

SENATE No. 1958

The Commonwealth of Massachusetts

PRESENTED BY:

James B. Eldridge

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 transitioning Massachusetts to 100 per cent renewable energy.

PETITION OF:

Table with 3 columns: NAME, DISTRICT/ADDRESS, and Date. Lists petitioners including James B. Eldridge, Carmine Lawrence Gentile, Mike Connolly, Jack Patrick Lewis, Jason M. Lewis, Maria Duaine Robinson, Thomas M. Stanley, James T. Welch, Christopher Hendricks, Jennifer E. Benson, Joanne M. Comerford, Michael O. Moore, Joseph A. Boncore, Edward J. Kennedy, Adam G. Hinds, Patricia D. Jehlen, and Cindy F. Friedman.

<i>Sal N. DiDomenico</i>	<i>Middlesex and Suffolk</i>	<i>1/31/2019</i>
<i>Brendan P. Crighton</i>	<i>Third Essex</i>	<i>1/31/2019</i>
<i>Paul R. Feeney</i>	<i>Bristol and Norfolk</i>	<i>1/31/2019</i>
<i>Mary S. Keefe</i>	<i>15th Worcester</i>	<i>1/31/2019</i>
<i>David Henry Argosky LeBoeuf</i>	<i>17th Worcester</i>	<i>1/31/2019</i>
<i>Denise Provost</i>	<i>27th Middlesex</i>	<i>1/31/2019</i>
<i>Rebecca L. Rausch</i>	<i>Norfolk, Bristol and Middlesex</i>	<i>1/31/2019</i>
<i>Joan B. Lovely</i>	<i>Second Essex</i>	<i>2/1/2019</i>
<i>Eric P. Lesser</i>	<i>First Hampden and Hampshire</i>	<i>2/1/2019</i>
<i>Mark C. Montigny</i>	<i>Second Bristol and Plymouth</i>	<i>2/1/2019</i>
<i>Michael D. Brady</i>	<i>Second Plymouth and Bristol</i>	<i>2/1/2019</i>
<i>Marc R. Pacheco</i>	<i>First Plymouth and Bristol</i>	<i>2/1/2019</i>
<i>Sean Garballey</i>	<i>23rd Middlesex</i>	<i>2/1/2019</i>
<i>Patrick M. O'Connor</i>	<i>Plymouth and Norfolk</i>	<i>2/1/2019</i>
<i>Harriette L. Chandler</i>	<i>First Worcester</i>	<i>2/1/2019</i>
<i>Cynthia Stone Creem</i>	<i>First Middlesex and Norfolk</i>	<i>2/1/2019</i>
<i>Julian Cyr</i>	<i>Cape and Islands</i>	<i>2/1/2019</i>
<i>Brian W. Murray</i>	<i>10th Worcester</i>	<i>2/1/2019</i>
<i>Nika C. Elugardo</i>	<i>15th Suffolk</i>	<i>2/4/2019</i>
<i>Nick Collins</i>	<i>First Suffolk</i>	<i>2/4/2019</i>
<i>James K. Hawkins</i>	<i>2nd Bristol</i>	<i>2/7/2019</i>
<i>John J. Lawn, Jr.</i>	<i>10th Middlesex</i>	<i>2/14/2019</i>

SENATE No. 1958

By Mr. Eldridge, a petition (accompanied by bill, Senate, No. 1958) of James B. Eldridge, Carmine Lawrence Gentile, Mike Connolly, Jack Patrick Lewis and other members of the General Court for legislation to transition Massachusetts to 100 per cent renewable energy. Telecommunications, Utilities and Energy.

The Commonwealth of Massachusetts

**In the One Hundred and Ninety-First General Court
(2019-2020)**

An Act transitioning Massachusetts to 100 per cent renewable energy.

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 25C the
2 following chapter:-

3 CHAPTER 25D.100 Percent Renewable Energy Act

4 Section 1. The purpose of this chapter is to steadily transition the commonwealth to 100
5 percent clean, renewable energy by 2045 in order to (1) protect the health and safety of all
6 residents of the commonwealth; (2) eliminate pollution that is contaminating our air, water and
7 land, and changing our climate in dangerous ways; (3) improve quality of life and economic
8 well-being for all, with an emphasis on environmental justice communities and other populations
9 that have been disproportionately affected by pollution and energy costs; (4) increase energy
10 security by reducing our reliance on imported fuels and maximizing renewable energy
11 production in our region; and (5) stimulate investment and create local jobs by harnessing

12 Massachusetts' skilled workforce, business leadership, and academic institutions to advance
13 renewable energy technologies across the commonwealth.

14 Section 2. As used in this chapter the following words shall have the following meanings
15 unless the context clearly requires otherwise:-

16 "Building sector," the energy consumed to heat, cool, provide hot water for, and provide
17 electricity for buildings in the commonwealth. The building sector shall not include energy used
18 for heavy industrial activities.

19 "Commissioner," the commissioner of the department of energy resources

20 "Department," the department of energy resources

21 "Emission," as defined in chapter 21N of the General Laws.

22 "Environmental justice communities," neighborhoods identified as Environmental Justice
23 Populations under the Environmental Justice Policy of the executive office of energy and
24 environmental affairs.

25 "Greenhouse gas," as defined in chapter 21N of the General Laws.

26 "Non-emitting," produced from clean, renewable sources without emitting greenhouse
27 gas emissions or other harmful pollutants at the time of energy generation. Examples of non-
28 emitting renewable energy include solar, wind, tidal, and geothermal energy.

29 "Non-renewable energy," energy produced from any source that fails to meet one or more
30 of the criteria for renewable energy.

31 “Renewable energy,” energy produced from sources that meet all of the following
32 criteria: (1) Virtually pollution-free, producing little to no global warming pollution or health-
33 threatening pollution; (2) Inexhaustible, coming from natural sources that are regenerative or
34 practically unlimited; (3) Safe, having minimal impacts on the environment, community safety
35 and public health; and (4) Efficient, a wise use of resources.

36 Electricity generated by Class I or Class II renewable energy generating sources, as
37 defined in section 11F of chapter 25A of the General Laws, shall be considered renewable
38 energy for the purposes of this section. Electricity generated with any other technology shall not
39 be considered renewable energy, unless the department of energy resources has added that
40 technology to the list of Class I or Class II eligible technologies under subsection (f) of section
41 11F of chapter 25A of the General Laws.

42 Energy usage sectors that have historically relied on the on-site combustion of fossil
43 fuels, including but not limited to heating and transportation, shall be considered to be powered
44 with renewable energy to the extent that they: (1) are powered with electricity generated by Class
45 I or Class II renewable energy generating sources, as defined in section 11F of chapter 25A of
46 the General Laws; (2) are powered with other forms of renewable energy, such as solar thermal
47 or geothermal energy; or (3) make use of non-motorized or passive technologies to avoid the
48 consumption of energy.

49 “Secretary,” the secretary of energy and environmental affairs

50 “Sector,” a major category of energy usage in the Commonwealth of Massachusetts.
51 Sectors shall include electricity generation, heating, transportation, and industry, and may
52 include other major categories as identified by the department of energy resources.

53 “Subsector,” a subcategory within a sector of energy usage, characterized by a common
54 energy generation technology, industry, application, end-use sector, or type of consumer.

55 “Transportation sector,” the technologies and uses of energy that are applied to move
56 people, goods, and services within, into, and out of the Commonwealth of Massachusetts,
57 including non-motorized forms of transportation such as walking and bicycling.

58 “Zero net energy building,” an energy-efficient building where, on a source energy basis,
59 the actual annual delivered energy is less than or equal to the on-site renewable exported energy.

60 Section 3. (a) It shall be the goal of the commonwealth to meet 100 percent of
61 Massachusetts’ energy needs with renewable energy by 2045, including the energy consumed for
62 electricity, heating and cooling, transportation, agricultural uses, industrial uses, and all other
63 uses by all residents, institutions, businesses, state and municipal agencies, and other entities
64 operating within its borders.

65 (b) It shall be the goal of the commonwealth to obtain 100 percent of the electricity
66 consumed by all residents, institutions, businesses, state and municipal agencies, and other
67 entities operating within its borders from renewable energy sources by 2035.

68 (c) In meeting these goals, the commonwealth and its agencies shall prioritize (1) models
69 for local and community ownership of renewable energy generation, (2) sources of renewable
70 energy that are located in Massachusetts or elsewhere in New England, (3) sources of renewable
71 energy that represent additional renewable generation capacity added to the grid, (4) non-
72 emitting sources of renewable energy, (5) reducing energy consumption through efficiency
73 measures to the greatest extent practicable. In all of its plans to achieve 100 percent renewable

74 energy, the commonwealth and its agencies shall prioritize bringing direct health and financial
75 benefits to environmental justice communities.

76 Section 4. (a) In order to integrate the goal of 100 percent renewable energy throughout
77 state government operations, the secretary shall establish an administrative council for the clean
78 energy transition not later than 90 days from the passage of this act.

79 (b) The council shall be chaired by the secretary or the secretary's designee; and shall
80 include a representative from the department of environmental protection, the department of
81 energy resources, the department of public utilities, the Massachusetts Clean Energy Center, the
82 office of the governor, and the executive offices of administration and finance, education, health
83 and human services, housing and economic development, labor and workforce development,
84 public safety and security, and transportation and public works. The council shall also include a
85 representative designated by the attorney general, the treasurer and receiver general, the secretary
86 of the commonwealth, the state auditor, and the President of the University of Massachusetts.
87 The council shall also include a member designated by the secretary of education to represent the
88 community college system and a member designated by the secretary of education to represent
89 the state university system. The governor may appoint additional representatives from state
90 agencies or quasi-public agencies to the council.

91 (c) The council shall identify all existing laws, regulations, and programs of the
92 Commonwealth with an impact on energy production and consumption, and evaluate them based
93 on (1) their potential to accelerate or hinder the state's transition to 100 percent renewable
94 energy and (2) their ability to maximize the environmental and economic benefits of the
95 transition for Massachusetts residents and businesses, particularly but not exclusively for

96 environmental justice communities and communities that have been impacted by energy-related
97 pollution.

98 (d) Each executive department and quasi-public agency shall conduct a review of the
99 laws, regulations, and programs in its jurisdiction, and submit a report to the council describing
100 how these laws, regulations, and programs can be modified in order to accelerate the transition to
101 100 percent renewable energy. Each executive department and quasi-public agency shall further
102 consider how modifying its programs to accelerate the transition to 100 percent renewable
103 energy can help achieve the department or agency's other objectives.

104 (e) The secretary shall publish the council's findings under subsections (c) and (d) of this
105 section within 6 months of the formation of the council. The secretary and the council shall
106 review and update these findings every 3 years from the date of initial publication.

107 (f) Within one year from the passage of this act, the council shall determine a date by
108 which the operations of state government will be powered with 100 percent renewable energy,
109 provided that the date is not later than January 1, 2035. Within eighteen months of the passage of
110 this act, each executive department and quasi-public agency shall present a plan to achieve this
111 goal for the facilities and activities in its jurisdiction. Each executive department and quasi-
112 public agency shall report on its progress to the council and update its plan annually.

113 (g) The council shall meet at least once per quarter to review progress in modifying laws,
114 regulations, and programs to accelerate the transition to 100 percent renewable energy. These
115 meetings shall be open to members of the public and shall provide opportunities for public
116 comment. At least one of these meetings shall be held in an environmental justice community
117 each year.

118 Section 5. (a) The commonwealth shall establish a clean energy center of excellence at a
119 public institution of higher education to conduct and sponsor research on (1) renewable energy
120 and energy efficiency technologies; (2) effective practices for renewable energy adoption by
121 residents, institutions, businesses, state and municipal agencies, and other entities; (3) barriers
122 preventing access to renewable energy, particularly but not exclusively for environmental justice
123 communities; and (4) community outreach models and other tools to increase the adoption of
124 renewable energy, particularly for environmental justice communities.

125 (b) The center shall be advised by a 15-member committee composed of experts
126 knowledgeable in (1) renewable energy, energy efficiency, and energy storage technologies; (2)
127 architecture, building engineering, and construction; (3) transportation; (4) affordable housing;
128 (5) environmental justice; and (6) other relevant fields.

129 Section 6. (a) The commonwealth shall establish a council for clean energy workforce
130 development. The council shall be co-chaired by the commissioner of the department of energy
131 resources and the secretary of labor and workforce development. The council shall include at
132 least one representative from each of the following: organizations serving environmental justice
133 populations, renewable energy businesses, occupational training organizations, organized labor,
134 economic development organizations, community development organizations, the Massachusetts
135 Clean Energy Center, the executive office of education, the University of Massachusetts, the
136 state universities, and the community colleges.

137 (b) The council shall identify those workers currently working in the energy sector, their
138 current wage and benefits packages, and their current training requirements. The council shall
139 further identify the employment potential of the energy efficiency and renewable energy industry

140 and the skills and training needed for workers in those fields, and make recommendations to the
141 governor and the general court for policies to promote employment growth and access to jobs in
142 those fields. The council shall prioritize maximizing employment opportunities for residents of
143 environmental justice communities and workers displaced in the transition to clean, renewable
144 energy.

145 (c) No later than January 1, 2021, the council shall establish a target for the number of
146 Massachusetts residents working in the clean energy industry by 2025. The council shall also
147 establish a target for the number of those jobs held by residents of environmental justice
148 communities, proportional to the percentage of Massachusetts residents who live in
149 environmental justice communities, and the number of those jobs held by workers displaced in
150 the transition to clean, renewable energy. The council shall create similar targets for each
151 subsequent five-year period.

152 (d) At least annually, the council shall submit a report to the general court and the
153 governor recommending changes to existing state policies and programs to meet the targets set in
154 subsection (c).

155 (e) The council shall meet at least once per quarter to review progress in expanding
156 renewable energy employment. These meetings shall be open to members of the public and shall
157 provide opportunities for public comment. At least one of these meetings shall be held in an
158 environmental justice community each year.

159 Section 7. (a) In consultation with the administrative council for the clean energy
160 transition and the clean energy center of excellence, the department shall conduct a study
161 identifying pathways towards 100 percent renewable energy for the building sector, and the

162 policies necessary for all new buildings to be zero net energy buildings by 2030 and for non-
163 renewable energy consumption to be reduced for existing buildings by 50 percent by 2030.

164 (b) The study shall consider how to expand access to non-emitting renewable energy
165 technologies for heating, cooling, and electricity, increase access to energy efficiency programs,
166 and minimize costs, particularly but not exclusively for residents of environmental justice
167 communities

168 (c) The department shall hold at least two public meetings to seek input on the design of
169 the study. At least one of these meetings shall be held in an environmental justice community.

170 (d) The department shall present the results of this study to the administrative council for
171 the clean energy transition not later than one year from the passage of this act. The department
172 shall review and update this study every five years, considering technological developments,
173 demographic changes, the effectiveness of existing programs and policies, and other factors.

174 Section 8. (a) The department shall determine the overall quantity of energy consumed
175 statewide in the calendar year 2018 across all sectors and the percentage of energy consumed
176 that came from renewable energy sources, using the best available data. This determination shall
177 include an analysis of the percentage of renewable energy consumed in Massachusetts that was
178 produced (1) in Massachusetts; (2) in Maine, New Hampshire, Connecticut, Rhode Island, and
179 Vermont; and (3) in states not previously listed or in other countries or territories.

180 (b) The department shall also determine (1) the amount of energy consumed in any
181 individual sector or subsector representing more than 1 percent of total statewide energy
182 consumption, (2) the types and sources of energy consumed in that sector or subsector, and (3)

183 the percentage of the overall energy consumed in that sector or subsector that came from
184 renewable energy sources.

185 (c) The department shall publish a similar analysis of renewable and non-renewable
186 energy consumption on at least a triennial basis and for the years 2030, 2040, and 2045. This
187 analysis shall include the amount, percentage, types, and sources of renewable and non-
188 renewable energy consumed across all sectors statewide and in the individual sectors and
189 subsectors identified under subsection (b), as well as any additional sectors or subsectors that
190 have since come to represent at least 1 percent of total statewide energy consumption.

191 (d) The department shall establish interim limits for the overall percentage of
192 Massachusetts' energy to come from non-renewable sources: (1) in 2030, no more than 50
193 percent non-renewable energy; and (2) in 2040, no more than 20 percent non-renewable energy.
194 The department shall also establish interim limits on non-renewable energy in the individual
195 sectors and subsectors identified under subsections (b) and (c). These interim limits shall
196 maximize the ability of the Commonwealth to achieve 100 percent renewable energy by 2045.

197 (e) The department shall establish interim non-renewable energy limits for 2030 and 2040
198 concurrently with the department of environmental protection's establishment of interim 2030
199 and 2040 limits on greenhouse gas emissions pursuant to subsection (b) of section 3 of chapter
200 21N of the General Laws. The department of environmental protection and the department of
201 energy resources shall establish interim limits on non-renewable energy and greenhouse gas
202 emissions for 2030 and 2040 no later than December 31, 2020.

203 (f) The interim limit on greenhouse gas emissions for 2030 shall reduce emissions by at
204 least 50 percent below the 1990 level, and the interim limit on greenhouse gas emissions for

205 2040 shall reduce emissions by at least 80 percent below the 1990 level, as determined by the
206 department of environmental protection under subsection (a) of section 3 of said chapter 21N.

207 (g) The interim limits on non-renewable energy consumption and greenhouse gas
208 emissions for 2030 and 2040 shall be considered binding caps and shall be legally enforceable by
209 any citizen of the Commonwealth.

210 Section 9. (a) The department and other state agencies overseeing sectors or subsectors of
211 energy consumption shall promulgate regulations establishing declining annual limits on the
212 percentage of non-renewable energy consumed by the sectors and subsectors identified in
213 subsections (b) and (c) of section 8 of this chapter. These regulations shall reduce the use of non-
214 renewable energy at a rate sufficient to meet the interim 2030 and 2040 limits on non-renewable
215 energy consumption, as well as the 2045 goal of 100 percent renewable energy. In adopting these
216 regulations, the department and other state agencies shall consider how to minimize costs and
217 maximize economic, social, public health, and environmental benefits for fossil fuel workers
218 displaced in the transition to renewable energy and residents of environmental justice
219 communities.

220 (b) The department and other state agencies shall develop these regulations concurrent
221 with the department of environmental protection's development of regulations to reduce
222 greenhouse gas emissions under subsection (d) of section 3 of chapter 21N of the General Laws.

223 (c) Concurrent with any regulations promulgated under subsection (a), the department
224 and other relevant state agencies shall issue and adopt standards for the impermissible
225 disproportionate distribution of environmental and economic burdens and benefits for any class
226 of protection identified by the Environmental Justice Policy of the executive office of energy and

227 environmental affairs. No regulation promulgated under subsection (a) may promote an
228 impermissible disproportionate distribution of environmental or economic burdens or benefits, as
229 prohibited under the standards set forth under this paragraph.

230 (d) The department of energy resources and the department of environmental protection,
231 along with other agencies that oversee sectors or subsectors of energy consumption or
232 greenhouse gas emissions, shall promulgate regulations under subsection (a) of section 9 of this
233 chapter and subsection (d) of section 3 of chapter 21N of the General Laws not later than
234 December 31, 2020, to meet the 2030 interim limits on greenhouse gas emissions and non-
235 renewable energy consumption; and not later than December 31, 2028, to meet the 2040 interim
236 limits on greenhouse gas emissions and non-renewable energy consumption; and not later than
237 December 31, 2038, to achieve 100 percent renewable energy by 2045.

238 (e) The department of energy resources, the department of environmental protection, and
239 other state agencies may jointly promulgate regulations to satisfy limits on greenhouse gas
240 emissions and non-renewable energy consumption.

241 (f) The regulations promulgated under subsection (a) of section 9 of this chapter and
242 subsection (d) of section 3 of chapter 21N of the General Laws are intended to result in real,
243 permanent reductions in greenhouse gas emissions and the use of non-renewable energy resulting
244 from activities in the commonwealth. These regulations shall remain in effect indefinitely, until
245 repealed or unless otherwise specified in the regulation.

246 Section 10. Municipal lighting plants shall be required to purchase 100 percent of their
247 electricity from renewable energy sources by 2035, and in each subsequent year thereafter. Each
248 municipal light plant shall file a plan with the department no later than December 31, 2021,

249 indicating how it will achieve this target, including year-by-year benchmarks. For the purposes
250 of this section, a municipal lighting plant may not count renewable electricity it has generated or
251 purchased toward this requirement if the renewable attributes of that electricity have been
252 claimed by another utility, individual, institution, business, state or municipal agency, or other
253 entity.

254 Section 11. (a) The department, together with the Massachusetts Clean Energy Center,
255 the executive office for administration and finance, the division of capital asset management and
256 maintenance, and other state agencies, shall identify opportunities to expand solar and other
257 renewable energy generation capacity on state-owned facilities and land. The department and the
258 division of capital asset management and maintenance, in consultation with other state agencies,
259 shall install an additional 100 megawatts of solar and other renewable energy generation capacity
260 on state properties by December 31, 2022. If there is insufficient state-owned land available to
261 install 100 megawatts of renewable energy generation capacity without negatively affecting the
262 commonwealth's natural and historic resources, the commonwealth shall purchase, lease, or
263 otherwise obtain the right to install solar energy on enough privately-owned land and buildings
264 to install 100 megawatts of renewable energy generation capacity. Renewable energy facilities
265 installed under this section shall not cause undue harm to the commonwealth's natural and
266 historic resources.

267 (b) The department and the division of capital asset management and maintenance,
268 together with other state agencies, shall establish a goal for the amount of additional renewable
269 energy generation capacity installed on state-owned facilities and lands in each subsequent five-
270 year period beginning in 2022. The goal for each five-year period shall be not less than 25
271 megawatts of renewable energy generation capacity. The department and the division of capital

272 asset management and maintenance, together with other state agencies, shall install enough
273 renewable energy generation capacity to meet the goal for each five-year period.

274 (c) Renewable energy generation facilities installed under the provisions of this section
275 shall be exempt from limits on the aggregate net metering capacity of net metering facilities of a
276 municipality or other government entity, and from limits on the maximum amount of generating
277 capacity eligible for net metering by a municipality or other governmental entity, under
278 subsection (f) of section 139 of chapter 164 of the General Laws.

279 (d) On an annual basis, the division of capital asset management and maintenance shall
280 track the upfront cost of renewable energy projects installed under the provisions of this section,
281 and the revenue and energy cost savings accruing to the state and its agencies from those projects
282 through net metering credits, electricity sales, the sale of renewable energy credits, other state,
283 regional, or federal incentive programs, and other sources of revenue or energy cost savings.

284 (e) Annually, the division of capital asset management and maintenance shall determine
285 which renewable energy projects have paid back their initial costs with revenue and energy cost
286 savings. These projects shall be known as revenue positive projects. Once this determination has
287 been made, any future revenue or energy cost savings from revenue positive projects, less the
288 ongoing cost of maintaining these projects, shall be credited into a clean energy workforce
289 development account at the Massachusetts Clean Energy Center. Such funds shall be held in an
290 account separate from other accounts of the Massachusetts Clean Energy Center. In any year in
291 which revenue from renewable energy projects on state properties is not sufficient to credit at
292 least \$5 million into the clean energy workforce development account, the department shall

293 direct funds from alternative compliance payments under subsection (h) of section 11F of the
294 General Laws to bring the total contribution to \$5 million.

295 (f) The executive office of energy and environmental affairs and the executive office of
296 labor and workforce development shall direct the use of funds from the clean energy workforce
297 development account, in consultation with the council for clean energy workforce development.
298 These funds shall be used to provide job training, education, and job placement assistance for
299 Massachusetts residents to work in the clean energy and energy efficiency industry.

300 (g) At least half of the funds spent from the clean energy workforce development account
301 on an annual basis shall be spent on programs and initiatives that primarily benefit fossil fuel
302 workers displaced in the transition to renewable energy or residents of environmental justice
303 communities.

304 (h) The department and the division of capital asset management and maintenance shall
305 submit an annual report to the governor, the general court, and the council for clean energy
306 workforce development, describing progress towards meeting goals for renewable energy
307 installations on state properties, the costs and revenue associated with each project, and the
308 amount of revenue generated for the clean energy workforce development account.

309 (i) The executive office of energy and environmental affairs and the executive office of
310 labor and workforce development shall submit a report annually to the governor, the general
311 court, and the council for clean energy workforce development, describing the expenditure of
312 funds from the clean energy workforce development account.

313 SECTION 2. Chapter 6C of the General Laws is hereby amended by inserting after
314 section 76 the following section:-

315 Section 77. (a) The department of transportation shall conduct a study identifying
316 pathways towards 100 percent renewable energy for the transportation sector and the policies
317 necessary to power the transportation sector with at least 50 percent renewable energy by 2030.

318 (b) The study shall give preference to transportation options that (1) increase access to
319 mass transportation and non-motorized transportation across all income levels; (2) minimize
320 costs, particularly for environmental justice communities; and (3) maximize access to
321 employment centers.

322 (c) Without limitations on the department of transportation's evaluation of effective
323 statewide transportation options, the study shall consider the feasibility, cost effectiveness, and
324 environmental and economic benefits of high-speed rail service between major urban centers in
325 Massachusetts, including Boston, Worcester, and Springfield.

326 (d) The department shall hold at least two public meetings to seek input on the design of
327 the study. At least one of these meetings shall be held in an environmental justice community.

328 (e) The department of transportation shall publish the findings from this study not later
329 than 1 year from the passage of this act. The department shall review and update this study every
330 5 years, considering technological developments, demographic changes, the effectiveness of
331 existing programs and policies, and other factors.

332 SECTION 3. Subsection (a) of section 11F of chapter 25A of the General Laws is hereby
333 amended by striking out the third sentence and inserting in place thereof the following words:-
334 Every retail supplier shall provide a minimum percentage of kilowatt-hours sales to end-use
335 customers in the commonwealth from Class I renewable energy generating sources, according to
336 the following schedule: (1) an additional 1 percent of sales by December 31, 2003, or 1 calendar

337 year from the final day of the first month in which the average cost of any renewable technology
338 is found to be within 10 percent of the overall average spot-market price per kilowatt-hour for
339 electricity in the commonwealth, whichever is sooner; (2) an additional one-half of 1 percent of
340 sales each year thereafter until December 31, 2009; (3) an additional 1 percent of sales every
341 year thereafter until December 31, 2018; (4) an additional 2 percent of sales every year thereafter
342 until December 31, 2019; (5) an additional 3 percent of sales every year thereafter until
343 December 31, 2020; (6) an additional 4 percent of sales every year thereafter until December 31,
344 2022; (7) an additional 5 percent of sales every year thereafter until December 31, 2025; and (8)
345 an additional 6 percent of sales every year thereafter.

346 SECTION 4. Section 11F of chapter 25A of the General Laws is hereby amended by
347 striking out subsection (b) and inserting in place thereof the following words:- (b) For the
348 purposes of this subsection, a renewable energy generating source is one which generates
349 electricity using any of the following: (1) solar photovoltaic or solar thermal electric energy; (2)
350 wind energy; (3) ocean thermal, wave or tidal energy; (4) fuel cells utilizing renewable fuels; (5)
351 landfill gas; (6) naturally flowing water and hydroelectric; (7) low emission advanced biomass
352 power conversion technologies using fuels such as by-products or waste from agricultural crops,
353 food or animals, energy crops, biogas, liquid biofuel including but not limited to biodiesel,
354 organic refuse-derived fuel, or algae; or (8) geothermal energy. A renewable energy generating
355 source may be located behind the customer meter within the ISO-NE, as defined in section 1 of
356 chapter 164, control area if the output is verified by an independent verification system
357 participating in the New England Power Pool Generation Information System, in this section
358 called NEPOOL GIS, accounting system and approved by the department.

359 SECTION 5. Section 11F of chapter 25A of the General Laws is hereby amended by
360 striking out subsection (c) and inserting in place thereof the following words:- (c) New
361 renewable energy generating sources meeting the requirements of this subsection shall be known
362 as Class I renewable energy generating sources. For the purposes of this subsection, a Class I
363 renewable energy generating source is one that began commercial operation after December 31,
364 1997, or represents the net increase from incremental new generating capacity after December
365 31, 1997 at an existing facility, where the facility generates electricity using any of the
366 following: (1) solar photovoltaic or solar thermal electric energy; (2) wind energy; (3) ocean
367 thermal, wave or tidal energy; (4) fuel cells utilizing renewable fuels; (5) landfill gas; (6) energy
368 generated by new hydroelectric facilities, or incremental new energy from increased capacity or
369 efficiency improvements at existing hydroelectric facilities; provided, however, that (i) each such
370 new facility or increased capacity or efficiency at each such existing facility must meet
371 appropriate and site-specific standards that address adequate and healthy river flows, water
372 quality standards, fish passage and protection measures and mitigation and enhancement
373 opportunities in the impacted watershed as determined by the department in consultation with
374 relevant state and federal agencies having oversight and jurisdiction over hydropower facilities;
375 (ii) only energy from new facilities having a capacity up to 30 megawatts or attributable to
376 improvements that incrementally increase capacity or efficiency by up to 30 megawatts at an
377 existing hydroelectric facility shall qualify; and (iii) no such facility shall involve pumped
378 storage of water or construction of any new dam or water diversion structure constructed later
379 than January 1, 1998; (7) low emission advanced biomass power conversion technologies using
380 fuels such as by-products or waste from agricultural crops, food or animals, energy crops, biogas,
381 liquid biofuel including but not limited to biodiesel, organic refuse-derived fuel, or algae; (8)

382 marine or hydrokinetic energy as defined in section 3; or (9) geothermal energy. A Class I
383 renewable generating source may be located behind the customer meter within the ISO-NE
384 control area if the output is verified by an independent verification system participating in the
385 NEPOOL GIS accounting system and approved by the department.

386 SECTION 6. Section 11F of chapter 25A of the General Laws is hereby amended by
387 striking out subsection (d) and inserting in place thereof the following words:- (d) Every retail
388 electric supplier providing service under contracts executed or extended on or after January 1,
389 2009, shall provide a minimum percentage of kilowatt-hour sales to end-use customers in the
390 commonwealth from Class II renewable energy generating sources. For the purposes of this
391 section, a Class II renewable energy generating source is one that began commercial operation
392 before December 31, 1997 and generates electricity using any of the following: (1) solar
393 photovoltaic or solar thermal electric energy; (2) wind energy; (3) ocean thermal, wave or tidal
394 energy; (4) fuel cells utilizing renewable fuels; (5) landfill gas; (6) energy generated by existing
395 hydroelectric facilities, provided that such existing facility shall meet appropriate and site-
396 specific standards that address adequate and healthy river flows, water quality standards, fish
397 passage and protection measures and mitigation and enhancement opportunities in the impacted
398 watershed as determined by the department in consultation with relevant state and federal
399 agencies having oversight and jurisdiction over hydropower facilities; and provided further, that
400 only energy from existing facilities up to 7.5 megawatts shall be considered renewable energy
401 and no such facility shall involve pumped storage of water nor construction of any new dam or
402 water diversion structure constructed later than January 1, 1998; (7) low emission advanced
403 biomass power conversion technologies using fuels such as by-products or waste from
404 agricultural crops, food or animals, energy crops, biogas, liquid biofuel including but not limited

405 to biodiesel, organic refuse-derived fuel, or algae; (8) marine or hydrokinetic energy as defined
406 in section 3; or (9) geothermal energy. A Class II renewable generating source may be located
407 behind the customer meter within the ISO-NE control area provided that the output is verified by
408 an independent verification system participating in the NEPOOL GIS accounting system and
409 approved by the department.

410 SECTION 7. The provisions of this act shall become effective 90 days from the passage
411 of this act, except where otherwise specified.