

**HOUSE . . . . . No. 3390**

**The Commonwealth of Massachusetts**

PRESENTED BY:

*Mike Connolly*

*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 promoting solar-ready construction.**

PETITION OF:

NAME:	DISTRICT/ADDRESS:
<i>Mike Connolly</i>	<i>26th Middlesex</i>
<i>Jennifer E. Benson</i>	<i>37th Middlesex</i>
<i>William Crocker</i>	<i>2nd Barnstable</i>
<i>Marjorie C. Decker</i>	<i>25th Middlesex</i>
<i>Sal N. DiDomenico</i>	<i>Middlesex and Suffolk</i>
<i>James B. Eldridge</i>	<i>Middlesex and Worcester</i>
<i>Sean Garballey</i>	<i>23rd Middlesex</i>
<i>Solomon Goldstein-Rose</i>	<i>3rd Hampshire</i>
<i>Stephan Hay</i>	<i>3rd Worcester</i>
<i>Jonathan Hecht</i>	<i>29th Middlesex</i>
<i>Paul R. Heroux</i>	<i>2nd Bristol</i>
<i>Natalie Higgins</i>	<i>4th Worcester</i>
<i>Patricia D. Jehlen</i>	<i>Second Middlesex</i>
<i>Mary S. Keefe</i>	<i>15th Worcester</i>
<i>Kay Khan</i>	<i>11th Middlesex</i>
<i>Jack Lewis</i>	<i>7th Middlesex</i>
<i>Juana Matias</i>	<i>16th Essex</i>
<i>Denise Provost</i>	<i>27th Middlesex</i>

<i>David M. Rogers</i>	<i>24th Middlesex</i>
<i>Angelo M. Scaccia</i>	<i>14th Suffolk</i>
<i>Frank I. Smizik</i>	<i>15th Norfolk</i>
<i>Chris Walsh</i>	<i>6th Middlesex</i>
<i>Bud Williams</i>	<i>11th Hampden</i>

**HOUSE . . . . . No. 3390**

By Mr. Connolly of Cambridge, a petition (accompanied by bill, House, No. 3390) of Mike Connolly and others relative to promoting solar-ready construction. Telecommunications, Utilities and Energy.

**The Commonwealth of Massachusetts**

**In the One Hundred and Ninetieth General Court  
(2017-2018)**

An Act promoting solar-ready construction.

*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 2014 Official Edition, are hereby amended by  
2 inserting after chapter 143 the following chapter:-

3           CHAPTER 143A. SOLAR-READY BUILDINGS.

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

6           “Board”, state board of building regulations and standards.

7           “Department”, department of public safety.

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

9           “New construction”, any newly constructed residential or commercial building that  
10 requires a building permit to proceed.

11 “Solar energy system”, any system that uses solar energy to provide all or a portion of the  
12 electrical needs of a residential or commercial building.

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

15 “Substitute renewable energy system”, any system that uses renewable energy resources,  
16 including wind and geothermal heat, to provide for all or a portion of the electrical needs of a  
17 residential or commercial building.

18 “Substitute renewable hot water system”, any system that uses renewable energy  
19 resources, including geothermal heat, to provide for all or a portion of the hot water needs of a  
20 residential or commercial building.

21 Section 2. All new construction shall be built to accommodate the installation of a solar  
22 energy system and solar hot water heater in accordance with regulations adopted by the board,  
23 and in accordance with the following sections.

24 Section 3. (a) The board shall promulgate regulations within 1 year from the passage of  
25 this act to amend the state building code to establish minimum standards that must be met for  
26 new construction to accommodate a solar energy system.

27 (b) In drafting the regulations, the board shall take into account existing building code  
28 requirements and compliance costs. The board shall also consult with scientists, engineers, and  
29 professional societies with relevant expertise in solar energy systems and building construction.

30 (c) At a minimum, the board shall include requirements for: (1) static load roof strength,  
31 with a requirement that roofing where solar equipment could be placed be capable of supporting

32 a minimum of 6 pounds per square foot; (2) placement of non-solar related rooftop equipment,  
33 taking into account positioning that avoids shading of solar equipment and maximization of  
34 continuous roof space; (3) sizing and provision of extra electrical panels to accommodate the  
35 addition of an appropriately sized future solar energy system; and (4) provision of space for a  
36 solar energy system DC-AC inverter in the utility room or on an outside wall.

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

40 (e) To the extent necessary, the board shall promulgate separate standards for residential  
41 and commercial construction.

42 Section 4. (a) The board shall promulgate regulations within 1 year from the passage of  
43 this act to amend the state building code to establish minimum standards that must be met for  
44 new construction to accommodate a solar hot water heater.

45 (b) In drafting the regulations, the board shall take into account existing building code  
46 requirements and compliance costs. The board shall also consult with scientists, engineers, and  
47 professional societies with relevant expertise in solar hot water heating and building  
48 construction.

49 (c) At a minimum, the board shall include requirements for: (1) static load roof strength,  
50 with a requirement that roofing where solar equipment could be placed be capable of supporting  
51 a minimum of 6 pounds per square foot; (2) placement of non-solar related rooftop equipment,  
52 taking into account positioning that avoids shading of solar equipment and maximization of  
53 continuous roof space; (3) provision of sufficient free space in utility rooms for solar hot water

54 equipment at a minimum of one times the space required for the conventional water heating  
55 equipment; (4) plumbing that will allow solar hot water piping to be attached to a conventional  
56 system without requiring the building water system to be depressurized; (5) planning hot water  
57 distribution systems to accommodate solar hot water system integration; and (6) on-demand  
58 water heaters that can operate in conjunction with a solar hot water heater, or domestic hot water  
59 tanks that are capable of being integrated with a solar hot water heater.

60 (d) The board shall also consider including requirements for: (1) roof orientation and  
61 angle; (2) roof types that are compatible with a solar installation mounting strategy that will  
62 require minimal or no roof penetrations; (3) plumbing installed from the utility room to the roof  
63 of the building; and (4) metering of hot water load in commercial buildings.

64 (e) To the extent necessary, the board shall promulgate separate standards for residential  
65 and commercial construction.

66 Section 5. In developing regulations under sections 3 and 4 of this chapter, the board  
67 shall consult with the department of energy resources, the Massachusetts Clean Energy Center,  
68 and other state agencies with relevant expertise.

69 Section 6. (a) Developers may seek an exemption from the inspector of buildings or  
70 building commissioner from the requirements under sections 3 or 4 of this chapter upon a  
71 sufficient showing that: (1) accommodation of a solar energy system or solar hot water heater  
72 would be impractical due to poor solar resources at a site of new construction, or (2) a substitute  
73 renewable energy system or a substitute renewable hot water system will be installed at the time  
74 of construction.

75 (b) The board shall promulgate regulations that define what constitutes a poor solar  
76 resource such that a building should be exempted; provided that no building be considered to  
77 have a poor solar resource if it is practicable to generate at least 50 percent of the average annual  
78 electricity consumption for a typical building of that size and type with a rooftop solar energy  
79 system.

80 (c) The board shall promulgate regulations within 1 year of the passage of this act that  
81 clearly define the process for seeking an exemption.

82 Section 7. (a) All future editions and amended versions of the building code, as adopted  
83 by the board, shall include minimum standards that must be met for new construction to  
84 accommodate a solar energy system and a solar hot water heater. These standards shall  
85 incorporate the provisions of subsections (c) and (d) of section 3 and subsections (c) and (d) of  
86 section 4 of this chapter.

87 (b) The board may from time to time revise the regulations promulgated under sections 3  
88 and 4 of this chapter, in accordance with changes in technology and building practices; provided  
89 that all revisions to the regulations shall meet the requirements of subsections (c) and (d) of  
90 section 3 and subsections (c) and (d) of section 4 of this chapter.

91 Section 8. Compliance with the provisions of this act shall not impair a pre-existing  
92 building's eligibility for any incentives, rebates, credits, or other programs in existence to  
93 encourage development of renewable resources.

94 Section 9. A building permit for new construction shall not be granted without a showing  
95 that the building complies with the requirements of this chapter.

96           Section 10. Any person who fails to comply with or otherwise violates this chapter shall  
97 be liable for a civil administrative penalty not to exceed \$10,000 for each violation, or twice the  
98 estimated additional cost that would have been incurred by constructing a building to meet the  
99 requirements of this chapter, whichever is greater.