

**SENATE . . . . . No. 1982**

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**The Commonwealth of Massachusetts**

PRESENTED BY:

***Cynthia Stone Creem***

*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 use of low-embodied carbon concrete in state projects.

PETITION OF:

NAME:	DISTRICT/ADDRESS:	
<i>Cynthia Stone Creem</i>	<i>Norfolk and Middlesex</i>	
<i>Kay Khan</i>	<i>11th Middlesex</i>	<i>2/15/2023</i>
<i>Jason M. Lewis</i>	<i>Fifth Middlesex</i>	<i>4/4/2023</i>
<i>Marc R. Pacheco</i>	<i>Third Bristol and Plymouth</i>	<i>4/12/2023</i>
<i>Carmine Lawrence Gentile</i>	<i>13th Middlesex</i>	<i>5/30/2023</i>
<i>Joan B. Lovely</i>	<i>Second Essex</i>	<i>10/3/2023</i>
<i>Nick Collins</i>	<i>First Suffolk</i>	<i>1/22/2024</i>

# SENATE . . . . . No. 1982

By Ms. Creem, a petition (accompanied by bill, Senate, No. 1982) of Cynthia Stone Creem and Kay Khan for legislation relative to the use of low embodied carbon concrete in state projects. State Administration and Regulatory Oversight.

[SIMILAR MATTER FILED IN PREVIOUS SESSION  
SEE SENATE DOCKET, NO. 3010 OF 2021-2022.]

## The Commonwealth of Massachusetts

In the One Hundred and Ninety-Third General Court  
(2023-2024)

An Act relative to the use of low-embodied carbon concrete in state projects.

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

1 Chapter 7C of the General Laws is hereby amended by inserting the following section:-

2 SECTION 73. (a) As used in this section, the following words shall, unless the context  
3 clearly requires otherwise, have the following meanings:

4 “Department”, the department of energy resources.

5 “Division”, the division of capital asset management and maintenance.

6 “Environmental product declaration”, product specific Type III environmental product  
7 declarations that conform to ISO Standard 14025 and enable the numeric global warming  
8 potential and environmental impact comparisons between concrete mixes fulfilling the same  
9 functions.

10 “Global warming potential”, a numeric value that measures the total contribution to  
11 global warming from the emission of greenhouse gases, or the elimination of greenhouse gas  
12 sinks.

13 “Low-embodied carbon concrete”, concrete that has been verified to embody carbon  
14 emissions that are sufficiently low, based on a threshold set by the division with input from the  
15 stakeholder advisory group established subsection (d), compared to the baseline embodied  
16 carbon emissions of conventional concrete.

17 (b) Any state or local contract for low-embodied carbon concrete shall include provisions  
18 regarding contractor, subcontractor and worker product certification as follows:

19 (1) Contractors and subcontractors doing work involving low-embodied carbon concrete  
20 shall certify that all work completed and all procured low-embodied carbon concrete meet the  
21 minimum standards established under this section by the division.

22 (2) Any certifications required by this section shall be kept current for the duration of all  
23 contracts. The contractor shall issue periodic test reports to the division from a laboratory  
24 certified to evaluate low-embodied carbon concrete. The contractor shall report any changes to  
25 the division.

26 (c) The division, in consultation with the department, shall establish guidelines requiring  
27 the procurement of low-embodied carbon concrete in projects deemed appropriate by the  
28 division. Such guidelines shall implement a process with minimum standards for contractors and  
29 subcontractors to file with the contracting agency upon completion of a project. When  
30 establishing guidelines related to low-embodied carbon concrete, the division shall consider  
31 industry standards.

32 (d) To inform the development of the guidelines under subsection (c), the division, in  
33 conjunction with the department, shall establish a stakeholder advisory group, appointed by the  
34 commissioner of the division, consisting of: (1) two licensed professional engineers; (2) two  
35 licensed registered architects; (3) two representatives of the construction industry; (4) two  
36 representatives of the concrete testing and validation industry; (5) two representatives of an  
37 accredited school of civil engineering; (6) one representative from the Massachusetts clean  
38 energy technology center, also known as the Massachusetts clean energy center; and (7) one  
39 representative each from the executive office of transportation, the executive office of housing  
40 and community development, the department of energy resources, and the department of  
41 environmental protection.

42 (e) In developing guidelines under subsection (c), the division, in conjunction with the  
43 department, shall consult with any relevant associations that set industry standards for the  
44 procurement of low-embodied carbon concrete and shall consult with affected contractors and  
45 subcontractors to consider environmental impact as well as the impact on public health and  
46 safety.

47 (f) The division shall examine: (1) the use of incentives, including bid credits, related to  
48 bids within five percent of the lowest price, to encourage the usage and innovation of low-  
49 embodied carbon concrete on state agency projects; (2) the implementation of mandatory  
50 maximum global warming potential thresholds or maximum cement content specifications for  
51 concrete procured by state agencies; (3) the utilization of environmental product declarations or  
52 other methodologies and tools that quantify the climate and environmental impact of materials,  
53 including but not limited to global warming potential; and (4) the implementation of standards  
54 for performance-based specification, including but not limited to requirements that a structural

55 material achieve specified performance-based outcomes from the use of the structural material,  
56 including but not limited to, outcomes related to strength, durability, permeability or other  
57 attributes related to the function of the building material for applied uses, as opposed to requiring  
58 that a structural material be produced using a specified manufacturer process, design features,  
59 technologies, or proportion of materials.

60 (g) The commissioner of the division, in consultation with the department of  
61 transportation and the stakeholder advisory group established in subsection (d), shall examine the  
62 use of an expedited product evaluation protocol for low-embodied carbon concrete products.

63 (h) The guidelines established pursuant to this section as well as any recommendations  
64 for subsequent legislative action resulting from examining the use of incentives related to bid  
65 credits shall be submitted to the governor, the president of the senate, the speaker of the house,  
66 the joint committee on transportation, the joint committee on telecommunications, utilities and  
67 energy, the joint committee on housing, and the house and senate committees on ways and  
68 means within 30 of the issuance of such guidelines or within 1 year from the effective date of  
69 this section, whichever comes sooner.