

**SENATE . . . . . No. 2229**

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**The Commonwealth of Massachusetts**

PRESENTED BY:

***Marc R. Pacheco***

*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 creating a 21st Century clean energy economy.

PETITION OF:

NAME:	DISTRICT/ADDRESS:	
<i>Marc R. Pacheco</i>	<i>First Plymouth and Bristol</i>	
<i>Antonio F. D. Cabral</i>	<i>13th Bristol</i>	<i>5/13/2021</i>

**SENATE . . . . . No. 2229**

By Mr. Pacheco, a petition (accompanied by bill, Senate, No. 2229) of Marc R. Pacheco for legislation to create a 21st Century clean energy economy. Telecommunications, Utilities and Energy.

**The Commonwealth of Massachusetts**

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

An Act creating a 21st Century clean energy economy.

*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. Section 3 of chapter 21N, as so appearing, is hereby amended by striking  
2 out subsection (h) and inserting in place thereof the following:- (h) The interim 2030 statewide  
3 greenhouse gas emissions limit shall be at least 50 per cent below the 1990 level, and the interim  
4 2040 statewide greenhouse gas emissions limit shall be at least 75 per cent below the 1990 level.

5 SECTION 2. Said section 3 of chapter 21N, as so appearing, is hereby amended by  
6 striking out, in subsection (b), clauses (v) and (vi) and inserting in place thereof the following:-  
7 (v) a 2045 statewide greenhouse gas emissions limit that achieves at least net zero statewide  
8 greenhouse gas emissions;

9 SECTION 3. Section 11F of Chapter 25A, as appearing in the 2018 Official Edition, is  
10 hereby amended by striking out the subsection (a) and inserting in place thereof the following:-

11 (a) The department shall establish a renewable energy portfolio standard for all retail  
12 electricity suppliers selling electricity to end-use customers in the commonwealth. By December

13 31, 1999, the department shall determine the actual percentage of kilowatt-hours sales to end-use  
14 customers in the commonwealth which is derived from existing renewable energy generating  
15 sources. Every retail supplier shall provide a minimum percentage of kilowatt-hours sales to end-  
16 use customers in the commonwealth from Class I renewable energy generating sources,  
17 according to the following schedule: (1) an additional 1 per cent of sales by December 31, 2003,  
18 or 1 calendar year from the final day of the first month in which the average cost of any  
19 renewable technology is found to be within 10 per cent of the overall average spot-market price  
20 per kilowatt-hour for electricity in the commonwealth, whichever is sooner; (2) an additional  
21 one-half of 1 per cent of sales each year thereafter until December 31, 2009; (3) an additional 1  
22 per cent of sales each year thereafter until December 31, 2021; and (4) an additional 3 per cent of  
23 sales every year thereafter. Any electric load served under a retail electricity supply contract  
24 executed or extended not later than December 31, 2018, shall be exempt from any incremental  
25 compliance obligation under this section that occurs as a result of an increase or a new  
26 requirement imposed on or after January 1, 2021 on the minimum percentage of kilowatt-hour  
27 sales to end-use customers that must be derived from Class I RPS eligible resources. For the  
28 purpose of this subsection, a new renewable energy generating source is one that begins  
29 commercial operation after December 31, 1997, or that represents an increase in generating  
30 capacity after December 31, 1997, at an existing facility. Commencing on January 1, 2009, such  
31 minimum percentage requirement shall be known as the "Class I" renewable energy generating  
32 source requirement.

33 SECTION 4. Chapter 21N is hereby further amended by inserting after section 7 the  
34 following 2 sections:-

35 Section 7A. The secretary shall promulgate regulations establishing market-based  
36 compliance mechanisms for: (i) the transportation sector; provided, however, that the regulations  
37 shall, at a minimum, be designed to reduce passenger vehicle and light duty truck emissions; (ii)  
38 the commercial, industrial and institutional sectors, including but not limited to buildings and  
39 industrial, manufacturing and other business processes; and (iii) the residential building sector.

40 The market-based compliance mechanisms established pursuant to this section shall: (i)  
41 maximize the ability of the commonwealth to achieve the greenhouse gas emissions limits  
42 established pursuant to this chapter;(ii) be designed to minimize disproportionate impacts on  
43 low-income households; (iii) be designed to identify, with special attention to manufacturing,  
44 economic sectors, economic subsectors or individual employers at risk of serious negative  
45 impacts due to the market-based compliance mechanisms established pursuant to this section;  
46 and (iv) be designed to mitigate impacts identified in clause (iii). The market-based compliance  
47 mechanisms may be established by joining any existing market-based compliance mechanisms.  
48 The secretary shall evaluate and adjust, if necessary, all market-based compliance mechanisms  
49 adopted pursuant to this section at least once every 30 months to meet the requirements of this  
50 section and to achieve greenhouse gas emissions limits. The regulations may be promulgated as  
51 part of a coordinated regional effort with other states or Canadian Provinces to implement,  
52 expand or join any other market-based compliance mechanisms. The department shall ensure it  
53 has adequate resources to implement the requirements of this chapter.

54 Section 7B. Not later than September 30, 2025 and every 5 years thereafter, the secretary  
55 or a designee shall publish a comprehensive energy plan that shall include and be based upon  
56 reasonable projections of the commonwealth's energy demands for electricity, transportation and  
57 thermal conditioning and shall also include strategies for meeting those demands in a regional

58 context, prioritizing meeting energy demand through conservation, energy efficiency and other  
59 demand-reduction resources in a manner that contributes to the commonwealth meeting the  
60 limits for 2030 and 2040 pursuant to subsection (b) of section 3.

61 SECTION 5. Notwithstanding any general or special law to the contrary, the department  
62 of energy resources shall require distribution companies, as defined in section 1 of chapter 164 of  
63 the General Laws, to jointly and competitively conduct additional offshore wind generation  
64 solicitations and procurements, if it finds it is necessary to meet the statewide greenhouse gas  
65 emissions limits established in chapter 21N of the General Laws. The department shall require at  
66 least 10,600 megawatts of offshore wind capacity procurement by 2035. Any selected projects  
67 must use practices to avoid, minimize, and mitigate impact to wildlife, natural resources,  
68 ecosystems, and traditional or existing water-dependent uses.

69 SECTION 6. The Department of Environmental protection shall adopt and implement  
70 the California Advanced Clean Cars II Standard and ensure that all light duty vehicles sold in the  
71 Commonwealth be zero emission vehicles by 2035.

72 SECTION 7. Section 16 of chapter 25A of the General Laws, as appearing in the 2018  
73 official Edition, is hereby amended by inserting after the word “section”, in line 1, the following  
74 words:- and section 18.

75 SECTION 8. Subsection (a) of said section 16 of said chapter 25A, as so appearing, is  
76 hereby amended by adding the following definition:-

77 “Zero-emission vehicle”, a motor vehicle that produces no engine exhaust carbon  
78 emissions.

79 SECTION 9. Said chapter 25A is hereby further amended by adding the following  
80 section:-

81 Section 18. (a) The commissioner shall, subject to appropriation, establish a program to  
82 provide rebates or other financial incentives to consumers who purchase or lease and register and  
83 insure in the commonwealth a zero-emission vehicle. Vehicles qualifying for rebates under this  
84 section shall: (i) be manufactured primarily for use on public streets, roads and highways; (ii)  
85 have an engine that is not modified from the original manufacturer's specifications; and (iii) have  
86 been acquired for use or lease by the consumer and not for resale.

87 (b) A rebate under this section shall not be less than \$1,500 per vehicle; provided,  
88 however, that no rebate shall be available for a vehicle with a sales price that exceeds \$50,000.

89 (c) The commissioner may promulgate regulations to administer the program established  
90 under this section. At least once per calendar year, the commissioner shall provide outreach to  
91 underserved consumers and consumers in communities with a high percentage of low-income  
92 households with information about the zero-emission vehicle incentive program established  
93 under this section.

94 (d) The commissioner shall publish and regularly update data regarding program usage  
95 including, but not limited to: (i) the number and amount of rebates or incentives provided each  
96 month; (ii) the make, model and type of vehicle for which the rebate or incentive was issued; (iii)  
97 the zip code in which the vehicle is registered; and (iv) the estimated total greenhouse gas  
98 emissions reductions achieved from the rebate or incentive issued.

99 SECTION 10. Section 7A of chapter 90 of the General Laws, as appearing in the 2018  
100 Official Edition, is hereby amended by inserting after the fifth paragraph the following  
101 paragraph:-

102 Not later than January 1, 2022, and annually thereafter, the registry shall issue to a  
103 municipality, upon request, the following aggregate data for the previous 12 months: (i) the  
104 number of vehicles registered in said municipality, including the total numbers of gas-powered  
105 vehicles, hybrid vehicles and zero-emission vehicles; and (ii) the average number of miles driven  
106 by such gas-powered, hybrid and zero-emission vehicles, respectively. The data shall be  
107 protective of privacy information.

108 SECTION 11. Section 94 of chapter 143 of the General Laws, as so appearing, is hereby  
109 amended by adding the following 2 subsections:-

110 (s) In consultation with the department of energy resources, to adopt and fully integrate  
111 into the state building code requirements that new construction of commercial and residential  
112 buildings with not less than 10 parking spaces, as well as major reconstruction, renovation and  
113 repair of such buildings, include building electrical service and conduit systems sufficient to  
114 support the minimum number of zero-emission vehicle parking spaces; provided, however, that  
115 the minimum number of zero-emission vehicle parking spaces shall be at least 1 parking space or  
116 not less than 5 per cent of the total number of parking spaces, whichever is greater. For the  
117 purposes of this section, “zero-emission vehicle” shall mean a motor vehicle that produces no  
118 engine exhaust emissions.

119 (t) In consultation with the department of energy resources, to adopt and fully integrate  
120 into the state building code requirements that new construction of parking facilities with not less

121 than 10 parking spaces, as well as major reconstruction, renovation and repair of such facilities,  
122 include building electrical service and conduit systems sufficient to support the minimum  
123 number of zero-emission vehicle parking spaces; provided, however, that the minimum number  
124 of zero-emission vehicle parking spaces shall be at least 1 parking space or not less than 5 per  
125 cent of the total number of parking spaces, whichever is greater.

126 SECTION 12. Section 3 of chapter 448 of the acts of 2016 is hereby amended by striking  
127 out, in lines 3 and 4, the words “may include requirements for electric vehicle charging for  
128 residential and appropriate commercial” and inserting in place thereof the following words:-  
129 shall include requirements for electric vehicle charging for appropriate residential and  
130 commercial.

131 SECTION 13. Said chapter 448 is hereby further amended by inserting after section 6 the  
132 following 2 sections:-

133 Section 6A. (a) The department of energy resources, in consultation with the  
134 Massachusetts Department of Transportation and the executive office for administration and  
135 finance, shall create and maintain an inventory of motor vehicles owned or leased by the  
136 commonwealth. The inventory shall include a critical replacement list consisting of non-zero  
137 emission vehicles that, if the non-zero emission vehicle needed to be replaced, replacement with  
138 a zero-emission vehicle is operationally feasible and results in a positive lifecycle cost  
139 benefit. The critical replacement list shall include, but not be limited to, vehicles that are  
140 approaching the end of their useful lives or are otherwise reasonable candidates for replacement  
141 and whose replacement presents a high or medium priority opportunity for near-term  
142 electrification as indicated in the study completed pursuant to section 6 and published on



143 December 22, 2017 or any successive analysis or study required by law or commissioned by the  
144 department of energy resources or Massachusetts Department of Transportation. Not less than  
145 every 3 years, the department of energy resources, in consultation with the Massachusetts  
146 Department of Transportation, shall revise and update the analysis of opportunities for near-term  
147 electrification of vehicles owned, purchased or leased by the commonwealth. For the purposes of  
148 this section, “commonwealth” shall include, but not be limited to, the Massachusetts Bay  
149 Transportation Authority, Massachusetts Port Authority and Massachusetts Water Resources  
150 Authority, but shall not include municipalities, regional school districts and regional transit  
151 authorities authorized pursuant to chapter 161B of the General Laws. Nothing in this section  
152 shall prevent or limit the commonwealth from purchasing a zero-emission vehicle for a vehicle  
153 or purpose not identified on the critical replacement list.

154 (b) Not later than January 1, 2024, each purchase or lease by the commonwealth of a  
155 motor vehicle identified on the critical replacement list under subsection (a) by the  
156 commonwealth, including, but not limited to, the Massachusetts Port Authority and  
157 Massachusetts Water Resources Authority, but not including the Massachusetts Bay  
158 Transportation Authority, municipalities, regional school districts and regional transit authorities  
159 authorized pursuant to chapter 161B of the General Laws, shall be a zero-emission vehicle. The  
160 commonwealth shall prioritize the deployment of zero-emission vehicles in underserved  
161 communities and communities with a high percentage of low-income households.

162 (c) Beginning January 1, 2030, each purchase or lease of a passenger bus by the  
163 Massachusetts Bay Transportation Authority shall be a zero-emission vehicle; provided,  
164 however, that the Massachusetts Bay Transportation Authority shall seek to replace non-zero  
165 emission passenger buses with zero-emission passenger buses before January 1, 2030.

166 (d) The Massachusetts Bay Transportation Authority shall operate exclusively zero  
167 emission passenger buses not later than December 31, 2040; provided, however, that a non-zero  
168 emission passenger bus purchased before January 1, 2030 may be operated after December 31,  
169 2040 if its operation is strictly necessary to maintain service levels and prompt plans are in place  
170 to replace the bus with a zero-emission passenger bus.

171 (e) The secretary of transportation and the Massachusetts Bay Transportation Authority,  
172 in consultation with the executive office of energy and environmental affairs, shall develop and  
173 complete a plan to operate exclusively zero-emission passenger buses not later than December  
174 31, 2040. With respect to early implementation, the plan shall mandate that a majority of buses  
175 purchased or leased serve routes serving low-income households and households in underserved  
176 communities. Not later than December 31, 2021, the plan shall be filed with the clerks of the  
177 senate and house of representatives and the joint committee on transportation and be made  
178 publicly available on the Massachusetts Department of Transportation's website.

179 Every 5 years until the Massachusetts Bay Transportation Authority operates exclusively  
180 zero-emission passenger buses, the secretary shall submit to the clerks of the senate and house of  
181 representatives and the joint committee on transportation and post on the Massachusetts  
182 Department of Transportation's website updated progress reports on the implementation of this  
183 subsection, including, but not limited to, the number of zero-emission passenger buses operated,  
184 the number of non-zero emission passenger buses operated, the number of zero-emission  
185 passenger buses operated on routes serving low-income households and households in  
186 underserved communities, the number of non-zero emission passenger buses operated on routes  
187 serving low-income households and households in underserved communities, barriers to  
188 increased numbers of zero-emission passenger buses, if any, and recommended legislative or

189 regulatory action needed to address barriers or otherwise promote compliance with this section  
190 and the cost of simultaneously operating zero-emission passenger buses, including, but not  
191 limited to, staffing, training, maintenance and other mechanical equipment, facilities, financing  
192 and premiums attributable to the purchase of zero-emission passenger buses. For the purposes of  
193 this section, “zero-emission vehicle” shall mean a motor vehicle that produces no engine exhaust  
194 emissions. For the purposes of this subsection, “low-income” shall have the same meaning as  
195 defined under section 1 of chapter 40T of the General Laws.

196 (f) Not later than March 1, 2021, the Massachusetts Department of Transportation, in  
197 consultation with the department of energy resources, shall develop recommendations for the  
198 siting of zero-emission vehicle charging facilities to serve state-owned or leased zero-emission  
199 vehicles and zero-emission passenger buses across the commonwealth. The recommendations  
200 shall consider locations across the commonwealth, including within municipal light plant  
201 territories, and shall consider the benefit and potential cost savings to ratepayers for potential  
202 locations.

203 Section 6B. The department of energy resources, in consultation with the Massachusetts  
204 Department of Transportation, shall conduct, publish and periodically update a study of the  
205 opportunities for near-term electrification of vehicles owned or leased by municipalities, regional  
206 school districts and regional transit authorities authorized pursuant to chapter 161B of the  
207 General Laws. The study shall include, but not be limited to: (i) an analysis of the cost of vehicle  
208 electrification, associated equipment and supplies and possible methods of meeting such costs,  
209 including, but not limited to, state financial support, federal financial support and procurements  
210 by regional planning agencies and other entities made up of local and regional governments; (ii)  
211 recommendations for the allowance within the fleets of non-electric emergency vehicles; and (iii)

212 opportunities to pair electrification with renewable energy resources, energy storage or demand  
213 response technology and policy. The department of energy resources shall publish the study on  
214 its website not later than 18 months after the effective date of this section and shall thereafter  
215 publish revisions of the study on its website not less than every 3 years. The study and  
216 subsequent revisions shall be submitted to the clerks of the senate and house of representatives,  
217 the joint committee on transportation and the joint committee on telecommunications, utilities  
218 and energy and posted on the department of energy resource's website.

219           SECTION 14. Notwithstanding any general or special law to the contrary, not later than 1  
220 year after the effective date of this act, the department of energy resources shall publish a guide  
221 to assist cities and towns in developing processes and policies to expand electric vehicle parking  
222 in municipally-owned parking spaces and lots including, but not limited to, an analysis or guide  
223 to pricing incentives for parking for zero-emission vehicles and reserved parking for zero  
224 emission vehicles. The guide shall include a review of similar programs established in other  
225 states. For the purposes of this section, "zero-emission vehicle" shall mean a motor vehicle that  
226 produces no engine exhaust emissions.

227           SECTION 15. The Massachusetts Bay Transportation Authority, in consultation with the  
228 executive office of energy and environmental affairs, shall develop a plan to reduce the carbon  
229 emissions of its commuter rail and light rail operations, including a numerical value of the plan's  
230 contribution to meeting statewide greenhouse gas emissions limits and sublimits set by statute or  
231 regulation. The plan shall include: (i) an analysis of the cost and benefits of meeting the  
232 statewide greenhouse gas emissions limits and sublimits; (ii) energy conservation methodologies,  
233 including, but not limited to, regenerative braking, flywheel, battery or capacitor storage and the  
234 use of alternative methods for generating electricity; (iii) evaluation of increased electricity

235 demands resulting from steps taken by the authority to reduce greenhouse gas emissions; (iv)  
236 feasibility studies, where necessary; and (v) a recommended schedule for implementation.

237 The authority shall post its plan on the authority’s website not later than 6 months from  
238 the effective date of this act.

239 SECTION 15. For the purposes of this section, an “independent retirement system” shall  
240 mean any Massachusetts public pension system under the oversight, monitoring, and regulation  
241 of the public employee retirement administration commission, except the state employees  
242 retirement system, the state teachers’ retirement system, and the State-Boston retirement system  
243 in so far as the assets attributable to teachers who are members of that system; and a “fossil fuel  
244 company” shall mean a company identified by a Global Industry Classification Standard code in  
245 one of the following sectors: (1) coal and consumable fuels; (2) integrated oil and gas; or (3) oil  
246 and gas exploration and production.

247 Notwithstanding any general or special law to the contrary, any independent retirement  
248 system may, in accordance with the procurement process under section 23B of chapter 32 of the  
249 General Laws, divest in whole or in part from any investment in fossil fuel companies, the asset  
250 of which remain under the direct control and management of the independent retirement system,  
251 and are not separately managed or invested by the Pension Reserves Investment Management  
252 Board. In accordance with this section, the board of an independent retirement system may, after  
253 following the procurement process under said section 23B of said chapter 32, invest in index  
254 funds or other investment vehicles that may not include fossil fuel companies.

255 SECTION 16. Notwithstanding any general or special law to the contrary, with respect to  
256 actions taken in compliance with this act, the public fund shall be exempt from any conflicting

257 statutory or common law obligations, including any such obligations with respect to choice of  
258 asset managers, investment funds or investments for the public fund's securities portfolios and  
259 all good faith determinations regarding companies as required by this act

260 SECTION 17. Sections 128 and 129 shall take effect upon passage.

261 SECTION 18. (a) It shall be the goal of the commonwealth to meet 100 per cent of  
262 Massachusetts' energy needs with renewable energy by 2035, including the energy consumed for  
263 electricity, heating and cooling, transportation, agricultural uses, industrial uses, and all other  
264 uses by all residents, institutions, businesses, state and municipal agencies, and other entities  
265 operating within its borders.

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

269 (c) In meeting these goals, the commonwealth and its agencies shall prioritize (1) models  
270 for local and community ownership of renewable energy generation, (2) sources of renewable  
271 energy that are located in Massachusetts or elsewhere in New England, (3) sources of renewable  
272 energy that represent additional renewable generation capacity added to the grid, (4) non  
273 emitting sources of renewable energy, (5) reducing energy consumption through efficiency  
274 measures to the greatest extent practicable. In all of its plans to achieve 100 percent renewable  
275 energy, the commonwealth and its agencies shall prioritize bringing direct health and financial  
276 benefits to environmental justice communities.

277 SECTION 19. (a) In order to integrate the goal of 100 per cent renewable energy  
278 throughout state government operations, the secretary shall establish an administrative council  
279 for the clean energy transition not later than 90 days from the passage of this act.

280 (b) The council shall be chaired by the secretary or the secretary's designee; and shall  
281 include a representative from the department of environmental protection, the department of  
282 energy resources, the department of public utilities, the Massachusetts Clean Energy Center, the  
283 office of the governor, and the executive offices of administration and finance, education, health  
284 and human services, housing and economic development, labor and workforce development,  
285 public safety and security, and transportation and public works. The council shall also include a  
286 representative designated by the attorney general, the treasurer and receiver general, the secretary  
287 of the commonwealth, the state auditor, and the President of the University of Massachusetts.  
288 The council shall also include a member designated by the secretary of education to represent the  
289 community college system and a member designated by the secretary of education to represent  
290 the the state university system. The governor may appoint additional representatives from state  
291 agencies or quasi-public agencies to the council.

292 (c) The council shall identify all existing laws, regulations, and programs of the  
293 Commonwealth with an impact on energy production and consumption, and evaluate them based  
294 on (1) their potential to accelerate or hinder the state's transition to 100 per cent renewable  
295 energy and (2) their ability to maximize the environmental and economic benefits of the  
296 transition for Massachusetts residents and businesses, particularly but not exclusively for  
297 environmental justice communities and communities that have been impacted by energy-related  
298 pollution.

299 (d) Each executive department and quasi-public agency shall conduct a review of the  
300 laws, regulations, and programs in its jurisdiction, and submit a report to the council describing  
301 how these laws, regulations, and programs can be modified in order to accelerate the transition to  
302 100 per cent renewable energy. Each executive department and quasi-public agency shall further  
303 consider how modifying its programs to accelerate the transition to 100 per cent renewable  
304 energy can help achieve the department or agency's other objectives.

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

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

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

319 SECTION 20. Subject to appropriation, there shall be established at the Massachusetts  
320 Clean Energy Technology Center a program for clean energy finance. MassCEC shall conduct a



321 study of clean energy project finance gaps, including but not limited to project capital, project  
322 credit support/enhancement, project finance insurance and project pipeline development. The  
323 study shall include developing recommendations as to potential sources of additional funding to  
324 support initiatives aimed at closing the financing gaps addressed in the study. Pursuant to the  
325 findings of this study and subject to funding availability, MassCEC may establish a “Green  
326 Bank” or similar entity or program to provide the investment capital necessary to accelerate the  
327 deployment of a range of clean energy technologies in the buildings, transportation, industrial  
328 and other sectors may be necessary to achieve the pace of decarbonization necessary to meet the  
329 Commonwealth's net zero emissions goal.

330 SECTION 21: Chapter 164 of the General Laws is hereby amended by inserting after  
331 section 145, as appearing in the 2018 Official Edition, the following section:

332 Section 146:

333 (a) As used in this section, the following words shall, unless the context clearly requires  
334 otherwise, have the following meanings:

335 (1) “Local energy resources,” distributed renewable generation facilities, energy  
336 efficiency, energy storage, electric vehicles, and demand response and load management  
337 technologies.

338 (2) “Distributed renewable generation facility,” a facility producing electrical energy  
339 from any source that qualifies as a renewable energy generating source under section 11F of  
340 chapter 25A and is interconnected to a distribution company.

341 (3) “Board,” the Grid Modernization Consumer Board.

342 (b) The Department shall issue an order concluding the current Grid Modernization  
343 Proceedings (D.P.U. 15-120, 15-121 and 15-122) by December 31, 2022.

344 (c) The Department shall commence a proceeding by no later than January 31, 2023 that  
345 establishes procedures for each distribution company of the commonwealth to create and file  
346 with the Department by October 31, 2024 its subsequent Grid Modernization Plan, as described  
347 in further detail in subsection (d).

348 (1) This proceeding shall also establish specific metrics and related performance  
349 incentives to evaluate the progress of the distribution companies toward establishing a grid  
350 planning system to utilize and integrate local energy resources to meet customers' energy needs.  
351 Said metrics may include, but are not limited to: reducing the impact of outages, optimizing  
352 demand, integrating local energy resources, improving workforce and asset management, and  
353 electrification that results in lower greenhouse gas emissions and energy costs savings, after  
354 accounting for fuel switching;

355 (2) This proceeding shall also create protections for low-income consumers including, but  
356 not limited to, remote shutoff protection and exemption from special cost recovery mechanisms.

357 (d) Every 5 years, on or before April 1, each electric distribution company shall prepare a  
358 Grid Modernization Plan. Each plan shall comply with the requirements set forth by the  
359 Department in the proceeding described in subsection (c), or as modified by the Department, and  
360 shall be prepared in coordination with the Grid Modernization Consumer Board established by  
361 subsection (g). Each plan shall:

362 (1) Evaluate locational benefits and costs of local energy resources currently located on  
363 the system, and identify optimal locations for local energy resources over the next 10 years. This

364 evaluation shall be based on reductions or increases in local generation capacity and demand,  
365 avoided or increased investments in transmission and distribution infrastructure, safety benefits,  
366 reliability benefits, and any other savings the local energy resources provide to the electric grid  
367 or avoided costs to ratepayers;

368 (2) Provide information about the interconnection of distributed renewable generation  
369 facilities in publicly accessible hosting capacity maps that are updated on a continual basis;

370 (3) Propose or identify locational based incentives and other mechanisms for the  
371 deployment of cost-effective local energy resources that satisfy planning objectives;

372 (4) Propose cost-effective methods of effectively coordinating existing programs,  
373 incentives, and tariffs to maximize the locational benefits and minimize the incremental costs of  
374 local energy resources;

375 (5) Identify any additional spending by the distribution company necessary to integrate  
376 cost-effective local energy resources into distribution planning consistent with the goal of  
377 yielding net benefits to ratepayers;

378 (6) Identify any additional barriers to the deployment of local energy resources;

379 (e) Any distribution infrastructure necessary to accomplish the Grid Modernization Plan  
380 is eligible for pre-authorization by the Department, through a review of the company's proposed  
381 investments and cost estimates, as supported by the business case.

382 (f) Each Grid Modernization Plan prepared under subsection (d) shall be submitted for  
383 approval and comment by the Grid Modernization Consumer Board every 5 years, on or before  
384 April 1.

385 (1) The electric distribution companies shall provide any additional information requested  
386 by the Board that is relevant to the consideration of the Plan. The Board shall review the plan  
387 and any additional information and submit its approval or comments to the electric distribution  
388 companies not later than 3 months after the submission of the plan. The electric distribution  
389 companies may make any changes or revisions to reflect the input of the Board.

390 (2) The electric distribution companies shall submit their plans, together with the Board's  
391 approval or comments and a statement of any unresolved issues, to the Department every 5  
392 years, on or before October 31. The Department shall consider the plans and shall provide an  
393 opportunity for interested parties to be heard in a public hearing.

394 (3) Not later than 180 days after submission of a plan, the Department shall issue a  
395 decision on the plan which ensures that the electric distribution companies have satisfied the  
396 criteria set forth by the Department and shall approve, modify and approve, or reject and require  
397 the resubmission of the plan accordingly.

398 (4) Each Grid Modernization Plan shall be in effect for 5 years.

399 (g) There shall be a Grid Modernization Consumer Board to consist of the commissioner  
400 of the department of energy resources, who shall serve as chair, and 7 members including the  
401 attorney general, or his designee, the commissioner of the department of environmental  
402 protection, or his designee, and additional members appointed by the Department: 1 shall be a  
403 representative of residential consumers, 1 shall be a representative of low-income consumers, 1  
404 shall be a representative of the environmental community, 1 shall be a representative of the clean  
405 energy technology industry, and 1 shall be a representative of businesses, including large C& I  
406 end users. Interested parties shall apply to the Department for designation. Members shall serve

407 for terms of 6 years and may be reappointed. There shall be 1 non-voting ex-officio member  
408 from each of the electric distribution companies.

409 (1) The Board shall, as part of the approval process by the Department outlined in  
410 subsection (f), seek to maximize net economic benefits through use of distributed energy  
411 resources and achieve transmission, reliability, climate and environmental goals. The Board shall  
412 review and approve Grid Modernization Plans and budgets, and work with electric distribution  
413 companies in preparing resource assessments. Approval of Grid Modernization Plans and  
414 budgets shall require a two-thirds majority vote.

415 (2) The Board may retain expert consultants, provided, however that such consultants  
416 shall not have any contractual relationship with an electric distribution company doing business  
417 in the commonwealth or any affiliate of such company. The Board shall annually submit to the  
418 Department a proposal regarding the level of funding required for the retention of expert  
419 consultants and reasonable administrative costs. The proposal shall be approved by the  
420 Department either as submitted or as modified by the Department. The Department shall  
421 allocate funds sufficient for these purposes from the Grid Modernization Plan budgets.

422 (3) The electric distribution companies shall provide quarterly reports to the Board on the  
423 implementation of their respective plans. The reports shall include a description of progress in  
424 implementing the plan, an evaluation of the metrics identified by the Department in the  
425 proceeding described in subsection (c), and such other information or data as the Board shall  
426 determine. The Board shall provide an annual report to the department and the joint committee  
427 on telecommunications, utilities and energy on the implementation of the plan which includes

428 descriptions of the programs, investments, cost-effectiveness, and savings and benefits during the  
429 previous year.

430 SECTION 22: Section 69G of chapter 164, as appearing in the 2018 Official Edition, is  
431 hereby amended by inserting the following definition after “department”:

432 “Distributed Renewable Generation Facility”, a facility producing electrical energy from  
433 any source that qualifies as a renewable energy generating source under section 11F of chapter  
434 25A and is interconnected to a distribution company.

435 Said section 69G of said chapter 164 is also amended by adding the following definition  
436 after “generating facility”:

437 “Infrastructure Resource Facility”, an electric transmission line, an electric distribution  
438 line, or an ancillary structure which is an integral part of the operation of a transmission or  
439 distribution line, that meets the following criteria: a) is estimated to cost more than \$1 million; b)  
440 is needed due to asset condition or load-growth; c) has a date of need at least 36 months in the  
441 future; d) has a need that can be addressed by load reductions of less than 20 percent of the  
442 relevant peak load in the area of the defined need; and e) such other criteria as the Board may  
443 determine. A line that is constructed, owned, and operated by a generator of electricity solely for  
444 the purpose of electrically and physically interconnecting the generator to the transmission  
445 system of a transmission and distribution utility shall not be considered an Infrastructure  
446 Resource Facility.

447 Said section of said chapter is also amended by adding the following definition after  
448 “liquefied natural gas”:

449 “Local Energy Resource Alternative”, the following methods used either individually or  
450 combined to meet or defer in whole or in severable part the need for a proposed Infrastructure  
451 Resource Facility: energy efficiency and conservation, energy storage system, electric vehicles,  
452 load management technologies, demand response, distributed renewable generation facilities,  
453 and other relevant technologies determined by the Board.

454 SECTION 23: Chapter 164 of the General Laws is hereby amended by inserting after  
455 section 69J, as appearing in the 2018 Official Edition, the following section:

456 Section 69J 1/6:

457 (a) No applicant shall commence construction of an Infrastructure Resource Facility at a  
458 site unless a Determination of Wires has been approved by the board. In addition, no state  
459 agency shall issue a construction permit for any Infrastructure Resource Facility unless the  
460 Determination of Wires has been approved by the board and the facility conforms with such  
461 determination. Applications for Determination of Wires must be filed with the board no later  
462 than four years prior to date of in-service need.

463 (b) A petition for a Determination of Wires shall include, in such form and detail as the  
464 board shall from time to time prescribe, the following information: (1) a description of  
465 the Infrastructure Resource Facility, site and surrounding areas; (2) an analysis of the need for  
466 the facility over its planned service life, both within and outside the commonwealth, including  
467 date of need for the facility; (3) a description of the alternatives to the facility, such as other  
468 methods of transmitting or storing energy, other site locations, other sources of electrical power  
469 or gas, a reduction of requirements through load management, or local energy resource  
470 alternatives; and (4) the results of an investigation by an independent 3rd party, which may be

471 the Board or a contractor selected by the Board, of local energy resource alternatives that may,  
472 alone or collectively, address or defer part or all of the need identified in the application for the  
473 Infrastructure Resource Facility. The investigation must set forth the total projected costs and  
474 economic benefits to ratepayers of the Infrastructure Resource Facility, as well as of the local  
475 energy resource alternative(s), over the effective life of the proposed Infrastructure Resource  
476 Facility.

477 (c) Prior to issuing a Determination of Wires, the Board must consider whether it is  
478 possible for any Local Energy Resource Alternative(s), alone or in combination, to meet or defer  
479 some or all of the identified need. In its consideration, the Board shall compare the Infrastructure  
480 Resource Facility to Local Energy Resource Alternatives based on uniform, standard criteria,  
481 including benefit-cost analysis. In its Determination, the Board must make specific findings  
482 regarding: i) the portions of the identified need, if any, that cannot be addressed or deferred by  
483 Local Energy Resource Alternative(s), due to engineering or public safety reasons; ii) the  
484 portions of the identified need, if any, for which the Board determines Local Energy Resource  
485 Alternative(s), alone or in combination, may meet or defer the need more cost-effectively, as  
486 defined in subsection f, than the Infrastructure Resource Facility, and the duration of such  
487 deferral; and iii) additional portions of identified need, if any. Notice of issuance of a  
488 Determination of Wires must be provided to the town or city administrator of each municipality  
489 in which the related Infrastructure Resource Facility or Local Energy Resource Alternative(s) is  
490 located.

491 (d) Upon issuance of a Determination of Wires that contains a finding that one or more  
492 Local Energy Resource Alternative(s) may satisfy or defer a portion of the identified need more  
493 cost-effectively, as defined in subsection f, than the Infrastructure Resource Facility, the



494 applicant must engage in a transparent, open solicitation for resources that can meet or defer that  
495 portion of the need, as well as any additional portions of identified need. Any requests for  
496 proposals shall be reviewed by the Department in consultation with DOER, the Energy  
497 Efficiency Advisory Council, and the Grid Modernization Consumer Board. The applicant's  
498 selection of resources for contracting shall be carried out in consultation with DOER, and any  
499 contracts shall be reviewed and approved by the Department.

500 (e) If during the review of contracts by the Department, it is determined that an  
501 Infrastructure Resource Facility will meet the identified need more cost-effectively, as defined in  
502 subsection f, than the Local Energy Resource Alternative(s), such finding shall serve as prima  
503 facie evidence of the Infrastructure Resource Facility being the "lowest possible cost" for the  
504 Board's determination under Section 69J.

505 (f) Within three months of enactment of this section, the Department of Energy  
506 Resources shall develop, in consultation with the Energy Efficiency Advisory Council, a  
507 framework for benefit-cost analysis to be applied to evaluations of Infrastructure Resource  
508 Facilities and Local Energy Resource Alternatives, as a determinant of cost-effectiveness. The  
509 Total Resource Cost test utilized in the Energy Efficiency programs shall be appropriately  
510 modified to account for the value of reliability and other site-specific costs, benefits and risks  
511 appropriate to consideration of Local Energy Resource Alternatives. Categories of costs and  
512 benefits may include: ratepayer benefits; reasonably foreseeable environmental and public health  
513 compliance costs; line losses; local reliability; market price suppression effects for energy and  
514 capacity; fuel price risks; avoided transmission and distribution investments; electric generation  
515 supply costs and reductions; capacity market costs and reductions; ancillary services costs and  
516 reductions; transmission costs and reductions; distribution system costs and reductions; outage

517 costs and reductions for electric customers; renewable energy certificate costs; fuel costs;  
518 demand-reduction induced price effects; and other costs and benefits of switching to electricity-  
519 based end uses. No later than six months after enactment of this section, such framework shall  
520 be considered by the Board in creating regulations regarding the Board's process and criteria for  
521 determining cost-effectiveness and issuing a Determination of Wires.

522 (g) Within ten months of enactment of this section, the Department shall issue criteria  
523 outlining acceptable methods for securing contracts for Local Energy Resource Alternatives.  
524 The Department may consider whether utility performance incentives are appropriate. Any such  
525 incentives must be included in the cost effectiveness analysis set forth in subsection f.

526 (h) If the Board determines that one or more local energy resources alternative(s) can  
527 sufficiently address or defer the identified need at greater overall economic benefit to ratepayers  
528 across the region than the Infrastructure Resource Facility, but at a higher cost to ratepayers in

529 the Commonwealth, the Board shall make reasonable efforts to achieve within 180 days  
530 an agreement among the states within the ISO-NE region to allocate the cost of the local energy  
531 resource alternative(s) among the ratepayers of the region using the allocation method used for  
532 regional transmission lines or a different allocation method that results in lower costs than the  
533 proposed Infrastructure Resource Facility to the ratepayers of the Commonwealth.

534 SECTION 24: Section 69J of chapter 164 of the General Laws, as appearing in the 2018  
535 Official Edition, is hereby amended by striking the third paragraph and inserting in its place  
536 thereof the following paragraph:

537 A petition to construct a facility shall include, in such form and detail as the board shall  
538 from time to time prescribe, the following information: (1) a description of the facility, site and

539 surrounding areas; (2) an analysis of the need for the facility, either within or outside, or both  
540 within and outside the commonwealth; (3) a description of the alternatives to the facility, such as  
541 other methods of transmitting or storing energy, other site locations, other sources of electrical  
542 power or gas, or a reduction of requirements through load management; (4) any applicable  
543 Determination of Wires; and (5) a description of the environmental impacts of the facility,  
544 including impacts on greenhouse gas emissions. The board shall be empowered to issue and  
545 revise filing guidelines after public notice and a period for comment. A minimum of data shall be  
546 required by these guidelines from the applicant for review concerning land use impact, water  
547 resource impact, air quality impact, solid waste impact, radiation impact and noise impact.

548 SECTION 25. Within one year of the effective date of this act, the Executive Office of  
549 Energy and Environmental Affairs shall promulgate regulations to develop and implement a low  
550 carbon fuel standard. Said clean fuel standard shall aim to reduce the carbon intensity of  
551 transportation fuels, while accounting for the full lifecycle greenhouse gas emissions of all fuels.

552 SECTION 26. Chapter 25A of the General Laws is hereby amended by adding the  
553 following section:-

554 Section 17. (a) The department shall establish an energy storage system target for the  
555 deployment of energy storage systems by distribution company customers, distribution  
556 companies and municipal lighting plants to achieve a statewide energy storage deployment target  
557 of 2,000 megawatts by January 1, 2030 and a subsequent statewide energy storage deployment  
558 target to be achieved by January 1, 2035. The department shall set annual statewide deployment  
559 targets to be achieved in each distribution company's and municipal lighting plant's service  
560 territory in order to reach the energy storage system targets required under this section.

561 (b) To achieve the annual targets established in subsection (a), the department may  
562 consider a variety of deployment mechanisms and may require policies to encourage the cost-  
563 effective deployment of energy storage systems including, but not limited to: (i)  
564 distribution company or municipal lighting plant programs to encourage private deployment of  
565 energy storage systems by their customers; (ii) procurement of cost-effective energy storage  
566 systems to be owned and operated by a distribution company; provided, however, that any such  
567 procurement shall finance the deployment of energy storage systems for the purpose of: (1) a  
568 nonwires alternative to investment in distribution; (2) deferring investment in distribution  
569 infrastructure that would otherwise be needed to address actual or forecasted overloads on  
570 distribution circuits or at substations; or (3) improving the capability of the distribution system to  
571 recover from adverse events that otherwise could result in long-term outages in critical areas of  
572 the distribution system; (iii) the use of alternative compliance payments collected pursuant to  
573 subsection (e) to fund a grant program for private development; and (iv) the use of energy storage  
574 to replace fossil generation and the use of energy efficiency funds under section 19 of chapter 25  
575 if the department determines that customer-owned energy storage provides sustainable peak load  
576 reductions on either the electric or gas distribution systems and is otherwise consistent with  
577 section 11G of this chapter.

578 (c) A distribution company shall not own or operate energy storage systems equal to  
579 more than 20 per cent of the annual target established by the department for the distribution  
580 company's service territory established in subsection (a) for the purpose of achieving the annual  
581 targets; provided, however, that the department shall ensure that no distribution company shall  
582 prevent or interfere with a customer or developer's ability to enter into agreements to own or  
583 operate behind the meter energy storage systems.

584 (d) Each distribution company and municipal lighting plant shall annually make a map  
585 available that identifies areas of critical need for energy storage systems within their service  
586 territory. Each distribution company and municipal light plant shall identify on the map areas of  
587 actual or forecasted overloads on distribution circuits or at substations. The map shall aggregate  
588 system detail as necessary for distribution system security.

589 (e) The department shall promulgate regulations to: (i) establish a carve-out of the  
590 alternative energy portfolio standard obligation under section 11F1/2 for energy storage systems  
591 as defined in section 1 of chapter 164; and (ii) allow each distribution company and municipal  
592 lighting plant to discharge its obligations under this section by either procuring attributes from  
593 energy storage systems that qualify under the carve-out established pursuant to this section or by  
594 making an alternative compliance payment in an amount to be established by the department.  
595 The regulations shall require distribution companies and municipal lighting plants to annually  
596 submit to the department a report that shows it is in compliance with this section.

597 (f) Annually, not later than December 1, the department shall make available on its  
598 website a report on the energy storage system target program.

599 (g) The department shall promulgate regulations to implement this section.

600 SECTION 27. Section 139 of chapter 164 is hereby amended by striking out subsection  
601 (f) and inserting in place thereof the following subsection:- (f) No aggregate net metering cap  
602 shall apply to solar net metering facilities with the exception that the maximum amount of  
603 generating capacity eligible for net metering by a municipality or other governmental entity shall  
604 be 10 megawatts.

605 SECTION 28. Subsection (a) of section 10 of chapter 21N of the General Laws, as so  
606 appearing, is hereby amended by inserting at the end thereof the following words:- Upon the  
607 adoption of the state plan, all certificates, licenses, permits, authorizations, grants, financial  
608 obligations, projects, actions and approvals for any proposed projects, uses or activities in and by  
609 a state agency or state authority shall be consistent, to the maximum extent practicable, with the  
610 plan.

611 SECTION 29. Section 26A of chapter 21 of the General Laws, as appearing in the 2018  
612 Official Edition, is hereby amended by inserting after the word “effluent”, in line 67, the  
613 following words:- hydraulic fracturing fluid.

614 SECTION 30. Section 27 of said chapter 21, as so appearing, is hereby amended by  
615 adding the following clause:-

616 (14) Enforce restrictions on drilling, waste treatment and disposal and mining activities  
617 which have been enacted to protect the water quality and the natural resources of the  
618 commonwealth.

619 SECTION 31. Section 42 of said chapter 21, as so appearing, is hereby amended by  
620 inserting after the word “commonwealth”, in line 3, the following words:- ,or into an injection  
621 well or into a treatment works in the commonwealth.

622 SECTION 32. (a) As used in this section, the following words shall have the following  
623 meanings unless the context clearly requires otherwise:-

624 “Fluid”, any material or substance which flows or moves whether in semi-solid, liquid,  
625 sludge, gas or any other form or state.

626 “Gas”, all natural gas, whether hydrocarbon or nonhydrocarbon, including hydrogen  
627 sulfide, helium, carbon dioxide, nitrogen, hydrogen, casinghead gas and all other fluid  
628 hydrocarbons not defined as oil.

629 “Hydraulic fracturing”, the process of pumping a fluid into or under the surface of the  
630 ground in order to create fractures in rock to produce or recover oil or gas.

631 “Oil”, crude petroleum, oil and all hydrocarbons, regardless of specific gravity, that are in  
632 the liquid phase in the reservoir and are produced at the wellhead in liquid form.

633 “Oil and gas”, oil and gas collectively, or either oil or gas, as the context may require to  
634 give effect to the purposes of this chapter.

635 (b) a person shall not engage in hydraulic fracturing in the Commonwealth.

636 (c) a person shall not collect, store, treat or dispose of wastewater hydraulic fracturing  
637 fluid, wastewater solids, drill cuttings or other byproducts from hydraulic fracturing in the  
638 Commonwealth.

639 SECTION 33. The Department of Environmental Protection shall promulgate  
640 regulations requiring producers, importers, and wholesale distributors that sell, supply, or offer  
641 for sale transportation fuels in Massachusetts to report all Massachusetts transportation fuel  
642 sales, and the source of any fuel sold, to the Department of Environmental Protection. The  
643 regulations shall require the Department of Environmental Protection to compute and track the  
644 individual and collective lifecycle greenhouse gas emissions of all fuels, as well as the carbon  
645 intensity of each fuel, that are reported by regulated entities on an annual basis.

646 SECTION 34. All sales, lifecycle greenhouse gas emissions, and carbon intensity data  
647 collected or computed by the Department of Environmental Protection pursuant to the  
648 regulations required by Section 1 shall be published by the Department in an annual report that is  
649 available to the public.

650 SECTION 35. The regulations required by Section 1 shall be promulgated within 180  
651 days of passage of this Act, and must take effect within 180 days of promulgation.

652 SECTION 36. Notwithstanding any general or special law to the contrary, the  
653 department of energy resources may require distribution companies, as defined in section 1 of  
654 chapter 164 of the General Laws, to jointly and competitively conduct additional clean energy  
655 generation resources, as defined in section 83B of chapter 169 of the acts of 2008, solicitations  
656 and procurements, if it finds it is necessary to meet the statewide greenhouse gas emissions limits  
657 established in Chapter 21N of the General Laws. Any selected projects must use practices to  
658 avoid, minimize, and mitigate impact to wildlife, natural resources, ecosystems, and traditional  
659 or existing water-dependent uses.