

SENATE No. 501

The Commonwealth of Massachusetts

PRESENTED BY:

Nick Collins

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 sustainable development and infrastructure, economic security, and fiscal responsibility with respect to climate risks.

PETITION OF:

NAME:	DISTRICT/ADDRESS:	
<i>Nick Collins</i>	<i>First Suffolk</i>	
<i>Jason M. Lewis</i>	<i>Fifth Middlesex</i>	<i>3/1/2021</i>
<i>Jack Patrick Lewis</i>	<i>7th Middlesex</i>	<i>3/1/2021</i>
<i>David Henry Argosky LeBoeuf</i>	<i>17th Worcester</i>	<i>3/1/2021</i>
<i>James B. Eldridge</i>	<i>Middlesex and Worcester</i>	<i>3/1/2021</i>
<i>Michael O. Moore</i>	<i>Second Worcester</i>	<i>3/4/2021</i>
<i>Joanne M. Comerford</i>	<i>Hampshire, Franklin and Worcester</i>	<i>3/11/2021</i>
<i>Michael D. Brady</i>	<i>Second Plymouth and Bristol</i>	<i>4/3/2021</i>
<i>Walter F. Timilty</i>	<i>Norfolk, Bristol and Plymouth</i>	<i>4/3/2021</i>
<i>Sal N. DiDomenico</i>	<i>Middlesex and Suffolk</i>	<i>4/3/2021</i>

SENATE No. 501

By Mr. Collins, a petition (accompanied by bill, Senate, No. 501) of Nick Collins, Jason M. Lewis, Jack Patrick Lewis, David Henry Argosky LeBoeuf and other members of the General Court for legislation to promote sustainable development and infrastructure, economic security, and fiscal responsibility with respect to climate risks. Environment, Natural Resources and Agriculture.

The Commonwealth of Massachusetts

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

An Act promoting sustainable development and infrastructure, economic security, and fiscal responsibility with respect to climate risks.

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. The General Laws are hereby amended by inserting after chapter 21O the
2 following chapter:-

3 CHAPTER 21P.

4 CLIMATE RISK AND FISCAL RESPONSIBILITY

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

7 “Adaptation”, as defined in section 1 of chapter 21N of the General Laws.

8 “Adaptation measures,” location, design, engineering, construction, landscaping or other
9 creation or modification of natural or non-structural features, ecological design, and other

10 elements of a structure, operation, system, activity, or process that (a) eliminate or reduce loss,
11 damage, or interruption of function due to climate risk, or (b) facilitate rapid restoration or
12 recovery following loss, damage, or interruption of function due to climate risk.

13 “Alternative floodplain map”, any map adopted by a city or town by ordinance or bylaw
14 that establishes, using the best available science and data, the area at flood risk based on forward-
15 looking climate projections or on past, documented flood history, to be used in place of the
16 federal emergency management agency’s flood insurance rate maps only if the map is more
17 expansive in area and more restrictive in base flood elevation than the federal flood insurance
18 rate maps.

19 “Climate resilience”, the ability to prepare and plan for, absorb, and recover from, and
20 more successfully adapt to adverse events resulting from increase climate risks.

21 “Climate risks”, the reasonably foreseeable risks to the economy, public services and
22 infrastructure, and public health and safety based on best available data and current science, that
23 are attributable to current and reasonably foreseeable climate conditions, including but not
24 limited to changes in sea level, storm frequency or intensity, drought, wind, extreme
25 precipitation, and extreme temperature changes projected to occur as a result of climate change.

26 "Electric power company", as defined in section 1 of chapter 164 of the General Laws.

27 “Environmental justice population”, a neighborhood that meets 1 or more of the
28 following criteria: (i) the annual median household income is not more than 65 percent of the
29 statewide annual median household income; (ii) minorities comprise 40 percent or more of the
30 population, (iii) 25 percent or more of households lack English language proficiency; or (iv)
31 minorities comprise 25 percent or more of the population and the annual median household

32 income of the municipality in which the neighborhood is located does not exceed 150 percent of
33 the statewide annual median household income; provided, however, that for a neighborhood that
34 does not meet said criteria, but a geographic portion of that neighborhood that meets at least 1
35 criterion, the secretary may designate that geographic portion as an environmental justice
36 population upon the petition of at least 10 residents of the geographic portion of that
37 neighborhoods meeting any such criteria; provided further, that the secretary may determine that
38 a neighborhood, including any geographic portion thereof, shall not be designated an
39 environmental justice population upon finding that: (A) the annual median household income of
40 that neighborhood is greater than 125 percent of the statewide median household income; (B) a
41 majority of persons age 25 and older in that neighborhood have a college education; (C) the
42 neighborhood does not bear an unfair burden of environmental pollution; and (D) the
43 neighborhood has more than limited access to natural resources, including open spaces and water
44 resources, playgrounds, and other constructed outdoor recreational facilities and venues.

45 "Maintenance", as defined in section 1 of chapter 7C of the General Laws.

46 "Natural gas company", as defined in section 1 of chapter 164 of the General Laws.

47 "Nature-based solutions", as defined in section 1 of chapter 21N of the General Laws.

48 "Regulation" includes the whole or any part of every rule, regulation, standard or other
49 requirement of general application and future effect, including the amendment or repeal thereof,
50 adopted by an agency to implement or interpret the law enforced or administered by it, but does
51 not include (a) regulations concerning only the internal management or discipline of the adopting
52 agency or any other agency, and not substantially affecting the rights of or the procedures

53 available to the public or that portion of the public affected by the agency's activities; or (b)
54 decisions issued in adjudicatory proceedings.

55 "Secretary", the officer in charge of each executive office established by chapter 6A or
56 chapter 7 and the supreme judicial court.

57 "State agency", a legal entity of state government established by the legislature as an
58 agency, board, bureau, department, office or division of the commonwealth with a specific
59 mission that may either report to an executive office or secretariat or be independent division or
60 department.

61 "State authority", a body politic and corporate constituted as a public instrumentality of
62 the commonwealth and established by an act of the legislature to serve an essential governmental
63 function; provided, however, that "state authority" shall include energy generation and
64 transmission, solid waste, drinking water, wastewater and stormwater and telecommunication
65 utilities serving areas identified by the executive office as subject to material risk of flooding;
66 provided further, that unless designated as such by the secretary of energy and environmental
67 affairs, "state authority" shall not include: (i) a state agency; (ii) a city or town; (iii) a body
68 controlled by a city or town; or (iv) a separate body politic for which the governing body is
69 elected, in whole or in part, by the general public or by representatives of member cities or towns

70 "Steam distribution company", as defined in Section 1 of chapter 164 of the General
71 Laws.

72 "Water Companies", every person, partnership, association or corporation, other than a
73 municipal corporation, and other than a landlord supplying his tenant, engaged in the distribution
74 and sale of water in the commonwealth through its pipes or mains.

75 Section 2. (a) The secretary of the executive office and energy and environmental affairs
76 shall require that every permit or project requiring review pursuant to sections sixty one through
77 sixty two i of chapter 30 of the General Laws(i) shall require disclosure of climate risk relevant
78 to the application and require the applicant identify the assumptions, analysis, modeling or
79 projections on which the disclosure is based; (ii) shall require, as a condition of approval, any
80 adaptation measures that the applicant or the Secretary identifies as reasonable and appropriate
81 for applicable climate risks; and (iii) may deny as incomplete any application, DEIR or EIR as to
82 which the Secretary determines that either the climate risk disclosure or adaptation measures are
83 insufficient. Every permit or project shall prioritize, to the maximum extent practicable,

84 adaptation measures that (i) promote the preservation, protection, restoration and
85 enhancement of the commonwealth’s natural infrastructure through nature-based solutions, (ii)
86 account for the existing natural, built, and economic characteristics of the commonwealth’s most
87 vulnerable areas and human populations. Adaptation measures that include the use of hard-
88 engineered, hardscape, or gray infrastructure features shall be supported by evidence the
89 measures will not cause of exacerbate negative environmental impacts and that alternative green
90 or green and gray hybrid solutions are not feasible.

91 (b) The secretary of the executive office of energy and environmental affairs shall adopt,
92 in consultation and concurrence with the executive office of public safety and security and other
93 affected state agencies and departments, a climate projections dataset based on the best available
94 climate science using reasonably likely scenarios, to be uniformly applied when considering
95 climate risks pursuant to section sixty-one of chapter thirty. Prior to adopting a climate
96 projections dataset, the secretary shall provide public notice and comment in accordance with

97 section three of chapter 30A. The secretary shall review and, as necessary, revise the adopted
98 dataset at least every five years to ensure that it reflects the best available climate science.

99 (c) The secretary of the executive office of energy and environmental affairs shall
100 develop, in consultation and concurrence with the executive offices of public safety and security
101 and housing and economic development, climate resilient design standards for integrating
102 climate risks and adaptation measures into public and private construction, development,
103 redevelopment, and new or expanded capital infrastructure projects based on the best available
104 climate science. Prior to adopting the climate resilient design standards, the secretary shall
105 provide public notice and comment in accordance with section three of chapter 30A.

106 Section 3. Applicants for state grants, loans, or other funding or financing including,
107 without limitation, tax credit allocations for construction, development, redevelopment, and new
108 or expanded capital infrastructure projects shall (a) demonstrate to the relevant agency or
109 authority that the planning, design, engineering and specifications for the project include
110 adaptation measures sufficient to address climate risks that will arise over the economic life of
111 the project or the term of financing, whichever is longer, in accordance with the climate resilient
112 design standards published by the secretary of the executive office of energy and environmental
113 affairs pursuant to section 3 of this chapter; (b) disclose in all design engineering, architectural,
114 or other drawings and analyses the climate assumptions used in evaluating and addressing
115 climate risks; (c) comply with and not seek variances for flood-resistant construction standards in
116 the state building code.

117 Section 4. Requests for proposals for state capital projects shall require that proposals (a)
118 demonstrate to the relevant agency or authority that the planning, design, engineering and

119 specifications for the project include adaptation measures sufficient to address climate risks that
120 will arise over the economic life or service life of the project, whichever is longer, in accordance
121 with the climate resilient design standards published by the secretary of the executive office of
122 energy and environmental affairs pursuant to section 3 of this chapter; and (b) disclose in all
123 design engineering, architectural, or other drawings and analyses the climate assumptions used in
124 evaluating and addressing climate risks. This section shall not apply to emergency procurements
125 as defined in section eight of chapter 30B.

126 Section 5. The requirements for risk disclosure and adoption of adaptation measures set
127 forth in this chapter include the requirement that such disclosures and adaptation measures
128 identify and alleviate any climate risks that disproportionately burden low and moderate income
129 and minority populations, populations with limited English proficiency or foreign origin, or

130 populations historically subject to higher rates of exposure to environmental risks than
131 the general population. Adaptation measures shall further be designed to avoid disparate impacts
132 on the basis of race, color, national origin, or income. Every permit or project requiring review
133 pursuant to sections sixty one through sixty two i of chapter 30 of the General Laws shall submit
134 a statement describing measures to eliminate disproportionate impacts on these populations.

135 Section 6. The secretary of the executive office of energy and environmental affairs may
136 promulgate such rules and regulations as are necessary to promptly and effectively enforce the
137 provisions of sections one through five, inclusive.

138 Section 7.

139 (a) The following shall be exempt from the requirements of this Chapter:

140 (i) Any project for which the secretary of the executive office of energy and
141 environmental affairs certifies in writing in consultation with the director of the Massachusetts
142 emergency management agency, after a 15 day review period, that the project poses no climate
143 risks and has no potential to result in an increase in emergency response costs;

144 (ii) Any action or project for the operation, or maintenance of existing public
145 infrastructure except actions or projects intended to address the vulnerability of existing
146 infrastructure to extreme weather and climate change impacts including but not limited to
147 flooding.

148 (iii) Any grant or financing by the commonwealth in a cumulative amount less than
149 \$250,000, inclusive of all state funding sources, which threshold is subject to revision by
150 regulation promulgated by the secretary of the executive office of energy and environmental
151 affairs;

152 (iv) Any category of actions or activities for which a state agency or state authority
153 establishes by regulation, with the concurrence of the secretary of the executive office of energy
154 and environmental affairs and the director of the Massachusetts emergency management agency,
155 pose no climate risks and have no potential to result in an increase in emergency response costs.

156 (v) Any adaptation measure which is designed solely to mitigate climate impacts and
157 enhance climate resilience that relies solely on nature-based solutions.

158 Section 8.

159 The secretary of the executive office of energy and environmental affairs shall develop,
160 in consultation with the division of professional licensure, recommendations for integrating best

161 available climate science into the state code including but not limited to commercial and
162 residential base building codes, mechanical codes, electrical codes, and plumbing codes. The
163 recommendations shall include, at a minimum, consideration of the impact of climate change on
164 structural strength and integrity, means of egress facilities, stability, light and ventilation, potable
165 water, waste, drainage, electrical wiring and electrical fixtures used for light, heat, power,
166 signaling and communications purposes in buildings and structures, and safety to life and
167 property, including but not limited to impacts from coastal and inland flooding and extreme
168 temperature changes. It shall also consider public health implications including human stress
169 thresholds associated with heat and cold. The recommendations shall also include specific
170 standards for adoption as an appendix to the state building code a municipal opt-in climate
171 resilience stretch code that incorporates forward-looking climate risks, including but not limited
172 to the impacts of extreme heat and cold, flooding, and wind, and standards for addressing these
173 impacts in residential and commercial construction. The recommendations shall be published for
174 public comment no later than 250 days of enactment. The executive office of energy and
175 environmental affairs, in consultation with the division of professional licensure, shall
176 periodically update these recommendations based on the best available climate science at least
177 once every five years.

178 SECTION 2. The Section 95 of chapter 143 of the General Laws, as appearing in the
179 2014 Official Edition, is hereby amended by striking all text and inserting in place the following:

180 Section 95. The powers and duties of the board set forth in section ninety-four shall be
181 exercised to effect the following objectives:

182 (a) Uniform standards and requirements for construction and construction materials,
183 compatible with accepted standards of engineering and fire prevention practices, energy
184 conservation, climate resilience, and public health and safety. In the formulation of such
185 standards and requirements, performance for the use intended shall be the test of acceptability, in
186 accordance with accredited testing standards.

187 (b) Adoption of modern technical methods, devices and improvements which may, over
188 the long term, reduce the cost of construction, and maintenance over the life of the building, and
189 mitigate the impacts of and damage from climate change without affecting the health, safety, and
190 security of the occupants or users of buildings.

191 (c) Elimination of restrictive, obsolete, conflicting and unnecessary building regulations
192 and

193 requirements which may increase the cost of construction and maintenance over the life
194 of the building or retard unnecessarily the use of new materials, or which may provide
195 unwarranted preferential treatment of types of classes of materials, products or methods of
196 construction without affecting the health, safety, and security of the occupants or users of
197 buildings; provided, however, that such building regulations and requirements are not necessary
198 to mitigate the impacts of and damage from climate change.

199 SECTION 3. The Section 94 of chapter 143 of the General Laws, as appearing in the
200 2014 Official Edition, is hereby amended by inserting the following after subsection (r):

201 (s) In consultation with the executive office of energy and environmental affairs, the
202 division of professional licensure, professional organizations, non-governmental organizations,
203 and other stakeholders, develop and adopt, as an appendix to the state building code, a municipal

204 opt-in climate resilience stretch code that incorporates forward-looking climate risks, including
205 but not limited to the impacts of extreme heat and cold, flooding, and wind, and standards for
206 addressing these impacts in residential and commercial construction.

207 SECTION 4. The Section 98 of chapter 143 of the General Laws, as appearing in the
208 2014 Official Edition, is hereby amended by inserting the following after the first
209 paragraph:

210 The board of selectmen in a town or the city council in a city may request the use of
211 alternative floodplain maps, based on best available climate science, including forward-looking
212 projections, and or floodplain maps based on past, documented flood history, in lieu of federal
213 emergency management agency flood insurance rate maps for the purposes of determining base
214 flood elevation and mandating the applicability of flood-resistant construction standards as
215 contained in the residential and commercial base building codes where flood hazard areas are
216 referenced. The board of selectman in a town or the city council in a city shall certify that the
217 city or town has formally adopted alternative floodplain maps for official use in the city or town
218 by ordinance or bylaw and that the alternative floodplain maps are more expansive in area and
219 more stringent in base flood elevation than the existing federal emergency management agency
220 flood insurance rate maps. A city or town shall not use alternative floodplain maps that are less
221 restrictive than existing federal flood insurance rate maps. If the board finds that the use of
222 alternative floodplain maps is in the interest of public health and safety and with the general
223 purposes of a statewide building code, the board shall, after notice to said board of selectmen or
224 city council, and after a public hearing, adopt rules and regulations, impose conditions in
225 connection with the adoption thereof. If the board rejects the request, the board of selectmen or

226 city council may file an appeal within 30 days to undersecretary of the office of consumer affairs
227 and business regulation. If the undersecretary upholds the decision of the board, the board of
228 selectmen or city council may file a request for reconsideration within 30 days to the secretary of
229 the executive office of housing and economic development. The secretary of the executive office
230 of housing and economic development, in consultation with the secretary of the executive office
231 of energy and environmental affairs, shall respond to the request for reconsideration within 15
232 days.

233 SECTION 5. The General Laws are hereby amended by inserting after section (23) of
234 chapter 25 of the General Laws, as appearing in the 2014 Official Edition, the following
235 section:

236 Section 24

237 Climate Vulnerability and Adaptation Plan

238 (a) The Department of Public Utilities shall develop, in consultation with the secretary of
239 the executive office of energy and environmental affairs, climate adaptation standards for
240 all investor-owned electric, natural gas, steam distribution, and water companies based on best
241 available climate science. Prior to adopting climate adaptation standards, the Department of
242 Public Utilities shall provide public notice and comment in accordance with section three of
243 chapter 30A. The Department shall publish final climate adaptation standards no later than 250
244 days after enactment.

245 (b) The Department of Public Utilities shall require investor-owned electric, natural gas,

246 steam distribution, and water companies to prepare and file a climate vulnerability and
247 adaptation plan at least once every five years based on best available climate science and in
248 accordance with the Department's climate adaptation standards. Climate vulnerability and
249 adaptation plans shall prioritize, to the maximum extent practicable, adaptation measures
250 that (i) promote the preservation, protection, restoration and enhancement of the
251 commonwealth's natural infrastructure through nature-based solutions, (ii) account for the
252 existing natural, built, and economic characteristics of the commonwealth's most vulnerable
253 areas and human populations. Adaptation measures that include the use of hard-engineered,
254 hardscape, or gray infrastructure features shall be supported by evidence the measures will not
255 cause or exacerbate negative environmental impacts and that alternative green or green and gray
256 hybrid solutions are not feasible. Climate vulnerability and adaptation plans shall be prepared in
257 collaboration with communities most impacted by the effects of climate change, including
258 environmental justice communities, and shall include a community engagement plan that
259 describes outreach efforts that will be undertaken, including but not limited to public meetings,
260 notices thereof, language access accommodations for low-English proficiency populations,
261 narrative and numerical outreach goals and targets, past engagement goal shortfalls or
262 deficiencies.

263 (c) The Department of Public Utilities shall require, in any ratemaking proceeding
264 pursuant to sections seventy-six, ninety-three, and ninety-four of chapter one hundred and sixty-
265 four and sections two and four of chapter one hundred and sixty-five, that investor-owned
266 electric power, natural gas, steam distribution, and water companies identify in priority order the
267 climate risks to its facilities, that will arise over the projected economic life of such facilities or
268 fifty years, whichever is greater, in accordance with climate adaptation plans as required by

269 subsection (b). The companies shall present evidence documenting their evaluation of climate
270 risks and measures addressing such climate risks based on the best available data and other
271 evidence in the record before the agency and shall identify how their operating and capital
272 budgets address such climate risks. The companies shall also (a) consider and present evidence
273 addressing likely climate change risk scenarios in relation to the risk tolerance of the

274 infrastructure and (b) disclose in all design engineering, architectural, or other drawings
275 and analyses the climate assumptions used in evaluating and addressing climate risks.

276 (d) In adjudicating ratemaking proceedings pursuant to sections seventy-six, ninety-three,
277 and ninety-four of chapter one hundred and sixty-four and sections two and four of chapter one
278 hundred and sixty-five, the Department of Public Utilities shall determine whether the
279 applicant's costs proposed or incurred for capital investment projects included consideration and
280 minimization of climate risks for the economic life of the proposed investment or fifty years,
281 whichever is greater. In considering climate risks, the Department of Public Utilities shall
282 consult the most recent climate vulnerability and adaptation plan on file for the applicant and
283 analyze likely climate change risk scenarios, based on best available data, and shall conclude in
284 writing that those scenarios are appropriate based on the risk tolerance of the project or facility.

285 (d) The Department of Public Utilities shall promulgate such rules and regulations as are
286 necessary to promptly and effectively enforce the provisions of section twenty-four.

287 SECTION 4. Section 69J1/4 of chapter 164 of the General Laws, as appearing in the
288 2014 Official Edition, is hereby amended by inserting the following:

289 All petitions shall a) demonstrate to the board that the planning, design, engineering and
290 specifications for the project include adaptation measures sufficient to address climate risks that

291 will arise over the economic life of the project or the term of financing, whichever is longer,
292 based on the best available climate science; and (b) disclose in all design engineering,
293 architectural, or other drawings and analyses the climate assumptions used in evaluating and
294 addressing climate risks.

295 SECTION 6. Section 2 of chapter 21A of the General Laws, as appearing in the
296 2014 Official Edition, is hereby amended by inserting after clause (30) the following
297 subsections:

298 (31) Establish, conduct, and maintain an annual program of education and training for
299 members of local planning boards, zoning boards, and commissions on climate science and the
300 physical effects of climate change including but not limited to sea level rise, storm surge,
301 drought, wind, extreme precipitation, and extreme high and low temperature changes including
302 heat waves and based on the best available data. Each city or town receiving financial assistance
303 pursuant to section 11 of chapter 21N of the General Laws shall require members of any
304 planning board, zoning board of appeals or zoning commission, health board, conservation
305 commission, or other local board or commission comprised of volunteer members within the city
306 or town to participate in training and education classes on climate science and the physical
307 effects of climate change. Each member shall complete a minimum of five (5) hours of training
308 in order to be certified by this subsection. Upon completion of the training, the board or
309 commission member shall file with the municipal clerk a statement asserting that the training
310 course has been completed.

311 (32) The secretary may, in establishing, conducting and maintaining this program of
312 education and training, confer with and, if necessary, consolidate efforts with other mandatory

313 board training programs as appropriate. Any consolidated training program must retain the
314 requirement that members complete a minimum of five (5) hours of training on climate science
315 and the physical effects of climate change. Non-governmental organizations may assist with the
316 development, maintenance, and implementation of this program of education and training with
317 the approval of the secretary.