

**HOUSE . . . . . No. 4477**

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**The Commonwealth of Massachusetts**

PRESENTED BY:

*Kay Khan*

*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 relative to the electrification of new and substantially remodeled or rehabilitated buildings.

PETITION OF:

NAME:	DISTRICT/ADDRESS:	DATE ADDED:
<i>Kay Khan</i>	<i>11th Middlesex</i>	<i>1/24/2022</i>
<i>Lindsay N. Sabadosa</i>	<i>1st Hampshire</i>	<i>1/31/2022</i>
<i>Ruth B. Balsler</i>	<i>12th Middlesex</i>	<i>2/3/2022</i>
<i>Lydia Edwards</i>	<i>First Suffolk and Middlesex</i>	<i>2/5/2022</i>
<i>Michelle L. Ciccolo</i>	<i>15th Middlesex</i>	<i>2/9/2022</i>
<i>Mike Connolly</i>	<i>26th Middlesex</i>	<i>3/14/2022</i>
<i>Carol A. Doherty</i>	<i>3rd Bristol</i>	<i>3/14/2022</i>
<i>David M. Rogers</i>	<i>24th Middlesex</i>	<i>3/14/2022</i>
<i>Elizabeth A. Malia</i>	<i>11th Suffolk</i>	<i>3/15/2022</i>
<i>Jack Patrick Lewis</i>	<i>7th Middlesex</i>	<i>3/16/2022</i>
<i>Natalie M. Higgins</i>	<i>4th Worcester</i>	<i>3/22/2022</i>

**HOUSE . . . . . No. 4477**

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By Ms. Khan of Newton, a petition (subject to Joint Rule 12) of Kay Khan and Lindsay N. Sabadosa relative to the electrification of new and substantially remodeled or rehabilitated buildings. Telecommunications, Utilities and Energy.

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**The Commonwealth of Massachusetts**

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

An Act relative to the electrification of new and substantially remodeled or rehabilitated buildings.

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

1 SECTION 1. Chapter 143 of the General Laws is hereby amended by inserting after  
2 section 96 the following section:-

3 Section 96A. (a) As used in this section the following words shall, unless the context  
4 clearly requires otherwise, have the following meanings:-

5 “Biolab”, a newly constructed building or substantially remodeled or rehabilitated  
6 building or group of buildings having, or designed to have, a laboratory for biological research.

7 “Building”, a residential building, non-residential building, or a building that includes  
8 both residential and non-residential space.

9 “Carbon Dioxide Equivalent” or “CO2e”, greenhouse gas emissions, including but not  
10 limited to carbon dioxide, methane and nitrous oxide, which shall be calculated according to

11 regional energy and greenhouse gas factors as set forth in the United States Environmental  
12 Protection Agency’s online tool for reporting and managing building energy data.

13

14 “Department”, the department of energy resources.

15 “Gross building floor area”, the floor area within the inside perimeter of the building’s  
16 exterior walls, without deduction for corridors, stairways, closets, the thickness of interior walls,  
17 columns or similar features.

18

19 “Hospital”, a newly constructed building or substantially remodeled or rehabilitated  
20 building or group of buildings having, or designed to have, an institution as defined in section 52  
21 of chapter 111.

22 “Newly constructed building”, a building that has never before been used or occupied for  
23 any purpose.

24 “Non-residential building”, a building any portion of which is used for commercial,  
25 retail, office, professional, educational, or other non-residential purpose.

26 “Residential building”, a building that include one or more dwelling units.

27 “Substantially remodeled or rehabilitated”, a renovation that affects 50 per cent or more  
28 of the building gross floor area, excluding parking. In the case of a building that includes both  
29 residential and non-residential space, “substantially remodeled or rehabilitated” means a

30 renovation that affects 50 per cent or more of the gross floor area of the non-residential or  
31 residential space.

32 (b) Except as provided in this section and notwithstanding any general or special law,  
33 code, appendix to any code, ordinance or bylaw or any rule or regulation to the contrary, all  
34 newly constructed buildings or substantially remodeled or rehabilitated buildings shall use  
35 electricity instead of fossil fuels for space heating and cooling; cooking; and clothes drying; and,  
36 in the case of hot water, including for pools and spas, shall use electricity or thermal solar.

37 (c) (1) A newly constructed or substantially remodeled or rehabilitated biolab or hospital,  
38 unless granted a waiver pursuant to this section, shall comply with the emissions standards set  
39 forth in this subsection. The department shall promulgate regulations regarding implementation  
40 of and compliance with this subsection, including but not limited to the use of renewable energy  
41 credits for compliance purposes for hospitals, and including but not limited to periodic updates  
42 of the 5 Btu per hour per gross square foot standard for biolabs.

43 (2) A biolab or hospital shall, not later than the year 2050 have 0 CO<sub>2</sub>e emissions.

44

45 (3) A biolab shall require a heating, ventilation and air conditioning (HVAC) system with  
46 a first stage of heating that does not use on-site fossil fuel combustion and which has a minimum  
47 heating capacity of 5 British thermal units (Btu) per hour per gross square foot or equal to the  
48 building's design heating load, whichever is lower. Any additional stage of heating capacity  
49 above 5 Btu per hour per gross square foot may utilize on-site combustion, but only if the HVAC  
50 and building management systems are designed and programmed such that normal operation

51 relies on the non-combustion system to serve all building heating loads as the first stage before  
52 using any on-site combustion heating systems to supplement in a subsequent stage.

53 (4) a hospital shall: (i) from the years 2025 to 2029 have CO2e emissions of no greater  
54 than 15.4 kilograms of CO2e per square foot per year; (ii) from the years 2030 to 2034 have  
55 CO2e emissions of no greater than 10.0 kilograms of CO2e per square foot per year; (iii) from  
56 the years 2035 to 2039 have CO2e emissions of no greater than 7.4 kilograms of CO2e per  
57 square foot per year; (iv) from the years 2040 to 2044 have CO2e emissions of no greater than  
58 4.9 kilograms of CO2e per square foot per year; and (v) from the years 2045 to 2049 have CO2e  
59 emissions of no greater than 2.4 kilograms of CO2e per square foot per year.

60 (d) Nothing in this section shall prevent a municipality from adopting a bylaw or  
61 ordinance regarding the reporting and CO2e emissions reduction requirements for existing  
62 hospitals, biolabs or other facilities.

63 (e)The requirements of this section shall not apply to any of the following:

64 freestanding cooking appliances that are not connected to the building's natural gas or  
65 propane infrastructure;

66 freestanding outdoor heating appliances that are not connected to the building's natural  
67 gas or propane infrastructure;

68 emergency generators, back-up and stand-by power;

69 appliances to produce potable or domestic hot water from centralized hot water systems  
70 in buildings with a gross building floor area of at least 10,000 square feet; provided, that the  
71 architect, engineer or general contractor on the project certifies by affidavit that no commercially

72 available electric hot water heater exists that could meet the required hot water demand for less  
73 than 150 per cent of installation costs, compared to a fossil fuel hot water system.

74 (f) The department may grant a waiver from the provisions of this section in the event  
75 that compliance with this section makes a project impractical to implement or imposes  
76 extraordinary challenges. Waiver requests shall be supported by a detailed explanation of the  
77 justification for such request and by the applicant's proposal for limiting emissions to levels  
78 consistent with the goals specified in chapter 8 of the acts of 2021.

79 Waivers may be subject to reasonable conditions. Where possible, waivers shall be issued  
80 for specific portions of a project that are impractical to implement or impose extraordinary  
81 challenges, rather than for entire projects.

82 (g) By local bylaw or ordinance, a municipality may impose reasonable penalties for  
83 violations of this section.

84 SECTION 2. The requirements of this act shall take effect on January 1, 2023.