

HOUSE No. 3002

The Commonwealth of Massachusetts

PRESENTED BY:

Daniel Cahill

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 low-embodied carbon concrete.

PETITION OF:

| NAME: | DISTRICT/ADDRESS: | DATE ADDED: |
|----------------------|-------------------|------------------|
| <i>Daniel Cahill</i> | <i>10th Essex</i> | <i>1/18/2023</i> |

HOUSE No. 3002

By Representative Cahill of Lynn, a petition (accompanied by bill, House, No. 3002) of Daniel Cahill for legislation to further regulate provisions in state procurement contracts involving the use of low embodied carbon concrete. State Administration and Regulatory Oversight.

The Commonwealth of Massachusetts

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

An Act relative to low-embodied carbon concrete.

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. For the purposes of this act, the following terms shall have the following
2 meaning:

3 (i)“concrete” shall mean structural and non-structural masonry, precast and ready mixed
4 concrete building and construction materials.

5 (ii)“concrete mix” shall mean a specific combination of components including water,
6 cement aggregate and other materials which are used to produce concrete products

7 (iii)"Environmental product declaration" (EPD) shall mean product specific Type III
8 EPDs that conform to ISO Standard 14025 and enable the numeric GWP and environmental
9 impact comparisons between concrete mixes fulfilling the same functions.

10 (iv)"Global warming potential" (GWP) shall mean a numeric value that measures the
11 total contribution to global warming from the emission of greenhouse gases, or the elimination of

12 greenhouse gas sinks, provided that results from the production and/or utilization outside
13 Massachusetts shall be prohibited from inclusion in Lower carbon concrete green procurement
14 specifications.

15 (v)“low embodied carbon concrete” shall mean concrete that has been verified to embody
16 lower carbon emissions compared to the baseline embodied carbon emissions of conventional
17 concrete.

18 (vi)“Low carbon concrete producer incentives” shall mean financial inducements offered
19 to private concrete manufacturers and/or contractors to encourage the incorporation of lower
20 carbon concrete materials and methods in concrete products procured by state agencies. Producer
21 incentives include but are not limited to i.) bid discounts applied to offeror prices for concrete
22 materials included in proposals for state projects, and ii. monetary performance bonuses that are
23 awarded to concrete manufacturers that produce and deliver concrete products for state projects
24 that have been verified to attain exceptionally low levels of embodied carbon.

25 (vii)“lower carbon emissions” shall be defined by the Division of Capital Asset
26 Management and Maintenance (DCAMM) with input from the stakeholder advisory group
27 established in Section 2, subsection A 3(a) of this bill.

28 (viii)"Performance based specification" shall mean a contract provision that requires that
29 a structural material achieve specified performance outcomes from the use of the structural
30 material, including, but not limited to, outcomes related to the strength, durability, permeability,
31 or other attributes related to the function of the building material for applied uses, as opposed to
32 requiring that a structural material be produced using a specific prescribed manufacturing
33 process, design features, technologies, or proportions of constituent materials.

34 SECTION 2. State contract law is amended in Massachusetts Building Code CMR 780,
35 Chapter 81 and Chapter 90 by adding a new section

36 Section ___A to read as follows:

37 Subsection A. Contracts involving low embodied carbon concrete.

38 1. Any state or local contract for low embodied carbon concrete shall include provisions
39 regarding contractor, subcontractor and worker product certification as follows:

40 (a) contractors and subcontractors doing work involving low embodied carbon concrete
41 shall certify that all work completed or utilized on projects meets the minimum standards
42 established under this section by the Division of Capital Asset Management and Maintenance
43 (DCAMM)

44 2. Any certifications required by this section shall be kept current for the duration of all
45 contracts. The Contractor shall issue periodic test reports to the Division from a laboratory
46 certified to evaluate low embodied carbon concrete. The Contractor shall report any changes to
47 the Division.

48 3. (a) the office of the Division of Capital Asset Management and Maintenance, in
49 consultation with the Department of Energy Resources, shall establish guidelines requiring the
50 procurement of low embodied carbon concrete on projects deemed appropriate by such office.
51 Such guidelines shall implement a process with minimum standards for contractors and
52 subcontractors to file with the contracting agency upon completion of a project. When
53 establishing guidelines related to low embodied carbon concrete, the office of the Division of
54 Capital Asset Management and Maintenance shall consider industry standards. The Division, in

55 conjunction with the Department of Energy Resources shall establish a stakeholder advisory
56 group appointed by the commissioner of the Division of Capital Asset Management and
57 Maintenance consisting of: (i) two licensed professional engineers; (ii) two licensed registered
58 architects; (iii) two representatives of the construction industry; (iv) two representatives of the
59 concrete testing and validation industry; (v) two representatives of an accredited school of civil
60 engineering; (vi) one representative from the Massachusetts Clean Energy Center (MassCEC);
61 and (vii) one representative each from the executive office of transportation, the executive office
62 of housing and community development, the department of energy resources, and the department
63 of environmental protection.

64 (b) the office of the Division of Capital Asset Management and Maintenance shall
65 consult with any relevant associations that set industry standards for the procurement of low
66 embodied carbon concrete and shall consult with affected contractors and subcontractors to
67 consider environmental impact as well as the impact on public health and safety.

68 (d) the office of the Division of Capital Asset Management and Maintenance shall create
69 a licensure process and establish a fee schedule for certification of low embodied carbon
70 concrete.

71 4. The office of the Division of Capital Asset Management and Maintenance shall also
72 examine i. the use of incentives, including bid credits and performance bonuses to encourage the
73 usage and innovation of low embodied carbon concrete on state agency projects; ii. the
74 application of performance-based specification standards for concrete procured by state agencies;
75 iii. the implementation of expedited Department of Transportation (DOT) evaluation, testing, and
76 approval protocols for lower carbon concrete materials and methods; iv. the implementation of

77 mandatory maximum global warming potential thresholds for concrete procured by state
78 agencies; the utilization of environmental product declarations and/or other methodologies and
79 tools that quantify the climate and environmental impact of materials, including but not limited
80 to global warming potential.

81 5. In addition, the office of the Division of Capital Asset Management and Maintenance
82 shall also examine the use of implementing standards for performance-based specification,
83 including but not limited to requirements that a structural material achieves specified
84 performance-based outcomes from the use of the structural material, including but not limited to,
85 outcomes related to strength, durability, permeability or other attributes related to the function of
86 the building material for applied uses, as opposed to requiring that a structural material be
87 produced using a specified manufacturer process, design features, technologies, or proportion of
88 materials. The office of the Division of Capital Asset Management and Maintenance shall
89 examine the use of methods of compliance, including, but not limited to, maximum cement
90 content specifications and specifications based on maximum potential to impact for global
91 warming.

92 6. The commissioner of the Division of Capital Asset Management and Maintenance in
93 consultation with the Department of Transportation and the stakeholder advisory group
94 established in subdivision three of this section, shall examine the use of an expedited product
95 evaluation protocol for low embodied carbon concrete products.

96 7. The guidelines established pursuant to this section as well as any recommendations for
97 subsequent legislative action resulting from examining the use of incentives related to bid credits
98 shall be submitted to the governor, the president of the senate, the speaker of the House, the

99 Transportation Committee and the Committee on Telecommunications, Utilities, and Energy, the
100 Housing Committee and the Committees on Ways and Means within thirty days of the issuance
101 of such guidelines or within one year from the effective date of this section, whichever may
102 come sooner.

103 SECTION 3. Whereas, the deferred operation of this act would tend to defeat its purpose,
104 which is to establish standards for low embodied carbon contracts to assist to combat climate
105 change, therefore it is hereby declared to be an emergency law, necessary for the immediate
106 preservation of the public convenience.