HOUSE DOCKET, NO. 3357 FILED ON: 1/20/2017

HOUSE . . . . . No. 3395

The Commonwealth of Massachusetts

PRESENTED BY:

Sean Garballey and Marjorie C. Decker

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 to transition Massachusetts to 100 per cent renewable energy.

PETITION OF:

NAME:	DISTRICT/ADDRESS:	DATE ADDED:
Sean Garballey	*23rd Middlesex*	*1/20/2017*
Marjorie C. Decker	*25th Middlesex*	*2/3/2017*
Paul Tucker	*7th Essex*	*12/20/2017*
Sarah K. Peake	*4th Barnstable*	*12/20/2017*
Brendan P. Crighton	*Third Essex*	*12/20/2017*
Adrian Madaro	*1st Suffolk*	*12/20/2017*
John C. Velis	*4th Hampden*	*12/20/2017*
Carmine L. Gentile	*13th Middlesex*	*12/20/2017*
Frank I. Smizik	*15th Norfolk*	*12/20/2017*
Denise Provost	*27th Middlesex*	*12/20/2017*
Ruth B. Balser	*12th Middlesex*	*12/20/2017*
Jack Lewis	*7th Middlesex*	*12/20/2017*
Christine P. Barber	*34th Middlesex*	*12/20/2017*
James B. Eldridge	*Middlesex and Worcester*	*12/20/2017*
Mike Connolly	*26th Middlesex*	*12/20/2017*
Aaron Vega	*5th Hampden*	*12/20/2017*
Smitty Pignatelli	*4th Berkshire*	*12/20/2017*
José F. Tosado	*9th Hampden*	*12/20/2017*

David M. Rogers	*24th Middlesex*	*12/20/2017*
Thomas J. Calter	*12th Plymouth*	*12/20/2017*
Steven Ultrino	*33rd Middlesex*	*12/20/2017*
Jason M. Lewis	*Fifth Middlesex*	*12/20/2017*
Natalie Higgins	*4th Worcester*	*12/20/2017*
John W. Scibak	*2nd Hampshire*	*12/20/2017*
Jennifer E. Benson	*37th Middlesex*	*12/20/2017*
Gerard Cassidy	*9th Plymouth*	*12/20/2017*
Chris Walsh	*6th Middlesex*	*12/20/2017*
Kay Khan	*11th Middlesex*	*12/20/2017*
Paul R. Heroux	*2nd Bristol*	*12/20/2017*
Kenneth I. Gordon	*21st Middlesex*	*12/20/2017*
Paul W. Mark	*2nd Berkshire*	*12/20/2017*
James J. O'Day	*14th Worcester*	*12/20/2017*
Carlos González	*10th Hampden*	*12/20/2017*
Solomon Goldstein-Rose	*3rd Hampshire*	*12/20/2017*
Michelle M. DuBois	*10th Plymouth*	*12/20/2017*
James Arciero	*2nd Middlesex*	*12/20/2017*
Gailanne M. Cariddi	*1st Berkshire*	*12/20/2017*
Denise C. Garlick	*13th Norfolk*	*12/20/2017*
Stephen Kulik	*1st Franklin*	*12/20/2017*
Daniel M. Donahue	*16th Worcester*	*12/20/2017*
Louis L. Kafka	*8th Norfolk*	*12/20/2017*
Stephan Hay	*3rd Worcester*	*12/20/2017*
Jay R. Kaufman	*15th Middlesex*	*12/20/2017*
Jay D. Livingstone	*8th Suffolk*	*12/20/2017*
Jeffrey N. Roy	*10th Norfolk*	*12/20/2017*
Edward F. Coppinger	*10th Suffolk*	*12/20/2017*
John J. Lawn, Jr.	*10th Middlesex*	*12/20/2017*
Peter V. Kocot	*1st Hampshire*	*12/20/2017*
Patricia D. Jehlen	*Second Middlesex*	*12/20/2017*

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HOUSE . . . . . No. 3395

By Representatives Garballey of Arlington and Decker of Cambridge, a petition (accompanied by bill, House, No. 3395) of Sean Garballey, Marjorie C. Decker and others relative to the use of renewable energy in the Commonwealth. Telecommunications, Utilities and Energy.

The Commonwealth of Massachusetts

In the One Hundred and Ninetieth General Court
(2017-2018)

An Act to transition 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:

SECTION 1. The General Laws, as appearing in the 2016 Official Edition, are hereby amended by inserting after chapter 25C the following chapter:-

CHAPTER 25D.

100 Percent Renewable Energy Act

Section 1. The purpose of this chapter is to steadily transition the Commonwealth to 100 per cent clean, renewable energy by 2050 in order to (1) avoid pollution of our air, water and land, reduce greenhouse gas emissions, and ultimately eliminate our use of fossil fuels and other polluting and dangerous forms of energy; (2) increase energy security by reducing our reliance on imported sources of energy and maximizing renewable energy production in Massachusetts and in our region; (3) increase economic development by stimulating public and private investments in clean energy and energy efficiency projects; (4) create local jobs by harnessing Massachusetts' skilled workforce, business leadership, and academic institutions to advance new

technologies, improve the energy performance of homes and workplaces, and deploy renewable energy across the Commonwealth; and (5) improve the quality of life and economic well-being of all Massachusetts residents, with an emphasis on communities and populations that have been disproportionately affected by pollution and high costs under our energy system.

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

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

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

"Department," the department of energy resources

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

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

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

"Renewable energy," energy produced from sources that meet all of the following criteria:

- (1) Virtually pollution-free, producing little to no global warming pollution or health-threatening pollution;

- (2) Inexhaustible, coming from natural sources that are regenerative or practically unlimited;

- (3) Safe, having minimal impacts on the environment, community safety and public health; and

- (4) Efficient, a wise use of resources.

Renewable energy shall include energy produced with the following technologies, provided that the use of these technologies conforms to the requirements above: solar photovoltaic, solar thermal electric, solar thermal heating, offshore wind energy, onshore wind energy, and geothermal energy. Renewable energy may include other technologies that meet the requirements above.

"Secretary," the secretary of energy and environmental affairs

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

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

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

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

Section 3. (a) It shall be the goal of the Commonwealth of Massachusetts to meet 100 per cent of Massachusetts' energy needs with renewable energy by 2050, including the energy consumed for electricity, heating and cooling, transportation, agricultural uses, industrial uses, and all other uses by all residents, institutions, businesses, state and municipal agencies, and other entities operating within its borders.

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

(c) In meeting these goals, the Commonwealth of Massachusetts and its agencies shall prioritize (1) sources of renewable energy that are located in Massachusetts or elsewhere in New England, (2) sources of renewable energy that represent additional renewable generation capacity added to the grid, (3) models for local and community ownership of renewable energy generation, particularly those models that bring direct financial benefits to low-income communities, and (4) reducing energy consumption through efficiency measures to the greatest extent practicable.

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

(b) The council shall be chaired by the secretary or the secretary's designee; and shall include a representative from the department of environmental protection, the department of energy resources, the department of public utilities, the Massachusetts Clean Energy Center, the office of the governor, and the executive offices of administration and finance, education, health

and human services, housing and economic development, labor and workforce development, public safety and security, and transportation and public works. The council shall also include a representative designated by the attorney general, the treasurer and receiver general, the secretary of the commonwealth, the state auditor, and the President of the University of Massachusetts. The council shall also include a member designated by the secretary of education to represent the community college system and a member designated by the secretary of education to represent the the state university system.

(c) The council shall identify all existing laws, regulations, and agency programs with an impact on energy production and consumption, and evaluate them based on (1) their potential to support the state's transition to 100 per cent renewable energy and (2) their ability to maximize the environmental and economic benefits of the transition for Massachusetts residents and businesses, particularly but not exclusively for (i) residents of gateway municipalities as defined in section 3A of chapter 23A of the General Laws, (ii) communities that have been impacted by pollution from energy sources, and (iii) neighborhoods identified as Environmental Justice Populations under the Environmental Justice Policy of the executive office of energy and environmental affairs.

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

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

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

(g) The council shall meet at least once per quarter to review progress in modifying laws, regulations, and agency programs to accelerate the transition to 100 per cent renewable energy. These meetings shall be open to members of the public and shall provide opportunities for public comment.

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

(b) The center shall be advised by a 15-member committee composed of experts knowledgeable in (1) renewable energy, energy efficiency, and energy storage technologies; (2)

architecture, building engineering, and construction; (3) transportation; (4) affordable housing; (5) environmental justice; and (6) other relevant fields.

Section 6. (a) The Commonwealth shall establish a council for clean energy workforce development. The council shall be co-chaired by the commissioner of the department of energy resources and the secretary of labor and workforce development. The council shall include representatives from the Massachusetts Clean Energy Center, the executive office of education, the University of Massachusetts, the state universities and community colleges, organized labor, renewable energy businesses, occupational training organizations, economic development organizations, community development organizations, and organizations serving Environmental Justice Populations.

(b) The council shall identify the employment potential of the energy efficiency and renewable energy industry and the skills and training needed for workers in those fields, and make recommendations to the governor and the general court for policies to promote employment growth and access to jobs. The council shall prioritize maximizing employment opportunities for fossil fuel workers displaced in the transition to renewable energy, residents of gateway municipalities as defined in section 3A of chapter 23A of the General Laws, and residents of areas identified as Environmental Justice Populations under the Environmental Justice Policy of the executive office of energy and environmental affairs.

(c) The council shall establish a target for the number of new renewable energy jobs to be created in Massachusetts by 2030 not later than January 1, 2019. The Council shall also set a target for the number of new renewable energy jobs to be created for members of the prioritized categories identified in subsection (b); and this target shall be no less than 10 percent of the total

number of jobs created or 7,500 jobs, whichever is greater. The council shall create job growth targets for each subsequent ten-year period beginning in 2030, including a target for the number of jobs to be created for members of the prioritized categories identified in subsection (b); and this target shall be no less than 10 percent of the total number of jobs created or 7,500 jobs, whichever is greater. The job growth targets for each subsequent ten-year period shall be finalized at least 12 months prior to the start of the ten-year period.

(d) At least annually, the council shall submit a report to the general court and the governor recommending changes to existing state policies and programs to meet its job growth targets.

(e) The council shall meet at least once per quarter to review progress in expanding renewable energy employment. These meetings shall be open to members of the public and shall provide opportunities for public comment.

Section 7. (a) In consultation with the administrative council for the clean energy transition and the clean energy center of excellence, the department shall conduct a study identifying pathways towards 100 percent renewable energy for the building sector, and the policies necessary for all new buildings to be zero net energy buildings by 2030 and for non-renewable energy consumption to be reduced for existing buildings by 50 percent by 2030.

(b) The study shall consider how to expand access to renewable heating and electricity technologies, increase access to energy efficiency programs, and minimize costs, particularly but not exclusively for low-income communities.

(c) The department shall present the results of this study to the administrative council for the clean energy transition not later than 1 year from the passage of this act. The department shall

review and update this study every five years, considering technological developments, demographic changes, the effectiveness of existing programs and policies, and other factors.

Section 8. (a) The department shall determine the overall quantity of energy consumed statewide in the calendar year 2016 across all sectors and the percentage of energy consumed that came from renewable energy sources, using the best available data. This determination shall include an analysis of the percentage of renewable energy consumed in Massachusetts that was produced (1) in Massachusetts; (2) in Maine, New Hampshire, Connecticut, Rhode Island, and Vermont; and (3) in states not previously listed or in other countries or territories.

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

(c) The department shall publish a similar analysis of renewable and non-renewable energy consumption on at least a triennial basis and for the years 2020, 2030, 2040, and 2050. This analysis shall include the amount, percentage, types, and sources of renewable and non-renewable energy consumed across all sectors statewide and in the individual sectors and subsectors identified pursuant to subsection (b), as well as any additional sectors or subsectors that have since come to represent at least 2 percent of total statewide energy consumption.

(d) The department shall establish interim limits for the overall percentage of Massachusetts' energy to come from non-renewable sources: (1) in 2030, no more than 50 percent non-renewable energy; and (2) in 2040, no more than 20 percent non-renewable energy. The department shall also establish interim limits on non-renewable energy in the individual

sectors and subsectors identified under subsections (b) and (c). These interim limits shall maximize the ability of the Commonwealth to achieve 100 percent renewable energy by 2050.

(e) The department shall establish interim non-renewable energy limits for 2030 and 2040 concurrent with the Department of Environmental Protection's establishment of interim 2030 and 2040 limits on greenhouse gas emissions pursuant to subsection (b) of section 3 of chapter 21N of the General Laws. The Department of Environmental Protection shall establish a 2030 interim limit on greenhouse gas emissions and the Department of Energy Resources shall establish a 2030 interim limit on non-renewable energy consumption not later than January 1, 2018. The Department of Environmental Protection shall establish a 2040 interim limit on greenhouse gas emissions and the Department of Energy Resources shall establish a 2040 interim limit on non-renewable energy consumption not later than January 1, 2027. The Department of Environmental Protection shall establish a 2050 statewide emissions limit not later than January 1, 2037.

(f) The interim limit on greenhouse gas emissions for 2030 shall reduce emissions by at least 50 per cent below the 1990 level, as determined by the department of environmental protection under subsection (a) of section 3 of said chapter 21N.

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

Section 9. (a) The department and other state agencies controlling sectors or subsectors of energy consumption shall promulgate regulations establishing declining annual limits on the percentage of non-renewable energy consumed by the sectors and subsectors identified in

subsections (b) and (c) of section 8 of this chapter. These regulations shall reduce the use of non-renewable energy at a rate sufficient to meet the interim 2030 and 2040 limits on non-renewable energy consumption, as well as the 2050 goal of 100 percent renewable energy. In adopting these regulations, the department shall consider how to minimize costs and maximize economic, social, public health, and environmental benefits for fossil fuel workers displaced in the transition to renewable energy, residents of gateway municipalities as defined in section 3A of chapter 23A of the General Laws, and residents of areas identified as Environmental Justice Populations under the Environmental Justice Policy of the executive office of energy and environmental affairs.

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

(c) The department of energy resources and the department of environmental protection, along with other agencies that control sectors or subsectors of energy consumption or greenhouse gas emissions, shall promulgate regulations under subsection (a) of section 9 of this chapter and subsection (d) of section 3 of chapter 21N of the General Laws not later than January 1, 2019, to meet the 2030 interim limits on greenhouse gas emissions and non-renewable energy consumption; and not later than January 1, 2029, to meet the 2040 interim limits on greenhouse gas emissions and non-renewable energy consumption; and not later than January 1, 2039, to achieve 100 percent renewable energy and at least 80 percent greenhouse gas emission reductions by 2050.

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

(e) The regulations promulgated under subsection (a) of section 9 of this chapter and subsection (d) of section 3 of chapter 21N of the General Laws are intended to result in real, permanent reductions in greenhouse gas emissions and the use of non-renewable energy resulting from activities in the Commonwealth of Massachusetts.

Section 10. (a) The department, together with the Massachusetts Clean Energy Center, the executive office for administration and finance, the division of capital asset management and maintenance, and other state agencies, shall identify opportunities to expand solar and other renewable energy generation capacity on state-owned facilities and land. The department and the division of capital asset management and maintenance, in consultation with other state agencies, shall install an additional 100 megawatts of solar and other clean energy generation capacity on state properties by December 31, 2020.

(b) The department and the division of capital asset management and maintenance, together with other state agencies, shall establish a goal for the amount of additional renewable energy generation capacity installed on state-owned facilities and lands in each subsequent five-year period beginning in 2020. The goal for each five-year period shall be not less than 25 megawatts of renewable energy generation capacity. The department and the division of capital asset management and maintenance, together with other state agencies, shall install enough renewable energy generation capacity to meet the goal for each five-year period.

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

(d) Annually, the division of capital asset management and maintenance shall determine which renewable energy projects have paid back their initial costs with revenue and energy cost savings. These projects shall be known as revenue positive projects. Once this determination has been made, any future revenue or energy cost savings from revenue positive projects shall be credited into a clean energy workforce development account at the Massachusetts Clean Energy Center. Such funds shall be held in an account separate from other accounts of the Massachusetts Clean Energy Center. In any year in which revenue from renewable energy projects on state properties is not sufficient to credit at least $5 million into the clean energy workforce development account, the department shall direct funds from alternative compliance payments under subsection (h) of section 11F of the General Laws to bring the total contribution to $5 million.

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

(f) At least half of the funds spent from the clean energy workforce development account on an annual basis shall be spent on programs and initiatives that primarily benefit (1) fossil fuel workers displaced in the transition to renewable energy, (2) residents of gateway municipalities as defined in section 3A of chapter 23A of the General Laws, or (3) residents of areas identified as Environmental Justice Populations under the Environmental Justice Policy of the executive office of energy and environmental affairs.

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

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

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

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

(b) The study shall give preference to transportation options that (1) increase access to mass transportation across all income levels; (2) minimize costs, particularly for low-income communities; and (3) maximize access to employment centers.

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

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

SECTION 3. Subsection (a) of section 11F of chapter 25A of the General Laws is hereby amended by striking out the third sentence and inserting in place thereof the following words:- Every retail supplier shall provide a minimum percentage of kilowatt-hours sales to end-use customers in the commonwealth from Class I renewable energy generating sources, according to the following schedule: (1) an additional 1 per cent of sales by December 31, 2003, or 1 calendar year from the final day of the first month in which the average cost of any renewable technology is found to be within 10 per cent of the overall average spot-market price per kilowatt-hour for electricity in the commonwealth, whichever is sooner; (2) an additional one-half of 1 per cent of sales each year thereafter until December 31, 2009; (3) an additional 1 per cent of sales every year thereafter until December 31, 2017; (4) an additional 2 per cent of sales every year thereafter until December 31, 2018; (5) an additional 3 per cent of sales every year thereafter

until December 31, 2020; (6) an additional 4 per cent of sales every year thereafter until December 31, 2022; (7) an additional 5 per cent of sales every year thereafter until December 31, 2028; and (8) an additional 6 per cent of sales every year thereafter.

SECTION 4. The provisions of this act shall become effective 90 days from the passage of this act, except where otherwise specified.