapter 25C the following chapter:-

3 CHAPTER 25D. SOLAR NEIGHBORHOODS ACT.

4 Section 1. As used in this chapter the following words shall have the following meanings
5 unless the context clearly requires otherwise:-

6 “Department”, department of energy resources.

7 “Developer”, any person or company that constructs residential or commercial buildings.

8 “Effective solar area”, the portion of a building roof on which the output from a solar
9 energy system, taking into account shading from existing permanent natural or manmade barriers
10 external to the building (including but not limited to trees, hills, and adjacent structures), would

11 be equivalent to 70 percent or greater of the output of an unshaded solar energy system on an
12 annual basis.

13 “Green roof,” a layer of vegetation planted over the roof of a building.

14 “Large commercial building”, a commercial building with 10,000 or more square feet of
15 gross floor area.

16 “Multi-family dwelling”, a building intended to be inhabited as a primary or secondary
17 residence by multiple individuals or groups of individuals living in separate apartments.

18 “New building”, any newly constructed residential or commercial building that requires a
19 building permit to proceed.

20 “Single-family dwelling”, a building intended to be inhabited as a primary or secondary
21 residence by one individual or group of individuals.

22 “Solar energy system”, any solar photovoltaic system that is installed on site and uses
23 solar energy to provide all or a portion of the electrical needs of a residential or commercial
24 building.

25 “Solar hot water heater”, any system that uses solar energy to heat water for use in a
26 residential or commercial building.

27 “Substitute renewable energy system”, a renewable energy generating source, as defined
28 in section 11F of chapter 25A, that is not a solar photovoltaic system, is installed on site, and
29 provides all or a portion of the electrical needs of a residential or commercial building.

30 Section 2. (a) All new buildings shall be built to accommodate the installation of a solar
31 energy system on their roofs. The department shall develop and adopt amendments to the state
32 building code within 1 year from the passage of this act, in consultation with the board of
33 building regulations and standards, to establish this requirement.

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

38 (c) At a minimum, the amendments to the building code shall include requirements for:
39 (1) static load roof strength, with a requirement that roofing where solar equipment could be
40 placed be capable of supporting a minimum of 6 pounds per square foot; (2) placement of non-
41 solar related rooftop equipment, taking into account positioning that avoids shading of solar
42 equipment and maximization of continuous roof space; (3) sizing and provision of extra
43 electrical panels to accommodate the addition of an appropriately sized future solar energy
44 system; and (4) provision of space for a solar energy system DC-AC inverter in the utility room
45 or on an outside wall.

46 (d) The department shall also consider including requirements for: (1) roof orientation
47 and angle; (2) roof types that are compatible with a solar installation mounting strategy that will
48 require minimal or no roof penetrations; and (3) a conduit for wiring from roof to electric panel.

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

52 Section 3. (a) Certain categories of new buildings, as specified in this section, shall be
53 required to have a solar energy system. The department shall develop and adopt amendments to
54 the state building code within 1 year from the passage of this act, in consultation with the board
55 of building regulations and standards, to establish this requirement.

56 (b) Single-family dwellings shall have a solar energy system producing sufficient
57 electricity on an annual basis to meet at least 80 percent of the estimated average annual
58 electricity use of dwellings of a similar size.

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

63 (d) The department may require other categories of new buildings to have a solar energy
64 system, and set requirements for the minimum generating capacity of the solar energy system.

65 (e) The department may reduce the required minimum generating capacity of solar
66 energy systems for single-family dwellings by up to 25 percent if installed in conjunction with a
67 battery storage system with a minimum capacity of 7.5 kilowatt-hours per dwelling unit.

68 (f) The department shall estimate the average annual electricity use for the categories of
69 buildings described in this section and revise its determination at least every three years, taking
70 into account changes in electricity use due to energy efficiency improvements, electric vehicle
71 charging, electric heating and cooling technologies, and other factors.

72 Section 4. (a) Developers may seek an exemption from the inspector of buildings or
73 building commissioner from the requirements of sections 2 and 3 of this chapter upon a
74 sufficient showing that the effective solar area is less than 80 contiguous square feet. Developers
75 may seek a reduction in the required generating capacity of a solar energy system upon a
76 sufficient showing that the effective solar area is 80 contiguous square feet or greater, but is
77 insufficient to allow for the installation of a solar energy system meeting the minimum
78 requirements established by the department.

79 (b) Developers may seek an exemption from the inspector of buildings or building
80 commissioner from the requirements of sections 2 and 3 of this chapter upon a sufficient
81 showing that a substitute renewable energy system will be installed at the time of construction,
82 generating an equal or greater amount of electricity on an annual basis as the minimum required
83 solar installation under section 3 of this chapter. Developers may seek a reduction in the required
84 generating capacity of a solar energy system upon a sufficient showing that a substitute
85 renewable energy system will be installed at the time of construction, generating sufficient
86 electricity on an annual basis to offset the reduction in electricity produced by the solar energy
87 system.

88 (c) Developers may seek an exemption from the inspector of buildings or building
89 commissioner from the requirements under sections 2 and 3 of this chapter, or a reduction in the
90 required generating capacity of a solar energy system, upon a sufficient showing that a solar hot
91 water heater will be installed at the time of construction. Such exemption or reduction shall only
92 be granted to the extent that the installation of a solar hot water heater reduces the portion of the
93 effective solar area available for a solar energy system.

94 (d) The department may allow exemptions from the requirements of this chapter for
95 affordable housing developments, after consulting with affordable housing developers and
96 operators, community development corporations, organizations that represent affordable housing
97 residents, and other stakeholders.

98 (e) The board of building regulations and standards shall promulgate regulations within 1
99 year of the passage of this act that clearly define the process for seeking an exemption.

100 (f) The provisions of the building code adopted under this chapter shall allow for the
101 installation of a green roof in conjunction with a rooftop solar energy system.

102 Section 5. (a) All future editions and amended versions of the building code, as adopted
103 by the board of building regulations and standards, shall include provisions meeting the
104 requirements of sections 2, 3, and 4 of this chapter.

105 (b) The board of building regulations and standards, with the consent of the department,
106 may from time to time revise the regulations promulgated under sections 2, 3, and 4 of this
107 chapter, in accordance with changes in technology and building practices.

108 Section 6. Compliance with the provisions of this chapter shall not impair a building's
109 eligibility for any incentives, rebates, credits, or other programs to encourage development of
110 renewable energy resources.

111 Section 7. A building permit for a new building shall not be granted without a showing
112 that the building complies with the requirements of this chapter.

113 Section 8. Any person who fails to comply with or otherwise violates this chapter shall be
114 liable for a civil administrative penalty not to exceed \$10,000 for each violation, or twice the

115 estimated additional cost that would have been incurred by constructing a building to meet the
116 requirements of this chapter, whichever is greater.