SENATE . . . . . No. 2302

The Commonwealth of Massachusetts

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

SENATE, February 14, 2018

The committee on Global Warming and Climate Change, to whom was referred the Senate Bill relative to 2030 and 2040 emissions benchmarks (Senate, No. 479); reports, recommending that the same ought to pass with an amendment substituting a new draft entitled "An Act to promote a clean energy future" (Senate, No. 2302) (also based on Senate, Nos. 477, 478, changed and 1974 and House, No. 3994)

For the committee,
Marc R. Pacheco

SENATE . . . . . No. 2302

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(2017-2018)

An Act to promote a clean energy future.

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 Court hereby finds and declares that the commonwealth recognizes the importance of international cooperation in addressing climate change and the importance of the global initiative to provide an up-to-date, transparent global picture of efforts to tackle climate change from state and regional governments.

SECTION 2. Section 1 of chapter 21N of the General Laws, as appearing in the 2016 Official Edition, is hereby amended by inserting after the definition of "Market-based compliance mechanism" the following 3 definitions:-

"Non-Party stakeholder", may include, but is not limited to civil society, the private sector, financial institutions, cities, towns and other subnational authorities.

"Non-state Actor Zone for Climate Action" or "NAZCA", the online CO2 emission data gathering tool developed by the United Nations with the governments of France and Peru for the twenty-first session of the Conference of Parties in Paris.

"Paris Agreement", the 2015 United Nations Framework Convention on Climate Change.

SECTION 3. Section 2 of said chapter 21N, as so appearing, is hereby amended by adding the following subsection:-

(d) The department may, as appropriate: (i) adopt rules and regulations that support efforts and actions to reduce greenhouse gas emissions or to decrease vulnerability to the adverse effects of climate change, (ii) ensure that such actions and efforts support the international guidelines set forth in the Paris Agreement, and (iii) document state and local efforts at reducing carbon emissions as a non-party stakeholder with the NAZCA platform.

SECTION 4. Section 5 of said chapter 21N, is hereby amended by striking out, in line 25, the words, “and (x)”, and inserting in place thereof, the following:- (x) state actions undertaken pursuant to the provisions of subsection (d) of section 2; and (xi).

SECTION 5. Section 6 of said chapter 21N, as so appearing, is hereby amended by adding the following paragraph:-In promulgating regulations to implement its plan for climate change mitigation, the department shall strive to exceed the standards adopted by the United Nations.

SECTION 6. Section 1 of chapter 21N is hereby amended by striking out lines 17 through 20, and inserting in place thereof the following:-

“Direct emissions”, emissions from sources that are owned or operated, in whole or in part, by any person, entity, or facility including, but not limited to, emissions from any transportation vehicle, any building or structure, or any residential, commercial, institutional, industrial or manufacturing process.

SECTION 7. Section 1 of chapter 21N is hereby amended by adding after line XX:-

“Greenhouse gas-emitting priority ,” matter that emits or is capable of emitting a greenhouse gas when burned including, without exception, natural gas, petroleum, coal, and any solid, liquid or gaseous fuel derived therefrom as well as all others identified as such by the department.

SECTION 8. Section 1 of chapter 21N is hereby amended by striking out lines XX through YY, and inserting in place thereof the following:-

“Indirect emissions”, emissions associated with the consumption of any greenhouse gas-emitting priority or purchased electricity, steam and heating or cooling by an entity or facility.

SECTION 9. Section 1 of chapter 21N is hereby amended by striking out lines XX through YY, and inserting in place thereof the following:-

“Market-based compliance mechanism”, any form of priced compliance system imposed on sources or categories of sources, or pricing mechanism imposed directly on greenhouse gas-emitting priorities or on their the distribution or sale, designed to reduce emissions as required by this act including, but not limited to (i) a system of market-based declining annual aggregate emissions limitations for sources or categories of sources that emit greenhouse gases; or (ii) greenhouse gas emissions exchanges, banking, credits and other transactions governed by rules and protocols established by the secretary or a regional program that result in the same greenhouse gas emissions reduction, over the same time period, as direct compliance with a greenhouse gas emissions limit or emission reduction measure adopted by the executive office pursuant to this chapter; or (iii) a system of charges or exactions imposed in order to reduce statewide greenhouse gas emissions in whole or in part.

SECTION 10. Subsection (a) of section 2 of chapter 21N of the General Laws, as appearing in the 2016 Official Edition, is hereby amended by striking out its first sentence and inserting in place thereof the following:-

The department shall monitor and regulate greenhouse gas-emitting priorities and direct and indirect emissions of greenhouse gases with the goal of reducing those emissions in order to achieve greenhouse gas emissions limits established by and pursuant to chapters 21N and 21N1/2 .

SECTION 11. Subsection (b) of Section 83C of SECTION 12 of Chapter 188 of the acts of 2016 is hereby amended by inserting after "1600 megawatts of aggregate nameplate capacity" the following:-

“provided, however that the department of energy resources may determine and require subsequent solicitations and procurements beyond 1600 megawatts if the department of energy resources can show in writing that going beyond 1600 megawatts is in the best interest of the commonwealth and to ensure compliance with Chapter 298 of the acts of 2008. It shall be the goal of the commonwealth to have 5000 megawatts of aggregate nameplate capacity by 2035"; and

by striking out the figure “24” and inserting in place thereof the following figure:- “18”

SECTION 12. Subsection (a) of section 83D of SECTION 12 of Chapter 188 of the acts of 2016 is hereby amended by inserting after "9,450,000 megawatts-hours" the following:- provided, however that the department of energy resources may determine and require subsequent solicitations and procurements beyond 9,450,000 megawatts-hours if the department of energy resources can show in writing that going beyond 9,450,000 megawatts hours is in the

best interest of the commonwealth and to ensure compliance with Chapter 298 of the acts of 2008.

SECTION 13. Subsection (b) of section 83D of SECTION 12 of Chapter 188 of the acts of 2016 is hereby amended by inserting after "9,450,000 megawatts-hours by December 31, 2022" the following :-provided, however that the department of energy resources may determine and require subsequent solicitations and procurements beyond 9,450,000 megawatts-hours if the department of energy resources can show in writing that going beyond 9,450,000 megawatts hours is in the best interest of the commonwealth and to ensure compliance with Chapter 298 of the acts of 2008.

SECTION 14. Section 11F of chapter 25A of the General Laws, as appearing in the 2016 Official Edition, is hereby amended by striking out, in line 99, the word “7.5” and inserting in place thereof the following word:-30

SECTION 15. (a) On or before December 31, 2018, the department of energy resources shall set a statewide deployment target of 1,766 MW of cost effective energy storage to be achieved by January 1, 2025.

(b) On or before December 31, 2020, the department of energy resources shall set a subsequent statewide energy storage deployment target to be achieved by January 1, 2030.

(c) Energy storage targets established in subsections (a) and (b) shall include limits on the quantity of energy storage that can be owned by load serving entities.

(d) As part of the determinations in subsections (a) and (b), the department may consider a variety of policies to encourage the cost-effective deployment of energy storage systems,

including the refinement of existing procurement methods to properly value energy storage systems, the use of alternative compliance payments to develop pilot programs, the use of energy storage to replace baseload generation and the use of energy efficiency funds under section 19 of chapter 25 of the General Laws if the department determines that customer-owned energy storage provides sustainable peak load reductions on either the electric or gas distribution systems and is otherwise consistent with section 11G of chapter 25A of the General Laws.

(e) The department shall reevaluate the procurement targets not less than once every 3 years.

(f) Not later than January 1, 2025, each load serving entity shall submit a report to the department of energy resources demonstrating that it has complied with the energy storage system procurement targets and policies adopted by the department pursuant to subsection (a).

(g) Not later than January 1, 2030, each load serving entity shall submit a report to the department of energy resources demonstrating that it has complied with the energy storage system procurement targets and policies adopted by the department pursuant to subsection (b).

(h) The department may establish alternative compliance payments for load serving entities for failure to procure energy storage in sufficient quantities to meet the targets established in subsections (a) and (b).

SECTION 16. Section 69H of Chapter 164 of the General Laws, as appearing in the 2016 Official Edition, is hereby amended by striking out the first paragraph and inserting in place thereof the following paragraph:-

"There is hereby established an energy facilities siting board within the department, but not under the supervision or control of the department. Said board shall implement the provisions contained in sections 69H to 69Q, inclusive, so as to provide a reliable energy supply for the commonwealth with a minimum impact on the environment and public health, and with a minimum impact on the overall wellbeing of residents abutting the project at the lowest possible cost after these impacts are considered. To accomplish this, the board shall review the environmental and public health impacts, the need for and the cost of transmission lines, natural gas pipelines, facilities for the manufacture and storage of gas, and oil facilities; provided, however, that the board shall review only the environmental impacts of generating facilities, consistent with the commonwealth's policy of allowing market forces to determine the need for and cost of such facilities; provided, however that the Board shall solicit and consider testimony from the department of fish and game whenever reasonable environmental stewardship concerns are raised; provided, however, that the Board shall solicit and consider testimony from the department of public health whenever reasonable public health concerns are raised. Such reviews shall be conducted consistent with section 69J1/4 for generating facilities and with section 69J for all other facilities.

SECTION 17. Section 11F of chapter 25A of the General Laws, as amended by the chapter 188 of the acts of 2016, is hereby further amended by adding the following subsection:-

(j) The department shall adopt regulations that provide that the electric energy renewable generating sources that qualify as Class I under subsection (c)(7) by utilizing anaerobic digestion technology with by-products or waste from agricultural crops, food or animals and located on land used for agriculture, as defined under section 1A of chapter 128, shall count double with respect to the minimum percentage calculated under subsection (a).

SECTION 18. Said section 11F of said chapter 25A, as appearing in the 2016 Official Edition, is hereby amended by striking out the subsection (a) and inserting in place thereof the following:-

Section 11F. (a) The department shall establish a renewable energy portfolio standard for all retail electricity suppliers selling electricity to end-use customers in the commonwealth. By December 31, 1999, the department shall determine the actual percentage of kilowatt-hours sales to end-use customers in the commonwealth which is derived from existing renewable energy generating sources. Every retail supplier shall provide a minimum percentage of kilowatt-hours sales to end-use customers in the commonwealth from new 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 until December 31, 2018; and (4) an additional 3 per cent of sales each year thereafter.

Beginning in 2019, municipal electric departments and municipal light boards shall provide a minimum percentage of kilowatt-hours sales to customers in their territory that is derived from renewable energy generating sources, provided however, that any renewable energy generated by a qualifying RPS Class I resource owned or leased by the municipal electric department or municipal light board and sold to customers outside the department’s or board’s service territory shall not count toward the minimum percentage of renewable energy kilowatt-hour sales required under this section.

The minimum percentage of kilowatt-hours sales shall be provided according to the following schedule: (1) one-half of one per cent of sales by December 31, 2019; (2) an additional one-half of 1 per cent of sales each year thereafter until December 31, 2026; (3) an additional 1 per cent of sales every year until December 31, 2030; and (4) an additional 2 per cent of sales by December 31, 2031 and each year thereafter. For the purpose of this subsection, a new renewable energy generating source is one that begins commercial operation after December 31, 1997, or that represents an increase in generating capacity after December 31, 1997, at an existing facility. Commencing on January 1, 2009, such minimum percentage requirement shall be known as the "Class I" renewable energy generating source requirement.

SECTION 19. Subsection (i) of section 139 of chapter 164 of the General Laws, as amended by chapter 75 of the acts of 2016, is hereby further amended by adding the following sentence:-

An agricultural net metering facility utilizing anaerobic digestion technology or an anaerobic digestion net metering facility shall be exempt from aggregate net metering capacity caps under subsection (f), and may net meter and accrue Class I, II, or III net metering credits.

SECTION 20. Section 139 of chapter 164 is hereby amended by striking out subsection (f) and inserting in place thereof the following subsection:- (f) No aggregate net metering cap shall apply to solar net metering facilities with the exception that the maximum amount of generating capacity eligible for net metering by a municipality or other governmental entity shall be 10 megawatts.

SECTION 21. Chapter 25A, as appearing in the 2016 Official Edition, is hereby further amended by inserting the following section:-

Section 11J. The department shall establish a commonwealth solar program to encourage the development of solar photovoltaic technology by residential, commercial, governmental and industrial electric customers throughout the commonwealth. The program shall be structured to achieve 20 per cent solar electricity, measured by the sale of retail electricity to end-use customers in the commonwealth, by December 31, 2020, and 30 per cent solar electricity by December 31, 2030.

SECTION 22. Said chapter 25A, as appearing in the 2016 Official Edition, is hereby further amended by inserting the following section:-

Section 11K. For any solar incentive program created by the Department of Energy Resources, under general law, session law, or other authority, the program shall include a mandatory portion of the incentive to equitably share the economic and environmental benefits of the program in communities facing barriers to access. This shall include low-income solar net metering facilities, as defined in Section 138 of chapter 164, as well as rental housing or residents thereof. The Department may, at its discretion, dedicate part of the incentive to resolve other barriers to equitable access to solar energy if such barriers are identified. The Department shall also specify in program design its plans to reach communities whose primary language is not English.

SECTION 23. Section 138 of chapter 164, as appearing in the 2016 Official Edition, is hereby amended by inserting after the definition of “customer” the following definitions:-

"Low-income", includes low-income households as defined under section 1 of chapter 40T.

"Environmental justice", the right to be protected from environmental pollution and to live in and enjoy a clean and healthful environment regardless of race, income, national origin or English language proficiency. Environmental justice shall include the equal protection and meaningful involvement of all people with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies and the equitable distribution of environmental benefits.

"Environmental Justice Population", a neighborhood whose annual median household income is equal to or less than 65 percent of the statewide median or whose population is made up 25 percent minority or lacking English language proficiency or as determined by the Executive Office of Energy and Environmental Affairs pursuant to Executive Order 552.

"Environmental Justice Household", includes households within Environmental Justice Populations.

"Low income solar net metering facility", a solar net metering facility that allocates all of its output and net metering credits to (1) the providers or residents of publicly-assisted housing under section 1 of chapter 40T or (2) low income and environmental justice households; or (3) entities primarily serving such persons. The Department of Energy Resources may establish an alternate minimum threshold or thresholds for allocation of output and net metering credits to determine project eligibility if the Department determines a lower threshold is necessary in order to facilitate economic viability of low-income solar net metering facilities or to deliver meaningful economic benefit to recipients.

"Community shared solar net metering facility", a solar net metering facility with three or more eligible recipients of credits, provided that (1) no more than 50% of the net metering

credits produced by the facility are allocated to any one recipient, (2) no more than three recipients may receive net metering credits in excess of those produced annually by 25 kW of nameplate AC capacity and the combined share of said participants' capacity shall not exceed 50% of the total capacity of the Generation Unit, unless otherwise allowed by the Department of Energy Resources, and (3) the recipients have an interest in the production of the facility or the entity that owns the facility, in the form of formal ownership, a lease agreement, or a net metering allocation agreement.

SECTION 24. Said section 138 of said chapter 164, as so appearing, is hereby further amended by inserting in the definition of "market net metering credit" by striking out the following words:-"that credits shall only be allocated to an account of a municipality or government entity." and inserting in place thereof the following words:- "that credits shall only be allocated to an account of a municipality or government entity or low-income and Environmental Justice households."

SECTION 25. Said section 138 of said chapter 164, as so appearing, is hereby further amended by inserting in the definition of "Net metering facility of a municipality or other governmental entity'" by striking out the following words:- "or (2) of which the municipality or other governmental entity is assigned 100 per cent of the output." and inserting in place thereof the following words:- "or (2) of which the municipality, other governmental entity, or low income or environmental justice households are assigned 100 per cent of the output."

SECTION 26. Section 139 of said chapter 164, as so appearing, is hereby further amended by adding the following subsections:-

(l) Notwithstanding any provision of special or general law to the contrary, a low income solar net metering facility shall receive credits equal to the excess kilowatt-hours by time of use billing period, if applicable, multiplied by the sum of the distribution company's: (i) default service kilowatt-hour charge in the ISO-NE load zone where the customer is located; (ii) distribution kilowatt-hour charge; (iii) transmission kilowatt-hour charge; and (iv) transition kilowatt-hour charge; provided, however, that this shall not include the demand side management and renewable energy kilowatt-hour charges set forth in sections 19 and 20 of chapter 25.

(m) Notwithstanding any provision of special or general law to the contrary, a community shared solar net metering facility that allocates at least 50% of its credits to low income and EJ households or the providers or residents of publicly-assisted housing under section 1 of chapter 40T or (3) entities primarily serving such persons shall receive credits equal to the excess kilowatt-hours by time of use billing period, if applicable, multiplied by the sum of the distribution company's: (i) default service kilowatt-hour charge in the ISO-NE load zone where the customer is located; (ii) distribution kilowatt-hour charge; (iii) transmission kilowatt-hour charge; and (iv) transition kilowatt-hour charge; provided, however, that this shall not include the demand side management and renewable energy kilowatt-hour charges set forth in sections 19 and 20 of chapter 25.

SECTION 27. Section 139 of chapter 164 is hereby amended by striking out in subsection (b1/2) clause (1), the words “A solar net metering facility may designate customers of the same distribution company to which the solar net metering facility is interconnected and that are located in the same ISO-NE load zone to receive such credits in amounts attributed by the solar net metering facility.” and inserting in place thereof the following words:- A solar net

metering facility may designate customers of the same distribution company to which the solar net metering facility is interconnected, regardless of which ISO-NE load zone the customers are located in, to receive such credits in amounts attributed by the solar net metering facility.; and

by inserting after clause (2) the following words:- (3) The owner of a solar net metering facility may direct the distribution company to purchase all or a portion of net metering credits from the facility at the rates provided for in this subsection.; and

by inserting after subsection (i) the following subsection:- (i 1/2) Solar net metering facilities of a municipality or other governmental entity that assign 100 per cent of the output to publicly-assisted housing or its residents shall be exempt from the aggregate net metering capacity of net metering facilities of a municipality or other governmental entity.; and

by striking out in subsection (j), the words "The department may exempt or modify any monthly minimum reliability contribution for low-income ratepayers." and inserting in place thereof the following words:- The department shall exempt publicly-assisted housing and low-income ratepayers from any monthly minimum reliability contribution.

SECTION 28. Subsection (i) of said section 139 of said chapter 164, as so appearing, is hereby further amended by inserting, at the end thereof, the following sentences:-

Any facility owned by, or serving, multiple residential customers, including a neighborhood net metering facility, in which no individual recipient of net metering credits owns, or shares net metering credits of, the equivalent of an individual facility with a design capacity of 60 kilowatts or less, shall be exempt from subsections (b 1/2) and (k) and from the aggregate net metering capacity of facilities that are not net metering facilities of a municipality

or other governmental entity under subsection (f), and may net meter and accrue Class I net metering credits.

SECTION 29. Implementation of the minimum monthly reliability contribution, as approved by the final order in D.P.U. 17-05-B, shall be delayed until December 31, 2020.

SECTION 30. Subsection (j) of section 139 of chapter 164 of the General Laws, as appearing in the 2016 official edition, is hereby amended by striking out, in line 177, the figure "2018", and inserting in place thereof the following figure:-

2020

SECTION 31. Subsection (j) of section 139 of chapter 164 of the General Laws, as so appearing, is hereby amended by adding the following paragraph:

A distribution company, including a distribution company subject to the final order in D.P.U. 17-05-B, shall not assess any customer a monthly minimum reliability contribution without first offering such customer advanced metering equipment.

SECTION 32. Subsection (c) of section 2IIII of chapter 29 of the General Laws, as appearing in the 2016 Official Edition, is hereby amended by inserting, after the word "towns", the following words:- regional local governmental units,

SECTION 33. Said subsection (c) of said section 2IIII of said chapter 29 of the General Laws, as appearing in the 2016 Official Edition, is hereby amended by striking out, in line 41, the following word:- "or"; and

by inserting after the words "imminent infrastructure improvement" the following:- , or (iv) conserve, enhance and restore natural resources to provide adaptation and resiliency to the

impacts of climate change by employing the natural function of resources, including but not limited to: enabling water retention and storage by floodplains, wetlands and rivers and streams to reduce flooding; planting trees in urban areas to decrease the heat island effect from extreme temperatures; and employing dunes, reefs, and vegetation to provide a living coastline to reduce coastal flooding from sea level rise, storm surge, and coastal storms.

SECTION 34. Subsection (d) of section 19 of chapter 25 of the General Laws is hereby amended by striking the subsection in its entirely and inserting in place thereof the following:-

(d) There shall be a voluntary accelerated rebate pilot program which shall be made available to up to 10 eligible commercial or industrial electric users and 10 commercial or industrial gas users in each utility service territory. Multiple locations of the same customer shall not be aggregated for purposes of meeting this threshold.

Eligible customers electing to participate in the accelerated pilot program shall notify the appropriate electric distribution company, gas company or municipal aggregator, hereafter known as the program administrator, on or before January 31 of each calendar year during the pilot program.

After initial notice, the utilities may, alone or in coordination with other program administrators, determine the best candidates for the pilot program using the following criteria: (i) the scope and completeness of the customer's proposed programs; (ii) the likelihood of energy, environmental or related savings from said program; (iii) the customer's capacity to implement such measures; and (iv) the ability to use measures in other facilities owned by similar industries. Should more than 10 customers indicate their desire to participate in said pilot

the utilities shall alone or in coordination with other program administrators determine the best customers using the criteria above.

Customers electing to participate shall be eligible for financial support of up to 100 per cent of the cost for qualified energy efficiency measures, as determined by the program administrator, using criteria included in the efficiency investment plans established by section 21. Total rebate levels for participating customers in any year of the pilot program shall not exceed 90 per cent of the amount the customer was charged for energy efficiency programs during calendar year 2012.

A participating customer shall not aggregate a rebate from any year in which the customer does not participate in the pilot program. Qualified energy efficiency measures shall include cost-effective energy efficiency program measures approved by the applicable program administrator recognized by the department using criteria under said section 21; provided, however, that up to 15 per cent of any accelerated rebate may be used for other improvements that support energy efficiency improvements made under a program approved by the department or emission reductions, including, but not limited to, infrastructure improvements, metering, circuit level technology and software. Customers opting to receive an accelerated rebate shall be ineligible for other energy efficiency program rebates under said section 21 during the period in which they participate in the pilot program. All qualified installations shall be substantially completed by the end of the program, and shall be subject to verification and review by the department. Electric and gas distribution companies shall recalibrate their energy efficiency goals, as reviewed by the energy efficiency advisory council under subsection (c) of said section 21, to reflect the rebates provided to any customer electing to participate in this pilot program.

Nothing in this subsection shall be construed to cause a decrease in the funding of the low-income residential demand-side management and education programs funded under this section.

SECTION 35. Chapter 30A of the General Laws is hereby amended by inserting after section 10A the following section:-

Section 10B. Notwithstanding the provisions of section 10, in any adjudicatory proceeding regarding any petition, request for approval or investigation of a gas company or electric company, as those terms are defined in section 1 of chapter 164, the following shall be permitted to participate as full parties in the proceeding:

(a) any municipality that is within the service area of such company;

(b) any member of the general court whose district includes ratepayers of such company; and

(c) any group of not less than 10 persons who are ratepayers of the company.

SECTION 36. Section 76A of chapter 164 of the General Laws, as appearing in the 2016 Official Edition, is hereby amended by striking out, in line 14, the words “section ninety-three or ninety-four,” and inserting in place thereof the following words:- sections 93, 94 or 94A; and

by inserting after the second paragraph the following paragraph:-

A gas or electric company shall not give preference of any kind with respect to any relations, transactions, and dealings with any affiliated company. In any proceeding brought under section 94A, there shall be a rebuttable presumption against approval of contracts between any gas or electric company and any affiliate company. The department shall promulgate

regulations to implement this section not later than December 31, 2018; provided that such regulations shall take effect not later than June 1, 2019.

SECTION 37. Section 94A of chapter 164 of the General Laws, as appearing in the 2016 Official Edition, is hereby amended by striking out the section title and inserting in place thereof the following section title:- Contracts for purchase of gas, gas pipeline capacity, liquified gas storage, or electricity; public interest determination by department; and

by striking out lines 1 through 24 and inserting in place thereof the following:-

As used in this section, the following words shall have the following meanings unless the context clearly requires otherwise:

"Gas infrastructure", includes but is not limited to pipelines, compressor stations, meter stations, liquefied gas storage facilities and liquefaction facilities.

(a) No gas company shall enter into a contract for the purchase of gas, and no electric company shall enter into a contract for the purchase of electricity, covering a period in excess of 1 year without the approval of the department, unless such contract contains a provision subjecting the price to be paid thereunder for gas or electricity to review and determination by the department in any proceeding brought under section 93 or 94; provided, however, that nothing in this section shall be construed as affecting a contract for the purchase of gas or electricity from an entity engaged in manufacturing, where the manufacture, sale or distribution of gas or electricity by the entity is a minor portion of the entity's business, and which contract is made in connection with a contract to supply the entity with gas or electricity, or as affecting a contract for the purchase of electricity from an alternative energy producer; further, that in any such proceeding the department may review and determine the price to be thereafter paid for gas

or electricity under a contract containing said provision for review. Any contract covering a period in excess of 1 year subject to approval as aforesaid, and that is not approved or that does not contain said provision for review, shall be null and void. No gas company may contract for electricity pursuant to this section and no electric company may contract for gas pursuant to this section. The department is authorized to exempt any electric or generation company from any or all of the provisions of this subsection upon a determination by the department, after notice and a hearing, that an alternative process or incentive mechanism is in the public interest.

(b) As part of the review of a contract with a term of more than 1 year for gas pipeline capacity or liquefied gas storage that requires the construction of new or expanded gas infrastructure, the department shall determine whether such contract is in the public interest. The department shall not approve such a contract unless, in its public interest determination, the department finds that:

(i) such contract is necessary and cost-effective for ratepayers;

(ii) such contract compares favorably to other reasonably available options in terms of its impact on rates, the economy, environment, climate, local communities, public health, safety and welfare;

(iii) the applicant has identified and evaluated alternatives that would reduce or eliminate the need for private land takings or public land disposition including, but not limited to, fuller and more long-term utilization of existing gas infrastructure, distribution system repairs and upgrades, contracts for gas storage along unconstrained pipeline corridors, enhancement of peak shaving measures, and colocation of gas infrastructure with major roadways;

(iv) for contracts exceeding a term of 3 years, the applicant has reasonably evaluated demand-side options to reduce or eliminate the need for new or expanded gas infrastructure.

(c) The department shall not approve any gas pipeline capacity contract or liquefied gas storage contract where new capacity is proposed to be created through the installation of gas infrastructure in, upon or below land that, at the time the contract is submitted to the department for approval, is protected under Article 97 of the Articles of Amendments to the Constitution of the Commonwealth.

SECTION 38. Chapter 164 of the General Laws is hereby amended by the following section:-

Section 94J. Nothing in this chapter shall authorize a gas company to contract for the purchase of electricity, and nothing in this chapter shall authorize an electric company to contract for the purchase of gas, gas pipeline capacity, or liquefied gas storage.

SECTION 39. Section 69J of chapter 164 of the General Laws, as appearing in the 2016 Official Edition, is hereby amended by striking out, in lines 56 through 58, the words “provided, however, that the department or board shall not require in any gas forecast or hearing conducted thereon the presentation of information relative to the demand for gas;”.

SECTION 40. Section 75D of chapter 164 of the General Laws, as appearing in the 2016 Official Edition, is hereby amended by striking out the section title, and inserting in place thereof the following section title:- Survey preliminary to eminent domain proceedings; applicability to natural gas pipelines; and

by striking out lines 1 and 2 and inserting in place thereof the following:-

Section 75D. The provisions of section 72A shall be applicable to natural gas pipeline companies, as defined in section 75 B. Notwithstanding any other provision of Section 75, no natural gas pipeline company shall be permitted to submit a petition to the department for survey access or to enter upon lands for survey access preliminary to eminent domain proceedings as provided in section seventy-two A, unless such natural gas pipeline company:

(a) has been issued with respect to the project for which survey access is sought either (i) a certificate of public convenience and necessity under chapter 15 U.S. Code Chapter 15B, or as applicable to intrastate pipelines; (ii) any required certificate or approval required pursuant to any local or state law, including a certificate under section 69 K; and

(b) has secured a final, unappealable adjudication of an order granting the applicable certificate as set forth in subsection (a).

Any petition filed with the department under this section 75D shall be subject to an adjudicatory hearing before the department.

SECTION 41. Section 11E of chapter 12 of the General Laws, as appearing in the 2016 Official Edition, is hereby amended by striking out the second sentence in first paragraph of subsection (a), and inserting in place thereof the following sentence:-

The attorney general, through the office of ratepayer advocacy, may intervene, appear and participate in administrative, regulatory, or judicial proceedings on behalf of any group of consumers in connection with any matter involving a company doing business in the commonwealth and subject to the jurisdiction of the department of public utilities or the department of telecommunications and cable under chapters 164, 164A, 164B, 165, or 166.

SECTION 42. Section 93 of chapter 164 of the General Laws, as appearing in the 2016 Official Edition, is hereby amended in line 8 by striking the words “may order” and inserting in place thereof the following words:-

may order, no later than ten months after the written complaint is filed,

SECTION 43. The commissioner of the department of energy resources is hereby authorized and directed to apportion proceeds from the RGGI Auction Trust Fund as provided for in section 35II of chapter 10 of the general laws to establish a grant program providing rebates to consumers to defray the expense of the purchase or lease of a zero-emissions vehicle, which shall take effect upon the exhaustion of funds currently allocated to the Massachusetts Offers Rebates for Electric Vehicles program, referred to hereafter as the MOR-EV program. The commissioner shall promulgate rules and regulations to determine qualifying criteria for zero-emission vehicles, to set rebate values, and to provide for the administration of the program in a timely fashion that ensures no incentive gap between the MOR-EV program and the rebate program authorized herein. Rebate values shall be set no lower than MOR-EV program rebate values. The commissioner shall review the rules and regulations of the program on a biannual basis. If the commissioner deems it appropriate to make any changes to the program, the commissioner shall prepare a report to be submitted to the house and senate ways and means committee and the joint committee on transportation detailing and providing a rationale for the changes made.

SECTION 44. The commissioner of the department of energy resources is hereby authorized and directed to apportion proceeds from the RGGI Auction Trust Fund as provided for in section 35II of chapter 10 of the general laws to establish a grant program providing

rebates to consumers, private institutions, and municipalities and other public entities to defray the expense of purchasing and installing an electric vehicle charging station or stations. Not later than one year after the effective date of this act, the commissioner shall promulgate rules and regulations to determine qualifying criteria for private institutions and public entities, electric vehicle charging stations, to set rebate values, and to provide for the administration of the program. Rebate values shall be set no lower than $2500 dollars or 50 percent of the cost of purchasing and installing an electric vehicle charging station, whichever is lesser. Private institutions, municipalities and other public entities shall only be eligible for rebates under this program upon the exhaustion of funds currently allocated to the Massachusetts Electric Vehicle Incentive Program. The commissioner shall review the rules and regulations of the program on a biannual basis. If the commissioner deems it appropriate to make any changes to the program, he or she shall prepare a report to be submitted to the house and senate ways and means committee and the joint committee on transportation detailing and providing a rationale for the changes made.

SECTION 45. Not later than six months after the effective date of this act, the department of energy resources shall publish a guide to assist cities and towns to develop programs that allow residents unable to install off-street electric vehicle charging stations to install curbside electric vehicle charging stations proximate to their residences.

SECTION 46. Not later than six months after the effective date of this act, distribution companies, as defined in section 1 of chapter 164 of the general laws, shall submit to the department of public utilities for approval proposals to offer an opt-in electric vehicle time of use rate, defined for the purposes of this section as a rate designed to reflect the cost of providing electricity to a consumer charging an electric vehicle at an electric vehicle charging station at

different times of the day, but shall not include demand charges. For department approval, such proposals shall encourage energy conservation, optimal and efficient use of a distribution company's facilities and resources, and equitable rates for electric consumers.

SECTION 47. Not later than six months after the effective date of this act, the department of energy resources shall file a study with the clerks of the senate and house of representatives and with the joint committee on telecommunications, utilities, and energy, evaluating the costs and benefits of electric vehicle adoption, including, but not limited to, its impacts on the electric distribution system and distribution company customer rates.

SECTION 48. Not later than six months after the effective date of this act, the department of energy resources and department of transportation shall file a report with the joint committee on transportation, identifying state routes, U.S. routes, and interstate highways in Massachusetts that are high priority for public electric vehicle charging station installation. Determinations of priority shall be based on total traffic volume on the route, volume of trips on the route that exceed 50 miles, importance of the route for accessing employment centers, tourist attractions, and other frequent destinations, and other factors as detailed in the report.

SECTION 49. 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 percent 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. 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. 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, 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 to meet 100 percent 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 to obtain 100 percent 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 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 percent 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 percent 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 percent

renewable energy. Each executive department shall further consider how modifying its programs to accelerate the transition to 100 percent 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 percent 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 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.

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, 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.

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 50. 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 51. Sections 49 and 50 shall become effective 90 days from the passage of this act, except where otherwise specified.

SECTION 52. Section 134 of chapter 164, as appearing in the General Laws, 2016 Official Edition, is hereby amended by adding the following subsection:-

(c)(1) As used in this subsection, the following words shall have the following meanings unless the context otherwise requires:

"Alternative Compliance Payment," or "ACP," an amount established by the department of energy resources that retail electricity suppliers may pay in order to discharge their Renewable Portfolio Standard obligation, as required under section 11F of chapter 25A.

"Community empowerment contract" or "contract", an agreement between a municipality and the developer, owner or operator of a renewable energy project.

"Customer", an electricity end-use customer of an electric utility distribution company regardless of how that customer receives energy supply services.

"Department", the department of public utilities.

"Large commercial customer", a large commercial, industrial or institutional customer as further defined by the department of energy resources utilizing existing usage-based tariff structures.

"Municipality", a city or town or a group of cities or towns which is not served by a municipal lighting plan.

"Participant", a customer within a municipality that has entered into a community empowerment contract, so long as that customer did not opt out of, or is prevented from participating in, the community empowerment contract under subsection (d).

"Renewable energy certificate", a certificate representing the environmental attributes of 1 megawatt hour of electricity generated by a renewable energy project, the creation, use and retirement of which is administered by ISO New England, Inc.

"Renewable energy portfolio standard", the renewable energy portfolio standard established in section 11F of chapter 25A.

"Renewable energy project" or "project", a facility that generates electricity using a Class 1 renewable energy resource and is qualified by the department of energy resources as eligible to participate in the renewable energy portfolio standard under section 11F of chapter 25A and to sell renewable energy certificates under the program.

"Residential customer", a utility distribution customer that is a private residence or group of residences as further defined by the department of energy resources utilizing existing usage-based tariff structures.

"Small commercial customers", a small or medium commercial, industrial or institutional utility distribution customer as further defined by the department of energy resources utilizing existing usage-based tariff structures.

(2) A municipality may, on behalf of the electricity customers within the municipality, enter into a community empowerment contract with a company that proposes to construct a renewable energy project. A municipality may enter into more than one (1) community empowerment contract and may enter into new contracts at any time.

(3) A community empowerment contract shall be subject to the following conditions:

(i) the contract shall be between the municipality and the company proposing to construct a renewable energy project; provided, however, that this section shall not authorize a municipality to utilize its collateral, credit or assets as collateral or credit support to the counterparty of the contract and a municipality may do so only as otherwise authorized by law;

(ii) the renewable energy project specified in the contract shall not have begun construction prior to the contract having been entered into by the municipality;

(iii) the contract shall be structured as a contract for differences so as to stabilize electricity prices for participants and shall specify a fixed price for the energy and renewable energy certificates to be generated by the project; provided, however, that the contract shall also specify a means by which the project's contracted amount of energy and renewable energy certificates shall be sold to a third party, at a price established by the wholesale market or an index and as agreed by the parties to the contract, and the proceeds from which shall be credited to the amount owed from the participants to the project; provided further, that if the amount earned in a sale exceeds the agreed fixed price, the participants shall be credited from the project for the difference between the sale price and the contracted fixed price; and provided further, that a contract shall not be an agreement to physically deliver electric energy to the participants but it may require delivery of renewable energy certificates;

(iv) the contract shall specify whether renewable energy certificates from the renewable energy project are to be provided and, if so provided, shall specify how the renewable energy certificates are to be transmitted and disposed of or retired; provided, however, that renewable energy certificates purchased through a contract may be: (A) assigned to the load of each participant or subset of participants, as stipulated in the contract, so as to increase the amount of

renewable energy attributed to use by the participants in the aggregate; or (B) sold in a transparent, competitive process, the proceeds from which shall be applied to the contract for differences mechanism under clause (iii); and provided further, that a renewable energy certificate purchased through a contract shall not be used by a basic service supply provider or competitive supply provider to meet its requirements under the renewable energy portfolio standard unless the renewable energy certificate is first sold to the supplier in a competitive, transparent process under this clause;

(v) the contract shall have a term of not less than 10 years from the time the specified renewable energy project commences operation;

(vi) the contract shall describe the calculations by which a charge or credit to a participant or to the renewable energy project are calculated based on the contract for differences mechanism under clause (iii); provided, however, that the calculations shall ensure full payment or credit to the renewable energy project even if a participant does not make full payment of the participant's distribution utility bill; provided further, that if there is a nonpayment of all or a portion of a distribution utility bill, an increase in charges to the contract participants may be used to ensure sufficient revenue to meet obligations to the project; and provided further, that the contract shall specify a contract administrator who shall perform the calculations under this subsection and determine, for implementation by the distribution utility, the charges and credits due to the project, participants, distribution utility and others as required by the contract; and

(vii) the contract for differences mechanism may exempt residents of the municipality who receive low-income electric rates.

(4) A town may enter into a community empowerment contract upon authorization by a majority vote of town meeting, town council or other municipal legislative body. A city may authorize a community empowerment contract by a majority vote of the city council or municipal legislative body, with the approval of the mayor or the city manager in a Plan D or Plan E form of government. Two or more municipalities may initiate a process jointly to authorize community empowerment contracting by a majority vote of each municipality under this paragraph. Prior to an authorizing vote, a public hearing shall be held to inform the municipalities of the proposed contract, the impact on residents and information on how to opt out of the contract if it proceeds. This hearing shall specify the proposed project under the contract and the length of the contract. An entity that is not a party to the contract shall estimate the contract's rate impacts under reasonable scenarios for future energy prices and the estimates shall be presented. The proposed project and contract information, estimated rate impact on constituents, procedure for customers to opt out of the proposed contract and information regarding the public hearing shall also be mailed to the residents of the municipalities 30 days before the hearing.

(5) The electricity customers within a municipality shall be required to participate in a community empowerment contract; provided, however, that a customer may opt not to participate in a contract if the customer provides notice to an administrator designated by the municipality within 90 days after the vote authorizing a contract or, in the case of a residential user receiving a low-income electric rate, at any time. No customer shall be a participant in a contract if that customer uses more than 5 per cent of the total annual electricity usage of the electricity customers located within a single municipality that is a party to the contract or, in the case of a contract with a group of municipalities, 5 per cent of the total annual electricity usage

of the electricity customers located in the group of municipalities that are parties to the contract. Residential and small commercial customers that establish service within a municipality after the municipality enters into a community empowerment contract shall be required to participate in any community empowerment contracts in effect for the municipality at the time the new service is established, provided, however, that a residential or small commercial customer that establishes service in the municipality after the municipality enters into a proposed contract shall have 90 days to opt not to participate. A large commercial customer within a municipality may become a participant unless otherwise prohibited and, upon electing to become a participant, shall remain a participant for the remainder of the community empowerment contract as long as the large commercial customer continues to be located within the municipality.

(6) The department shall promulgate regulations, guidelines or orders, required by paragraph (6) of subsection (c) of section 134 of chapter 164 of the General Laws that:

(i) establish the manner in which a municipality may request from a distribution utility, and which the distribution utility shall provide in a timely manner, the summary historic load and payment information of the electricity customers within the municipality that is necessary for a municipality to request and analyze a proposal for a community empowerment contract; provided, however, that the distribution utility may charge the municipality for verifiable, reasonable and direct costs associated with providing the information as approved by the department generally or on a case-by-case basis;

(ii) establish a procedure by which a municipality shall have a community empowerment contract approved by the department; provided, however, that a community empowerment contract shall not take effect until so approved and the department shall be obligated to and shall

approve a contract that meets the requirements under this section; and provided further, that in establishing the approval procedure, the department shall adopt means to minimize the administrative and legal costs to municipalities to the maximum extent possible;

(iii) establish guidelines or standards by which the contract administrator under clause (vi) of paragraph (3) shall: (A) provide utility adjustments to charges to the distribution or credits to participants via a line item on the distribution utility bill; and (B) provide information to the distribution utility that is necessary to enable it to make or receive payments to or from the project and to others as necessary;

provided, however, that each community empowerment contract shall be indicated on a participant's distribution utility bill by a line item specific to the contract; and, provided further, that a distribution utility may recover verifiable and reasonable costs for the implementation of this subsection from a contract party or participant except as provided for in clause (iv).

(iv) establish guidelines or standards by which distribution company customers may receive or access accurate energy source disclosure information, taking into account the renewable energy certificates that may be ascribed to each customer's electricity usage and regardless of the source from which the renewable energy certificates were supplied or purchased.

(7) The department of energy resources shall promulgate regulations or guidelines, within 6 months after the effective date of this act, that:

(i) establish the manner in which, in the case of a community empowerment contract in which the renewable energy certificates are to be assigned to participants, the renewable energy

certificates may be transmitted and retired appropriately and the energy source disclosure information accurately provided to participants; and

(ii) establish recommended practices to ensure transparency and accountability on the part of a municipality in entering into and managing a community empowerment contract, including the means by which an executed community empowerment contract shall be available for public inspection and recommendations for a municipality to follow in order to ensure compliance with the requirements for entering into a community empowerment contract.

The department of energy resources shall also provide technical assistance to a municipality regarding a community empowerment contract upon request.

(8) A community empowerment contract shall be in addition to, and aside from, an electricity supply contract that a customer may have at the time of the contract or that that the customer may later seek to establish. A municipality that enters into a community empowerment contract under this subsection shall not be considered a wholesale or retail electricity supplier. A community empowerment contract shall not require participants to change their choice of electricity supplier regardless of whether the supplier is a competitive supplier or a basic service supplier;

(9) Not later than 1 year after a municipality enters into the first community empowerment contract through the pilot program, and annually thereafter for 5 years, the secretary of energy and environmental affairs shall submit a report to the house and senate chairs of the joint committee on telecommunications, utilities and energy that details the results of the pilot program, including information on the renewable energy projects funded under the pilot program and the effects of the pilot program on: (i) the stabilization of prices for electricity

customers; (ii) the enhancement of local energy security and reliability; (iii) the fostering of economic development; and (iv) the reduction of electric system carbon emissions.

SECTION 53. Notwithstanding any general or special law to the contrary, no new natural gas compressor stations shall be located in an area which is less than 0.5 miles in linear distance from: (i) a playground;(ii) a licensed day care center; (iii) a school; (iv) a church; (v) an environmental justice population neighborhood; (vi) an area of critical environmental concern as determined by the secretary of environmental affairs under 301 CMR 12.00; (vii) a waterway preserved and protected for water-dependent uses under chapter 91; or (viii) an area occupied by residential housing. Linear distance shall be measured from any point along a natural gas compressor station to the outermost point of buildings or areas in clauses (i) to (viii), inclusive; provided, however, that repairs or replacements that do not increase the capacity of a natural gas compressor station in operation prior to January 1, 2019, shall not be subject to this section. For the purposes of this section, “environmental justice population neighborhood” shall mean a neighborhood with an annual median household income of not more than 65 per cent of the statewide median income or with a segment of the population that consists of residents that is not less than 25 per cent minority, foreign born or lacking in English language proficiency based on the most recent United States census.

SECTION 54. Chapter 111 of the General Laws as so appearing, is hereby amended by adding the following new section:-

Section 142P. There shall be at least one Air Monitoring Station within a one-mile radius of any working natural gas compressor station to collect data and verify compliance with the National Ambient Air Quality Standards. Construction and maintenance of Air Monitoring

Stations shall be funded through the building permit paid for by the operating energy corporation to the state Department of Environmental Protection. Personnel shall be staffed through the state Department of Environmental Protection to collect data on a weekly basis, varying between morning and evening collection times.

SECTION 55. Section 5 of Chapter 59 of the General Laws is hereby amended by inserting, after “1996” in line 298, the following new sentence:-

“Any conduits, wires and pipes that extend above ground and compress, transport, or directly assist with the compression or transportation of natural gas will not be exempt from taxation of the corporations or limited liability companies described in this section.”

SECTION 56. Section 94A of chapter 164 of the General Laws is hereby amended by adding, at the end thereof the following:-

Notwithstanding anything set forth herein, the department shall not approve any contract for the purchase of gas, gas pipeline capacity or liquefied gas storage where any contract costs would be recoverable from the ratepayers, if such contract requires any construction or expansion of interstate gas infrastructure.

SECTION 57. Chapter 164 of the General Laws, as appearing in the 2016 Official Edition, is hereby amended by adding the following section:

Section 147. (a) As used in this Section, the following words shall have the following meanings:

“Gas” - natural gas and any of its products, components or derivatives and methane, whether produced by, or gathered from or collected as a result of exploration and production by

well, mining or otherwise, hydraulic fracturing, biomass gasification reactors, biogas reactors, anaerobic digestion, methane emissions from landfills and liquid natural gas and whether mixed with propane air or not or with synthetic natural gas or not.

“Hydraulic fracturing” - the process of pumping a fluid into or under the surface of the ground in order to create or develop or enhance the flow through fractures in rock for the purpose of the production or recovery of oil or gas.

"Liquefied natural gas " - a natural gas that has been changed into a liquid by cooling the temperature at atmospheric pressure to approximately 260°F.

“Local Distribution Company” – includes a municipal distribution company, and is referred to as an LDC.

“Local retail outlets” – Distributors of gas at retail to retail customers for individual household use.

"Natural gas " - a type of gas which originates in the ground and is predominantly methane.

"Propane air" - a type of gas produced by those facilities which add commercial grade propane to air for mixture with natural gas .

“Provider” – anyone that purchases, acquires, transmits, barters, forfeits, exchanges, transports, stores, processes, compresses or decompresses, distributes, sells or conveys gas for resale or reuse and any Public Utility. A Provider may use one or more system types.

“Public Utility” – a gas or electric company as defined in section one of chapter one hundred and sixty four, or any municipal corporation which owns or may acquire municipal

lighting plants as referred to in section two of said chapter one hundred and sixty four or any person, firm, association, or private corporation which owns or operates works or a distribution plant for the manufacture and sale or distribution and sale of gas for heating and illuminating purposes, or of electricity, within the Commonwealth as referred to in section two of said chapter one hundred and sixty four or any domestic electric utility or foreign electric utility as defined in section one of chapter one hundred and sixty four A.

"Synthetic natural gas " - a type of gas which is made by a facility which produces a gaseous fuel from the manufacture, conversion or reforming of liquid or solid hydrocarbons.

“System type” – any one of a gas distribution system, gas transmission or transportation system, gas storage facility whether in liquefied or other state, gas production, gathering or handling system. and a Public Utility.

Unaccounted-for-gas (UFG) —The difference between the total gas available from all sources that is acquired by a system type and the total gas accounted for as sales, net interchange and company use. This difference includes leakage or loss by other means, discrepancies due to measuring or monitoring inaccuracies, variations of temperatures or pressures, or both, and other variants .

(b) Calculation of UFG.

(1) When possible, UFG must be measured, computed and reported by system type.

(2) UFG for a system type equals Gas Received less Gas Delivered less Adjustments.

(3) Percent of UFG equals UFG divided by Gas Received times 100

(4) Gas received, gas delivered, and adjustments must represent actual gas quantities. Measuring and monitoring equipment that meets current industry standards applicable in Massachusetts must be installed. Estimates shall be treated as UFG unless clearly identified, have supporting justification, assumptions and calculations and can be determined to be at least as accurate as measured results. All records of acquisition by purchase or otherwise, sales and internal usage must be made available and have been kept in the usual course of business.

(5) All lost and unaccounted for gas shall be presumed to be lost gas unless the portion represented by unaccounted for gas, including but not limited to losses to company used gas, liquids extraction, and meter errors due to inaccurate calibration or temperature and pressure fluctuations, is proven by a preponderance of the evidence in a given ratemaking proceeding.

(6) A Provider shall be responsible for the UFG of each other Provider that is a source of gas within the state that is not subject to ratemaking and the gas received for measuring UFG shall be the gas received within the state by that Provider that it not subject to rate making.

(c) The cost of UFG in excess of the maximum allowable and all expenses for decreasing UFG down to the maximum allowable shall be disallowed for ratemaking purposes.

(1) The maximum allowable loss is as shown in the following table.

Maximum Allowable Loss as a Percent of UFG per System Type

Year/ Distribution/ Transmission/ Storage/ Public utility/ Other

1/ 1.00%/ 0.50%/ 0.25%/ 0.25%/ 0.25%

2/ 0.750%/ 0.25%/ 0.10%/ 0.10%/ 0.10%

3/ 0.50%/ 0.10%/ 0.05%/ 0.05%/ 0.05%

4/ 0.25%/ 0.05%/ to/ to/ to

5/ 0.10%/ to

6/ 0.00%/ 0.00%/ 0.00%/ 0.00%/ 0.00%

(2) The calculation of the percentage of lost and unaccounted for gas shall be based on an annual period. Notwithstanding the choice of test year for other aspects of ratemaking, and unless a more appropriate period can be demonstrated by a preponderance of the evidence in a given ratemaking proceeding, the annual period ends June 30, and is the most recent such period for which data are available.

(3) Local retail outlets shall use best available technology and practices for preventing leakage.

SECTION 58. Section 57 shall take effect on January 1, 2019.

SECTION 59. Chapter 29 of the General Laws is hereby amended by inserting after section 2TTTT the following section:-

Section 2UUUU. There shall be a solid waste reduction assistance fund. The commissioner of environmental protection shall be the trustee of the fund. The fund shall be credited with revenues transferred to it through: (i) penalties assessed to solid waste haulers for waste ban violations on waste disposed of at a solid waste disposal facility; (ii) appropriations, bond proceeds or other funds authorized by the general court and specifically designated to be credited to the fund; (iii) other amounts credited or transferred to the fund from another fund or

source; and (iv) interest earned on the money in the fund. The amount credited to the fund shall be expended without further appropriation.

Money in the fund shall be allocated by the department to fund municipal and other recycling programs, composting programs, composting and recycling public education programs and programs promoting zero waste principles. Money in the fund may also be allocated to provide grants to solid waste haulers and generators for equipment to assist in meeting the commonwealth's waste ban requirements.

The unexpended balance in the fund at the end of a fiscal year shall not revert to the General Fund but shall remain available for expenditure in subsequent fiscal years. The commissioner of environmental protection shall annually, not later than December 31, file a report with the clerks of the senate and house of representatives, who shall forward the same to the senate and house chairs of the joint committee on environment, natural resources and agriculture, detailing the amount and source of money credited to the fund and the expenditures and grants provided from the solid waste reduction assistance fund.

SECTION 60. The commissioner of environmental protection shall establish performance standards for the reduction of municipal solid waste, as described in section 61, to achieve the purposes of the solid waste master plan and greenhouse gas reduction plan and to protect the natural environment, preserve resources, achieve progress toward the goals to reduce greenhouse gases and create green jobs. The performance standards shall be promulgated by July 1, 2019.

SECTION 61. The department of environmental protection shall establish performance standards for municipal solid waste reduction in each municipality on the basis of pounds per capita of solid waste disposed. The standards shall reduce solid waste to not more than 600

pounds per capita by July 1, 2020 and not more than 450 pounds per capita by July 1, 2024. A municipality that does not administer trash and recycling collection shall be exempt from meeting performance standards for municipal solid waste reduction established in this section; provided, however, that the municipality shall confer with its residents and private waste disposal companies to establish solid waste performance standards for the municipality.

SECTION 62. Not later than December 1, 2019, the secretary of energy and environmental affairs, in consultation with the department of environmental protection and the department of energy resources, shall develop a municipal solid waste standards action plan to assist municipalities in achieving the standards set forth in this act. The secretary shall review the effectiveness of existing recycling programs and other incentives available to achieve these standards and shall make any recommendations available to the public on the website of the executive office of energy and environmental affairs. Recommendations may include, but shall not be limited to, potential regulatory or statutory changes to the solid waste master plan, the Clean Energy and Climate Plan for 2020 or the green communities program. The secretary shall consult with the solid waste advisory committee in developing the plan.

SECTION 63. Each city and town shall report to the department of environmental protection annually, by not later than September 1, the total weight of solid waste disposed of through the solid waste program of the city or town during the prior fiscal year, as well as the number of households and residents who participated in the program; provided, however, that if a city or town enters into a contract with a solid waste hauler for the transportation of material for disposal and recycling, the contract may provide for the solid waste hauler to make the report to the department. If the department makes a determination that a city or town has not met the municipal solid waste reduction performance standards as prescribed by the department by July

1, 2020, that city or town shall submit a report to the department setting forth the reasons that the town did not meet the standards and detailing a plan to achieve the performance standards by July 1, 2024. The department shall issue a report on the municipal solid waste programs not later than December 1 of that year that provides per capita solid waste disposal statistics for the municipal solid waste programs and shall file the report with the clerks of the senate and house of representatives and the senate and house chairs of the joint committee on environment, natural resources and agriculture. The report may disaggregate solid waste tonnage information to highlight categories of waste, including waste that is beyond the control of a city or town such as waste created as a result of a natural disaster.

SECTION 64. A city or town that has a high risk of failing to reach the per capita municipal solid waste reduction standard under section 61 may file hardship documentation with the department of environmental protection detailing the reasons for not reaching the municipal solid waste reduction standard. The department shall prioritize sustainable materials recovery program municipal grant applications from cities and towns that submit hardship documentation under this section.

SECTION 65. Notwithstanding any general or special law to the contrary, in a city or town that does not provide solid waste removal, a privately contracted waste disposal and trash hauling contract entered into on or after the effective date of this act shall include a recycling option for the customers served under the contract.

SECTION 66. Sections 59 through 65 shall be subject to appropriation.

SECTION 67. The General Laws are hereby amended by inserting after chapter 21N the following chapter: Chapter 21N1/2.

GLOBAL WARMING SOLUTIONS IMPLEMENTATION ACT.

Section 1. Unless otherwise defined herein, terms defined in section 1 of chapter 21N have the same meaning when used in this chapter.

Section 2. No later than December 31, 2020, the secretary shall conduct and publish the results of detailed, quantitative modeling and analysis of the commonwealth's energy economy and emissions in their regional context, to include the regional electric grid, sufficient to identify multiple technically and economically feasible pathways of reducing statewide emissions consistent with the 2050 emissions limit required by section 3(b) of chapter 21N. Such modeling and analysis shall employ back-casting methodology, shall be comparable to that conducted by the European Union in support of its Roadmap 2050 effort, and may be conducted in conjunction with other states or regional entities as part of an analysis of reducing regional emissions in 2050 to a level consistent with those required by chapter 21N for the commonwealth. The secretary shall publish the results of the modeling and analysis required by this section, and shall also make available for public inspection and use the model, all model assumptions, and all input and output data.

Section 3. In conjunction with the modeling and analysis required in section 2, and in any case no later than December 31, 2020, the secretary shall adopt the interim 2030 and 2040 emissions limits consistent with that analysis and as required by section 3(b) of chapter 21N. The interim 2030 emissions limit shall be at least 43 per cent below the 1990 level, and the interim 2040 emissions limit shall be at least 62 per cent below the 1990 level. In setting the interim 2030 and 2040 emissions limits, the secretary shall comply with the second sentence of

subsection (a) of section 4 chapter 21N and with subsections (b), (c), (d), (e), (f) and (g) of section 4 chapter 21N.

Section 4. As part of complying with section 7, the secretary shall (a) promulgate regulations no later than December 31, 2020 establishing market-based compliance mechanisms for the transportation sector that, at a minimum, are designed to reduce emissions from passenger cars and light duty trucks reported in the state greenhouse gas emissions inventory required by section 2 of chapter 21N (b) promulgate regulations no later than December 31, 2021 establishing market-based compliance mechanisms for the commercial and industrial building sectors including, as needed, for industrial processes, and (c) promulgate regulations no later than December 31, 2022 establishing market-based compliance mechanisms for the residential building sector. Such market-based compliance mechanisms must maximize the ability of the commonwealth to achieve the greenhouse gas emissions limits established by and pursuant to chapters 21N and 21N1/2, must be designed to impose no disproportionate impact on any environmental justice population as defined in the secretary's 2017 environmental justice policy or as subsequently defined by regulation or statute, and may be established by joining one or more existing market-based compliance mechanisms. The secretary shall evaluate and adjust all such market-based compliance mechanisms adopted pursuant to this section at least once every three years in order to ensure they continue to maximize the ability of the commonwealth to achieve the greenhouse gas emissions limits established by and pursuant to chapters 21N and 21N1/2. Consistent with section 7(c) of chapter 21N, such regulations may be promulgated as part of a coordinated regional effort with other states or Canadian Provinces to implement, expand, or join one or more market-based compliance mechanisms.

Section 5. After conducting the modeling and analysis required in section 2, and in any case no later than December 31, 2021, the secretary shall issue a 2050 emissions reduction roadmap plan in lieu of the plan update required by section 4(h) of chapter 21N. The 2050 emissions reduction roadmap plan shall describe in detail the commonwealth's plan to achieve the 2050 emissions limit required by section 3(b) of chapter 21N, as well as the interim 2030 and 2040 emissions limits, by means of one or more technically and economically feasible pathways selected to reduce statewide emissions. The 2050 emissions reduction roadmap plan must address all sources or categories of sources that emit greenhouse gas emissions and indicate for each how, to what extent, and when the commonwealth will act to reduce their emissions as part of a plan achieve the 2050 emissions limit required by section 3(b) of chapter 21N. In developing the 2050 emissions reduction roadmap plan, the secretary shall comply with section 4 of chapter 21N as described in section 3. The secretary shall update the 2050 emissions reduction roadmap plan at least once every thirty months. This section 5 reporting requirement supersedes and replaces that required by subsection (h) of section 4 of chapter 21N.

Section 6. Separate from the plan required by section 5, the secretary shall after conducting the modeling and analysis required in section 2, and no later than December 31, 2021, issue the report required by section 5 of chapter 21N, hereinafter referred to as the Global Warming Solutions Act implementation assessment report. The report must quantitatively assess the effectiveness of all regulations and programs designed to reduce greenhouse gas emissions directly or indirectly and must also address all elements required by section 5 of chapter 21N, except that the secretary shall update and file the Global Warming Solutions Act implementation assessment report annually.

Section 7. No later than December 31, 2023, the commonwealth and its agencies shall promulgate regulations regarding all sources or categories of sources and all greenhouse gas-emitting priorities sufficient to achieve a 2050 statewide emissions limit that is at least 80 per cent below the 1990 level. The development of such regulations shall be coordinated by the secretary, and shall be consistent with the modeling and analysis required in section 2, with achievement of the adopted interim 2030 and 2040 emissions limits as required by section 3, and with the plan required by section 5.

Section 8. No later than six months after this chapter is enacted, the department may, in consultation with the secretary, impose a schedule of fees on regulated sources of greenhouse gas emissions sufficient to recover, for each fiscal year, the costs of implementation of chapters 21N and 21N1/2. Revenues collected pursuant to this section shall be deposited in a Global Warming Solutions Act Implementation Fund for use, as directed by the legislature or the secretary, solely for the purpose of carrying out chapters 21N and 21N1/2.

Section 9. All municipal electric departments and municipal light boards as defined in section 1 of chapter 164A are subject to chapters 21N and 21N1/2 and shall be included in all regulations and implementation programs associated therewith unless the secretary determines their inclusion will not contribute to the commonwealth's achievement of the greenhouse gas emissions limits established by those chapters.

SECTION 68. Section 97A of chapter 13 of the General Laws, as so appearing, is hereby amended by striking out, in line 5, the words "documents to be provided" and inserting in place thereof the following words:- that the results of a home energy audit and the residential

dwelling's energy rating and label as established by the department of energy resources in section 11G½ of chapter 25A be made available.

SECTION 69. Said section 97A of said chapter 13, as so appearing, is hereby further amended by striking out, in lines 8 and 9, the words "closing, outlining the procedures and benefits of a home energy audit; provided however, that" and inserting in place thereof the following words:- "listing; provided, however, that if there is no public listing, the home energy audit and the residential dwelling's energy rating and label shall be made available prior to the time of the signing of the purchase and sale agreement; provided further, that the home energy audit and residential dwelling's energy rating shall be valid under this section for 3 years; and provided further, that.

SECTION 70. Said section 97A of said chapter 13, as so appearing, is hereby further amended by adding the following:-

Notwithstanding the previous paragraph, a sale or transfer of a dwelling in the following circumstances shall not require the disclosure of the results of a home energy audit and energy assessment and may include documents disclosing the procedures and benefits of a home energy audit: (i) a foreclosure or pre-foreclosure sale; (ii) a deeded or trustee sale; (iii) a transfer of title related to the exercise of eminent domain; (iv) a sale between family members; (v) a sale under court order; (vi) a sale under a decree of legal separation or divorce; or (vii) a sale or transfer that involves a dwelling that is designated on the National Register of Historic Places or the state register of historic places as a historic building or landmark. The regulations under this section may include exemptions of the requirements for a home energy audit for dwellings that were

constructed within 3 years of the listing or sale and that comply with the most recent energy provisions of the state building code that are applicable to residential buildings.

The department of energy resources, in consultation with the energy efficiency advisory council, shall track and publicly report, not less than quarterly, the number of home energy audits conducted and energy ratings and labels issued.

SECTION 71. Chapter 25A is hereby amended by inserting after section 11G the following section:-

Section 11G½. (a) The department shall establish an energy rating and labeling system that stores and provides information regarding energy performance of single family residential dwellings, multi-family residential dwellings with less than 5 units and condominium units. The energy rating and labeling system shall provide a consistent scoring method regarding the energy performance of a residential dwelling that is based upon the physical assets of the unit. The energy rating and labeling system shall include, but not be limited to, information regarding annual: (i) energy consumption by fuel; (ii) energy costs for electricity and thermal needs; and (iii) carbon or greenhouse gas emissions.

(b) The home energy rating and label shall be provided to the owner of a single-family residential dwelling, a multi -family residential dwelling with less than 5 units and a condominium as part of: (i) a home energy assessment or in-home visit by qualified home energy assessors provided as part of the energy efficiency investment plan pursuant to section 21 of chapter 25 of the General Laws; (ii) a RESNET Home Energy Rating System rating assessment, by a RESNET-qualified home energy rater; or (iii) any other qualified energy assessment as determined by the department. A home energy rating and label provider shall provide an

electronic record to the department with sufficient data to reproduce each unit's home energy rating and label within 30 days after the completion of the label.

(c) The department may promulgate regulations that are necessary to implement this section.

SECTION 72. In designing the energy rating and labeling system under section 11G½ of chapter 25A of the General Laws, the department of energy resources shall consider the energy rating and labeling systems used as part of the Mass Save Home MPG program, the RESNET home energy rating system and the United States Department of Energy's home energy score in addition to other energy rating and labeling systems that are used in other jurisdictions that the department determines appropriate.

The department shall finalize the energy rating and labeling system for residential dwellings not later than December 15, 2018 and shall begin implementing the system not later than June 30, 2019. The department shall also provide recommendations for the implementation of an energy rating and labeling system for residential rental property transactions not later than June 30, 2019.

SECTION 73. Notwithstanding section 70, the residential dwelling's energy rating and label, as established by the department of energy resources in section 11G½ of chapter 25A of the General Laws, shall not be required to be made available under section 97A of chapter 13 of the General Laws until January 1, 2020.

SECTION 74. Chapter 90 of the General Laws is hereby amended by inserting after section 19L the following:—

Section 19M.

(a) Notwithstanding any general or special law to the contrary, any motor vehicle designated as a zero emissions vehicle, as defined in Chapter 25A, Section 16, shall be authorized for travel on lanes designated for use by high-occupancy vehicles.

(b) The secretary of transportation shall issue those regulations it considers necessary or appropriate to implement this section, within one year of the effective date of this act.

SECTION 75. Section 22A of chapter 40 of the General Laws is hereby amended by adding the following paragraph:—

Any city or town acting under this section with respect to ways under its control, or under the authority granted under chapter forty A with respect to zoning, may further regulate the parking of vehicles by restricting certain areas or requiring that certain areas be restricted for the parking of any vehicle bearing a distinctive plate, decal, or emblem identifying such vehicle as a zero emissions vehicle. Any such ordinance, bylaw, order, rule, or regulation promulgated pursuant to the provisions of this paragraph shall contain a penalty of not less than fifteen dollars or not more than fifty dollars and may provide for the removal of a vehicle in accordance with the provisions of section twenty-two D.

SECTION 76. Section 94 of chapter 143 of the General Laws is hereby amended by adding the following paragraph:—

(s) In consultation with the Department of Energy Resources, to develop requirements and promulgate regulations as part of the state building code within one year of the effective date of this act, for electric vehicle charging. Such regulations may include separate requirements for

capability to install electric vehicle charging stations in the future and direct requirements for electric vehicle charging stations.

SECTION 77. Chapter 25A of the General Laws is hereby amended by inserting after section 15 the following:-

Section 16. (a)The following words shall, unless the context clearly requires otherwise, have the following meanings:-

“Electric vehicle”, a battery electric vehicle or plug-in hybrid electric vehicle.

“Battery electric vehicle”, a vehicle that draws propulsion energy solely from an on-board electrical energy storage device during operation that is charged from an external source of electricity.

“Plug-in hybrid electric vehicle”, a vehicle with an on-board electrical energy storage device that can be recharged from an external source of electricity but also has the capability to run on another fuel.

“Fuel cell vehicle”, a vehicle with an on-board fuel cell used to provide all or part of the motive power of the vehicle.

“Zero emissions vehicle”, a battery electric vehicle, a plug-in hybrid electric vehicle, or a fuel cell vehicle.

“Electric vehicle charging services”, the transfer of electric energy from an electric vehicle charging station to a battery or other storage device in an electric vehicle, as well as billing services, networking and operation and maintenance.

“Electric vehicle charging station”, an electric component assembly or cluster of component assemblies designed specifically to charge batteries within electric vehicles by permitting the transfer of electric energy to a battery or other storage device in an electric vehicle.

“Publicly available parking space”, a parking space that has been designated by a property owner or lessee to be available to, and accessible by, the public, and may include on-street parking spaces and parking spaces in surface lots or parking garages. A "publicly available parking space" shall not include a parking space that is part of, or associated with, a private residence, a parking space that is reserved for the exclusive use of an individual driver or vehicle or for a group of drivers or vehicles, such as employees, tenants, visitors, residents of a common interest development, or residents of an adjacent building.

“Public electric vehicle charging station”, an electric vehicle charging station located at a publicly available parking space.

“Interoperability billing standards”, the ability for a member of one electric charging station billing network to use another billing network.

“Network roaming”, the act of a member of one electric vehicle charging station billing network using a charging station that is outside of the member's billing network with his or her billing network account information.

(b) Persons desiring to use a public electric vehicle charging station shall not be required to pay a subscription fee in order to use the station, and shall not be required to obtain membership in any club, association, or organization as a condition of using the station. Owners

and operators of public electric vehicle charging stations may have separate price schedules conditional on a subscription or membership.

(c) Owners and lessees of a publicly available parking space, whose primary business is not electric vehicle charging services, may restrict the use of that parking space, such as limiting use to customers and visitors of the business.

(d) The owner or operator of a public electric vehicle charging station shall provide payment options that allow access by the general public.

(e) If no interoperability standards have been adopted by a national standards organization by January 1, 2019, the Department of Energy Resources may adopt interoperability billing standards for network roaming payment methods for electric vehicle charging stations. If the Department of Energy Resources adopts interoperability billing standards for electric vehicle charging stations, all electric vehicle charging stations that require payment shall meet those standards within one year. Any standards adopted shall consider other governmental or industry-developed interoperability billing standards and may adopt interoperability billing standards promulgated by an outside authoritative body.

(f) The owner or operator of a public electric vehicle charging station, or their designee, shall disclose on an ongoing basis to the National Renewable Energy Laboratory, or other publicly available database subsequently designated by the Department of Energy Resources, the station's geographic location, hours of operation, charging level, hardware compatibility, a schedule of fees, accepted methods of payment, and the amount of network roaming charges for nonmembers, if any.

SECTION 78. Section 9A of chapter 7 of the General Laws is hereby amended by adding the following paragraph:—

When designing the above fuel efficiency standards for the purchase of new hybrid and alternative fuel vehicles, consistent with the ability of such vehicles to perform their intended functions, the commonwealth shall ensure that 25% of the motor vehicles purchased each year by the commonwealth will be electric vehicles by 2025. Such fuel efficiency standard shall incorporate intermediate targets for electric vehicles. The Department of Energy Resources shall conduct a study on the opportunities for electrification of all segments of the state fleet, including all vehicles used by the regional transit authorities.

SECTION 79. The secretary of transportation, in consultation with the secretary of energy and environmental affairs, shall conduct a study examining the advisability and feasibility of assessing surcharges, levies or other assessments to offset projected gas tax revenue loss from the purchase and/or operation of zero emission vehicles. The study shall examine practices in other states and shall include input from electric vehicle manufacturers, dealers, and trade associations, the Zero Emission Vehicle Commission, electric vehicle and fuel cell vehicle manufacturers, electric vehicle charging station manufacturers and hydrogen providers, as well as transportation, environmental and clean energy advocacy groups. The report shall be filed with the clerks of the senate and house of representatives, the senate and house committees on ways and means, and the joint committee on transportation not later than April 1, 2019.

SECTION 80. Not later than December 31st, 2018, distribution companies, as defined in section 1 of chapter 164 of the general laws, shall submit to the department of public utilities for approval proposals to offer an opt-in electric vehicle time of use rate, defined for the purposes of

this section as a rate designed to reflect the cost of providing electricity to a consumer charging an electric vehicle at an electric vehicle charging station at varying times of the day, but shall not include demand charges. In weighing whether to approve a proposal, the department shall consider whether it will promote energy conservation, the optimal and efficient use of a distribution company's facilities and resources, and equitable rates among electric consumers.

SECTION 81. Not later than December 31st, 2018, the department of energy resources and department of transportation shall file a report with the joint committee on transportation, identifying state routes, U.S. routes, and interstate highways in Massachusetts that are high-priority sites for electric vehicle charging stations. Considerations in setting priorities shall include, but not be limited to, total traffic volume on the route, volume of trips on the route exceeding 50 miles, and the importance of the route for accessing employment centers, tourist attractions, and other frequent destinations.

SECTION 82. Chapter 184 of the General Laws, as appearing in the 2016 Official Edition, is hereby amended by adding the following section:-

Section 36. (a) As used in this section, the following words shall have the following meaning unless the context clearly requires otherwise:

"Association of homeowners", a community association, condominium association, homeowners association, cooperative or any other nongovernmental entity with covenants, by-laws and administrative provisions with which the homeowner's compliance is required.

"Electric Charging Station", an electric component assembly or cluster of component assemblies designed specifically to charge batteries within electric vehicles by permitting the transfer of electric energy to a battery or other storage device in an electric vehicle.

(b) Notwithstanding any general or special law to the contrary, a homeowner or tenant shall not be prohibited from installing or using an electric charging station.

(c) A homeowner or an association of homeowners may adopt rules that reasonably restrict the location of an electric charging station on the premises of a residential dwelling, provided, however, that such restrictions do not unduly burden station use. No private entity shall assess or charge a homeowner a fee for the placement or use of an electric charging station. If an association of homeowners has a contract, deed, covenant, restriction, rule, by-law, lease agreement or rental agreement that prohibits the use and installation of electric charging stations on the effective date of this act, the association shall, at the request of a unit owner and within one year of the effective date, hold a meeting to reconsider the provision. Any such meeting shall be held at a date and time agreed upon with the requesting party and after reasonable notice to all interested parties.

(d) Upon approval of this section by the legislative body of a city or town, the following question shall be placed on the official ballot and submitted to the voters of that city or town at the next regular municipal or state election:

'Shall (the city or town) accept section 36 of chapter 184 of the General Laws relative to the installation of electric charging stations?'

If a majority of the voters voting on the question vote in the affirmative, this section shall take effect in that city or town.

SECTION 83. Section 2 of chapter 25B, as so appearing in the 2016 Official Edition, is hereby amended by inserting after the definition of "Central furnace" the following definitions:-

“Cold only water cooler”, a water cooler that dispenses only cold water.

“Color rendering index” or “CRI”, the measure of the degree of color-shift objects undergo when illuminated by a light source as compared with the color of those same objects when illuminated by a reference source of comparable color temperature.

“Commercial hot food holding cabinet”, a heated, fully-enclosed compartment with one or more solid or glass doors designed to maintain the temperature of hot food that has been cooked using a separate appliance. This term does not include heated glass merchandizing cabinets, drawer warmers, or cook-and-hold appliances.

SECTION 84. Said section 2 of chapter 25B, as so appearing, is hereby further amended by inserting after the definition of “Compensation” the following definitions:-

“Computer”, a device that performs logical operations and processes data. A computer includes both stationary and portable units and includes a desktop computer, a portable all-in-one, a notebook computer, a mobile gaming system, a high-expandability computer, a small-scale server, a thin client, and a workstation. A computer has, at a minimum:

(1) a central processing unit (CPU) to perform operations or, if no CPU is present, then the device must function as a client gateway to a server, and the server acts as a computational CPU;

(2) the ability to support user input devices such as a keyboard, mouse, or touch pad; and

(3) an integrated display screen or the ability to support an external display screen to output information.

"Computer monitor", an analog or digital device of size greater than or equal to 17 inches and less than or equal to 61 inches, that has a pixel density of greater than 5,000 pixels per square inch, and that is designed primarily for the display of computer-generated signals for viewing by one person in a desk-based environment. A computer monitor is composed of a display screen and associated electronics. This term does not include:

(1) a display with integrated or replaceable batteries designed to support primary operation without AC mains or external DC power (e.g., electronic readers, mobile phones, portable tablets, battery-powered digital picture frames); and

(2) a television or signage display.

"Cook and cold unit water cooler", a water cooler that dispenses both cold and room-temperature water.

"Dual flush effective flush volume", the average flush volume of two reduced flushes and one full flush.

"Dual flush water closet", a tank-type water closet incorporating a feature that allows the user to flush the water closet with either a reduced or a full volume of water.

SECTION 85. Said section 2 of chapter 25B, as so appearing, is hereby further amended by inserting after the definition of "Electricity Ratio" the following definitions:-

"Faucet", a lavatory faucet, kitchen faucet, metering faucet, or replacement aerator for a lavatory or kitchen faucet.

"Flow rate", the rate of water flow of a plumbing fitting.

"Fluorescent lamp", means a straight-shaped lamp (commonly referred to as a 4-foot medium bipin lamp) with a medium bipin base of nominal overall length of 48 inches and rated wattage of 25 or more, with a low-pressure mercury electric-discharge source in which a fluorescing coating transforms some of the ultraviolet energy generated by the mercury discharge into light.

SECTION 86. Said section 2 of chapter 25B, as so appearing, is hereby further amended by inserting after the definition of "F96T12 Lamp" the following definitions:-

"General service lamp", a lamp that has an ANSI base; is able to operate at a voltage of 12 volts or 24 volts, at or between 100 to 130 volts, at or between 220 to 240 volts, or of 277 volts for integrated lamps, or is able to operate at any voltage for non-integrated lamps; has an initial lumen output of greater than or equal to 310 lumens (or 232 lumens for modified spectrum general service incandescent lamps) and less than or equal to 3,300 lumens; is not a light fixture; is not an LED downlight retrofit kit; and is used in general lighting applications. General service lamps include, but are not limited to, general service incandescent lamps, compact fluorescent lamps, general service light-emitting diode lamps, and general service organic light-emitting diode lamps. This term does not include:

(1) Appliance lamps;

(2) Black light lamps;

(3) Bug lamps;

(4) Colored lamps;

(5) G shape lamps with a diameter of 5 inches or more as defined in ANSI C79.1–2002;

(6) General service fluorescent lamps;

(7) High intensity discharge lamps;

(8) Infrared lamps;

(9) J, JC, JCD, JCS, JCV, JCX, JD, JS, and JT shape lamps that do not have Edison screw bases;

(10) Lamps that have a wedge base or prefocus base;

(11) Left-hand thread lamps;

(12) Marine lamps;

(13) Marine signal service lamps;

(14) Mine service lamps;

(15) MR shape lamps that have a first number symbol equal to 16 (diameter equal to 2 inches) as defined in ANSI C79.1–2002, operate at 12 volts, and have a lumen output greater than or equal to 800;

(16) Other fluorescent lamps;

(17) Plant light lamps;

(18) R20 short lamps;

(19) Reflector lamps that have a first number symbol less than 16 (diameter less than 2 inches) as defined in ANSI C79.1–2002 and that do not have E26/E24, E26d, E26/50x39, E26/53x39, E29/28, E29/53x39, E39, E39d, EP39, or EX39 bases;

(20) S shape or G shape lamps that have a first number symbol less than or equal to 12.5 (diameter less than or equal to 1.5625 inches) as defined in ANSI C79.1–2002;

(21) Sign service lamps;

(22) Silver bowl lamps;

(23) Showcase lamps;

(24) Specialty MR lamps;

(25) T shape lamps that have a first number symbol less than or equal to 8 (diameter less than or equal to 1 inch) as defined in ANSI C79.1–2002, a nominal overall length of less than 12 inches, and that are not compact fluorescent lamps (as defined in this section); and

(26) Traffic signal lamps.

"High color rendering index fluorescent lamp", a fluorescent lamp with a color rendering index of 87 or greater.

SECTION 87. Said section 2 of chapter 25B, as so appearing, is hereby further amended by inserting after the definition of "High-intensity discharge lamp" the following definition:-

"Hot and cold unit water cooler", a water cooler that dispenses both hot and cold water, and that may also dispense room-temperature water.

SECTION 88. Said section 2 of chapter 25B, as so appearing, is hereby further amended by inserting after the definition of "New appliance" the following definitions:-

"On demand water cooler", a water cooler that heats water as it is requested.

“On mode with no water draw”, a test that records the 24-hour energy consumption of a water cooler with no water drawn during the test period.

“Plumbing fitting”, a device that controls and guides the flow of water in a supply system.

“Plumbing fixture”, an exchangeable device, which connects to a plumbing system to deliver and drain away water and waste.

“Portable electric spa”, a factory-built electric spa or hot tub, which may or may not include any combination of integral controls, water heating or water circulating equipment.

SECTION 89. Said section 2 of chapter 25B, as so appearing, is hereby further amended by inserting after the definition of “Probe-start metal halide ballast” the following definition:-

“Public lavatory faucet”, a fitting intended to be installed in a nonresidential bathroom that is exposed to walk-in traffic.

SECTION 90. Said section 2 of chapter 25B, as so appearing, is hereby further amended by inserting after the definition of “Refrigerator-freezer” the following definition:-

“Replacement aerator”, an aerator sold as a replacement, separate from the faucet to which it is intended to be attached.

SECTION 91. Said section 2 of chapter 25B, as so appearing, is hereby further amended by inserting after the definition of “Residential furnace or boiler” the following definition:-

“Showerhead”, a device through which water is discharged for a shower bath and includes a body sprayer and handheld showerhead, but does not include a safety showerhead.

SECTION 92. Said section 2 of chapter 25B, as so appearing, is hereby further amended by inserting after the definition of "Single-voltage external AC to DC power supply" the following definition:-

"Standby power", the average power in standby mode, measured in Watts.

SECTION 93. Said section 2 of chapter 25B, as so appearing, is hereby further amended by inserting after the definition of "State plumbing code" the following definition:-

"Storage-type water cooler", a water cooler concerning which thermally conditioned water is stored in a tank and is available instantaneously. Point of use, dry storage compartment, and bottled water coolers are included in this category.

SECTION 94. Said section 2 of chapter 25B, as so appearing, is hereby further amended by inserting after the definition of "Transformer" the following definitions:-

"Trough-type urinal", a urinal designed for simultaneous use by two or more persons.

"Urinal", a plumbing fixture that receives only liquid body waste and conveys the waste through a trap into a drainage system.

"Water closet", a plumbing fixture with a water-containing receptor that receives liquid and solid body waste and upon actuation conveys the waste through an exposed integral trap into a drainage system.

"Water cooler", a freestanding (i.e., not wall mounted, under sink, or otherwise building integrated) device that consumes energy to cool and/or heat potable water.

SECTION 95. Said section 2 of chapter 25B, as so appearing, is hereby further amended by inserting after the definition of “Water heater” the following definition:-

“Water use”, the quantity of water flowing through a showerhead, faucet, water closet, or urinal at point of use.

SECTION 96. Section 3 of chapter 25B of the General Laws, as so appearing, is hereby amended by inserting after subsection (j) the following 8 subsections:-

(k) commercial hot food holding cabinets.

(l) computers and computer monitors.

(m) general service lamps.

(n) high CRI fluorescent lamps.

(o) plumbing fittings.

(p) plumbing fixtures.

(q) portable electric spas.

(r) water coolers.

SECTION 97. Section 5 of said chapter 25B of the General Laws, as so appearing, is hereby amended by striking out the words “clauses (f) to (s)” in line 24 and inserting in place thereof the words “clauses (f) to (r)”.

SECTION 98. Said section 5 of chapter 25B of the General Laws, as so appearing, is hereby amended by inserting the following subsections:-

(6) Commercial hot-food holding cabinets with an interior volume of 8 cubic feet or greater shall have a maximum idle energy rate of 40 watts per cubic foot of interior volume, as determined by the "idle energy rate-dry test" in ASTM Standard F2140-11, "Test Method for the Performance of Hot Food Holding Cabinets," published by ASTM International. Interior volume shall be measured as prescribed in Version 2.0 of the ENERGY STAR program product specifications for commercial hot-food holding cabinets which took effect on October 1, 2011.

(7) Computers and computer monitors shall meet the requirements of Section 1605.3 of Title 20 of the California Code of Regulations as adopted on December 14, 2016 as measured in accordance with test methods prescribed in Section 1604 of those regulations.

(8) General service lamps shall meet or exceed a lamp efficacy of 45 lumens per watt, when tested in accordance with the applicable federal test methods for general service lamps, prescribed in Appendices R, W, BB, and DD to Subpart B of Part 430 of Title 10 of the Code of Federal Regulations as in effect on January 3, 2017.

(9) High CRI fluorescent lamps shall meet the following requirements:

(i) The minimum average lamp efficacy (lumens/watt) of high CRI fluorescent lamps with a correlated color temperature less than or equal to 4,500 K shall meet or exceed 92.4 when tested in accordance with the test procedure prescribed in Appendix R to Subpart B of Part 430 of Title 10 of the Code of Federal Regulations, "Uniform Test Method for Measuring Average Lamp Efficacy (LE), Color Rendering Index (CRI), and Correlated Color Temperature (CCT) of Electric Lamps," as in effect on January 3, 2017; and

(ii) The minimum average lamp efficacy (lumens/watt) of high CRI fluorescent lamps with a correlated color temperature greater than 4,500 K and less than or equal to 7,000 K shall

meet or exceed 88.7 when tested in accordance with the test procedure prescribed in Appendix R to Subpart B of Part 430 of Title 10 of the Code of Federal Regulations, "Uniform Test Method for Measuring Average Lamp Efficacy (LE), Color Rendering Index (CRI), and Correlated Color Temperature (CCT) of Electric Lamps," as in effect on January 3, 2017.

(10) Plumbing fittings shall meet the following requirements:

(i) The flow rate of lavatory faucets and replacement aerators shall not be greater than 1.5 gpm at 60 pounds per square inch when tested in accordance with the flow rate test procedure prescribed in Appendix S to Subpart B of Part 430 of Title 10 of the Code of Federal Regulations, "Uniform Test Method for Measuring the Water Consumption of Faucets and Showerheads," as in effect on January 3, 2017;

(ii) The flow rate of residential kitchen faucets and replacement aerators shall not be greater than 1.8 gpm with optional temporary flow of 2.2 gpm at 60 pounds per square inch when tested in accordance with the flow rate test procedure prescribed in Appendix S to Subpart B of Part 430 of Title 10 of the Code of Federal Regulations, "Uniform Test Method for Measuring the Water Consumption of Faucets and Showerheads," as in effect on January 3, 2017; and

(iii) The flow rate of public lavatory faucets and replacement aerators shall not be greater than 0.5 gpm at 60 pounds per square inch; when tested in accordance with the flow rate test procedure prescribed in Appendix S to Subpart B of Part 430 of Title 10 of the Code of Federal Regulations, "Uniform Test Method for Measuring the Water Consumption of Faucets and Showerheads," as in effect on January 3, 2017.

(iv) The flow rate of showerheads shall not be greater than 2.0 gpm at 80 pounds per square inch when tested in accordance with the flow rate test procedure prescribed in Appendix S to Subpart B of Part 430 of Title 10 of the Code of Federal Regulations, "Uniform Test Method for Measuring the Water Consumption of Faucets and Showerheads," as in effect on January 3, 2017.

(11) Plumbing fixtures, other than those designed and marketed exclusively for use at prisons or mental health care facilities, shall meet the following requirements:

(i) Trough-type urinals shall have a maximum gallons per flush of the trough length (in inches) divided by 16 when tested in accordance with the Water consumption test prescribed in Appendix T to Subpart B of Part 430 of Title 10 of the Code of Federal Regulations, "Uniform Test Method for Measuring the Water Consumption of Water Closets and Urinals," as in effect on January 3, 2017.

(ii) Urinals shall have a maximum flush volume of 0.5 gallons per flush when tested in accordance with the water consumption test prescribed in Appendix T to Subpart B of Part 430 of Title 10 of the Code of Federal Regulations, "Uniform Test Method for Measuring the Water Consumption of Water Closets and Urinals," as in effect on January 3, 2017.

(iii) Water closets, except for dual flush tank-type water closets, shall have a maximum flush volume of 1.28 gallons per flush when tested in accordance with the water consumption test prescribed in Appendix T to Subpart B of Part 430 of Title 10 of the Code of Federal Regulations, "Uniform Test Method for Measuring the Water Consumption of Water Closets and Urinals," as in effect on January 3, 2017 and with the waste extraction test for water closets (Section 7.10) of ASME A112.19.2/CSA B45.1-2013.

(iv) Dual flush tank-type water closets shall have a maximum effective flush volume of 1.28 gallons per flush when tested in accordance with the water consumption test prescribed in Appendix T to Subpart B of Part 430 of Title 10 of the Code of Federal Regulations, "Uniform Test Method for Measuring the Water Consumption of Water Closets and Urinals," as in effect on January 3, 2017 and with the waste extraction test for water closets (Section 7.10) of ASME A112.19.2/CSA B45.1-2013.

(12) Portable electric spas shall meet the requirements of the "American National Standard for Portable Electric Spa Energy Efficiency" (ANSI/APSP/ICC-14 2014) as approved on September 12, 2014.

(13) Water coolers shall have an on mode with no water draw energy consumption less than or equal to:

(i) 0.16 kilowatt-hours per day for cold-only and cook and cold units as measured in accordance with the test criteria prescribed in Version 2.0 of the ENERGY STAR program product specifications for water coolers which took effect on February 1, 2014;

(ii) 0.87 kilowatt-hours per day for storage type hot and cold units as measured in accordance with the test criteria prescribed in Version 2.0 of the ENERGY STAR program product specifications for water coolers which took effect on February 1, 2014; and

(iii) 0.18 kilowatt-hours per day for on demand hot and cold units as measured in accordance with the test criteria prescribed in Version 2.0 of the ENERGY STAR program product specifications for water coolers which took effect on February 1, 2014.

SECTION 99. Said section 5 of said chapter 25B of the General Laws, as so appearing, is hereby further amended by adding, in line 78, after the figure “2008” the following: -

“No commercial hot-food holding cabinet, computer or computer monitor, lavatory faucet, kitchen faucet, public lavatory faucet, portable electric spa, replacement aerator, showerhead, general service lamp, urinal, water closet, water cooler, or high CRI fluorescent lamp manufactured on or after January 1, 2019 may be sold or offered for sale in the state unless the efficiency of the new product meets or exceeds the efficiency standards set forth in the regulations adopted pursuant to this section.”

SECTION 100. Section 9 of said chapter 25B of the General Laws, as so appearing, is hereby amended by adding after the first paragraph the following paragraph:-

“If any of the energy or water conservation standards issued or approved for publication by the Office of the United States Secretary of Energy as of January 19, 2017 pursuant to the Energy Policy and Conservation Act (10 C.F.R. §§ 430-431) are withdrawn, repealed or otherwise voided, the minimum energy or water efficiency level permitted for products previously subject to federal energy or water conservation standards shall be the previously applicable federal standards and no such product may be sold or offered for sale in the state unless it meets or exceeds such standards. This paragraph shall not apply to any federal energy or water conservation standard set aside by a court upon the petition of a person who will be adversely affected, as provided in 42 U.S.C. § 6306(b).”

SECTION 101. Within one year of the effective date of this act, the Department of Transportation shall promulgate regulations to develop and implement a clean fuel standard. Said

clean fuel standard shall aim to reduce the carbon intensity of transportation fuels, while accounting for the full lifecycle greenhouse gas emissions of all fuels.

SECTION 102. The Department of Environmental Protection shall promulgate regulations requiring producers, importers, and wholesale distributors that sell, supply, or offer for sale transportation fuels in Massachusetts to report all Massachusetts transportation fuel sales, and the source of any fuel sold, to the Department of Environmental Protection. The regulations shall require the Department of Environmental Protection to compute and track the individual and collective lifecycle greenhouse gas emissions of all fuels, as well as the carbon intensity of each fuel, that are reported by regulated entities on an annual basis.

SECTION 103. All sales, lifecycle greenhouse gas emissions, and carbon intensity data collected or computed by the Department of Environmental Protection pursuant to the regulations required by Section 102 shall be published by the Department in an annual report that is available to the public.

SECTION 104. The regulations required by Section 102 shall be promulgated within 180 days of passage of this Act, and must take effect within 180 days of promulgation.

SECTION 105. The department of energy resources, in conjunction with the Massachusetts Development Finance Agency, shall develop and implement regulations to establish a residential sustainable energy program to provide financing to residential property owners for energy efficient and renewable energy improvements.

SECTION 106. Chapter 164 of the General Laws is hereby amended by inserting after section 145, as appearing in the 2016 Official Edition, the following section:

Section 146:

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

(1) "Local energy resources," distributed renewable generation facilities, energy efficiency, energy storage, electric vehicles, and demand response and load management technologies.

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

(3) "Board," the Grid Modernization Consumer Board.

(b) The Department shall issue an order concluding the current Grid Modernization Proceedings (D.P.U. 15-120, 15-121 and 15-122) by December 31, 2018.

(c) The Department shall commence a proceeding by no later than January 31, 2019 that establishes procedures for each distribution company of the commonwealth to create and file with the Department by October 31, 2020 its subsequent Grid Modernization Plan, as described in further detail in subsection (d).

(1) This proceeding shall also establish specific metrics and related performance incentives to evaluate the progress of the distribution companies toward establishing a grid planning system to utilize and integrate local energy resources to meet customers' energy needs. Said metrics may include, but are not limited to: reducing the impact of outages, optimizing demand, integrating local energy resources, improving workforce and asset management, and

electrification that results in lower greenhouse gas emissions and energy costs savings, after accounting for fuel switching;

(2) This proceeding shall also create protections for low-income consumers including, but not limited to, (i) remote shutoff protection, (ii) restrictions and conditions on pre-paid service, service limiters, and similar technologies and programs, and (iii) exemption from special grid modernization cost recovery mechanisms.

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

(1) Evaluate locational benefits and costs of local energy resources currently located on the system, and identify optimal locations for local energy resources over the next 10 years. This evaluation shall be based on reductions or increases in local generation capacity and demand, avoided or increased investments in transmission and distribution infrastructure, safety benefits, reliability benefits, and any other savings the local energy resources provide to the electric grid or avoided costs to ratepayers;

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

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

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

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

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

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

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

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

(2) The electric distribution companies shall submit their plans, together with the Board's approval or comments and a statement of any unresolved issues, to the Department every 5

years, on or before October 31. The Department shall consider the plans and shall provide an opportunity for interested parties to be heard in a public hearing.

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

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

(g) There shall be a Grid Modernization Consumer Board to consist of the commissioner of the department of energy resources, or her designee, who shall serve as chair, and 8 members including the attorney general, or her designee, the commissioner of the department of environmental protection, or his designee, and additional members appointed by the Governor: 1 shall be a representative of residential consumers, 1 shall be a representative of the low-income weatherization and fuel assistance program network, 1 shall be a representative of the environmental community, 1 shall be a representative of the clean energy technology industry, 1 shall be a representative of municipal interests or a regional public entity, and 1 shall be a representative of businesses, including large C& I end users. Interested parties shall apply to the Governor for designation. Members shall serve for terms of 6 years and may be reappointed. There shall be 1 non-voting ex-officio member from each of the electric distribution companies.

(1) The Board shall, as part of the approval process by the Department outlined in subsection (f), seek to maximize net economic benefits through use of distributed energy resources and achieve transmission, reliability, climate and environmental goals. The Board shall review and approve Grid Modernization Plans and budgets, and work with electric

distribution companies in preparing resource assessments. Approval of Grid Modernization Plans and budgets shall require a two-thirds majority vote.

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

(3) The electric distribution companies shall provide quarterly reports to the Board on the implementation of their respective plans. The reports shall include a description of progress in implementing the plan, an evaluation of the metrics identified by the Department in the proceeding described in subsection (c), and such other information or data as the Board shall determine. The Board shall provide an annual report to the department and the joint committee on telecommunications, utilities and energy on the implementation of the plan which includes descriptions of the programs, investments, cost-effectiveness, and savings and benefits during the previous year.

SECTION 107: Section 69G of chapter 164, as appearing in the 2016 Official Edition, is hereby amended by inserting the following definition after “department”:

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

Also amended by adding the following definition after “generating facility”:

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

Also amended by adding the following definition after “liquefied natural gas”:

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

SECTION 108: Chapter 164 of the General Laws is hereby amended by inserting the following section:

Section 69J 1/6:

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

(b) A petition for a Determination of Wires shall include, in such form and detail as the board shall from time to time prescribe, the following information: (1) a description of the Infrastructure Resource Facility, site and surrounding areas; (2) an analysis of the need for the facility over its planned service life, both within and outside the commonwealth, including date of need for the facility; (3) a description of the alternatives to the facility, such as other methods of transmitting or storing energy, other site locations, other sources of electrical power or gas, a reduction of requirements through load management, or local energy resource alternatives; and (4) the results of an investigation by an independent 3rd party, which may be the Board or a contractor selected by the Board, of local energy resource alternatives that may, alone or collectively, address or defer part or all of the need identified in the application for the Infrastructure Resource Facility. The investigation must set forth the total projected costs and economic benefits to ratepayers of the Infrastructure Resource Facility, as well as of the local energy resource alternative(s), over the effective life of the proposed Infrastructure Resource Facility.

(c) Prior to issuing a Determination of Wires, the Board must consider whether it is possible for any Local Energy Resource Alternative(s), alone or in combination, to meet or defer some or all of the identified need. In its consideration, the Board shall compare the Infrastructure

Resource Facility to Local Energy Resource Alternatives based on uniform, standard criteria, including benefit-cost analysis. In its Determination, the Board must make specific findings regarding: i) the portions of the identified need, if any, that cannot be addressed or deferred by Local Energy Resource Alternative(s), due to engineering or public safety reasons; ii) the portions of the identified need, if any, for which the Board determines Local Energy Resource Alternative(s), alone or in combination, may meet or defer the need more cost-effectively, as defined in subsection f, than the Infrastructure Resource Facility, and the duration of such deferral; and iii) additional portions of identified need, if any. Notice of issuance of a Determination of Wires must be provided to the town or city administrator of each municipality in which the related Infrastructure Resource Facility or Local Energy Resource Alternative(s) is located.

(d) Upon issuance of a Determination of Wires that contains a finding that one or more Local Energy Resource Alternative(s) may satisfy or defer a portion of the identified need more cost-effectively, as defined in subsection f, than the Infrastructure Resource Facility, the applicant must engage in a transparent, open solicitation for resources that can meet or defer that portion of the need, as well as any additional portions of identified need. Any requests for proposals shall be reviewed by the Department in consultation with DOER, the Energy Efficiency Advisory Council, and the Grid Modernization Consumer Board. The applicant's selection of resources for contracting shall be carried out in consultation with DOER, and any contracts shall be reviewed and approved by the Department.

(e) If during the review of contracts by the Department, it is determined that an Infrastructure Resource Facility will meet the identified need more cost-effectively, as defined in subsection f, than the Local Energy Resource Alternative(s), such finding shall serve as prima

facie evidence of the Infrastructure Resource Facility being the "lowest possible cost" for the Board's determination under Section 69J.

(f) Within three months of enactment of this section, the Department of Energy Resources shall develop, in consultation with the Energy Efficiency Advisory Council, a framework for benefit-cost analysis to be applied to evaluations of Infrastructure Resource Facilities and Local Energy Resource Alternatives, as a determinant of cost-effectiveness. The Total Resource Cost test utilized in the Energy Efficiency programs shall be appropriately modified to account for the value of reliability and other site-specific costs, benefits and risks appropriate to consideration of Local Energy Resource Alternatives. Categories of costs and benefits may include: ratepayer benefits; reasonably foreseeable environmental and public health compliance costs; line losses; local reliability; market price suppression effects for energy and capacity; fuel price risks; avoided transmission and distribution investments; electric generation supply costs and reductions; capacity market costs and reductions; ancillary services costs and reductions; transmission costs and reductions; distribution system costs and reductions; outage costs and reductions for electric customers; renewable energy certificate costs; fuel costs; demand-reduction induced price effects; and other costs and benefits of switching to electricity-based end uses. No later than six months after enactment of this section, such framework shall be considered by the Board in creating regulations regarding the Board's process and criteria for determining cost-effectiveness and issuing a Determination of Wires.

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

(h) If the Board determines that one or more local energy resources alternative(s) can sufficiently address or defer the identified need at greater overall economic benefit to ratepayers across the region than the Infrastructure Resource Facility, but at a higher cost to ratepayers in the Commonwealth, the Board shall make reasonable efforts to achieve within 180 days an agreement among the states within the ISO-NE region to allocate the cost of the local energy resource alternative(s) among the ratepayers of the region using the allocation method used for regional transmission lines or a different allocation method that results in lower costs than the proposed Infrastructure Resource Facility to the ratepayers of the Commonwealth.

SECTION 109: Section 69J of chapter 164 of the General Laws, as appearing in the 2016 Official Edition, is hereby amended by striking the third paragraph and inserting in place thereof the following paragraph:

A petition to construct a facility shall include, in such form and detail as the board shall from time to time prescribe, the following information: (1) a description of the facility, site and surrounding areas; (2) an analysis of the need for the facility, either within or outside, or both within and outside the commonwealth; (3) a description of the alternatives to the facility, such as other methods of transmitting or storing energy, other site locations, other sources of electrical power or gas, or a reduction of requirements through load management; (4) any applicable Determination of Wires; and (5) a description of the environmental impacts of the facility, including impacts on greenhouse gas emissions. The board shall be empowered to issue and revise filing guidelines after public notice and a period for comment. A minimum of data shall be required by these guidelines from the applicant for review concerning land use impact, water resource impact, air quality impact, solid waste impact, radiation impact and noise impact.

SECTION 110: Chapter 164 of the General Laws is hereby amended by inserting the following section:

Section 94K:

(a) In this section, unless the context clearly requires otherwise, “residential fixed charge” shall mean any recurring fixed fee charged to residential electric customers distinct from charges based on meter readings for each billing period, including, but not limited to, a fixed charge for distribution service, a distribution customer service charge, or a customer charge.

(b) In a proceeding pursuant to section 94 with respect to an investigation of the rates, prices, and charges of a distribution company, the Department may not approve a residential fixed charge higher than the investment costs and operation and maintenance expenses directly related to the sum of 1) cost of connection, not including the cost of advanced metering used to provide energy services; 2) billing; and 3) the provision of customer service.

SECTION 111: Section 1B of Chapter 164 of the General Laws is amended by inserting after subsection (f), as appearing in the 2016 Official Edition, the following section:

(g)(1) Beginning on January 1, 2019, each distribution company shall offer to residential and small commercial and industrial customers a default service option for a time of use rate designed to reflect the cost of providing electricity at different times of the day. Each distribution company shall provide each default service customer, not less than once per year, a summary of available rate options with a calculation of expected bill impacts under each. Should a customer opt into a time of use rate, the distribution company shall install all necessary equipment within 60 days of request. Any residential customer choosing for the first time a time of use rate shall be provided with no less than one year of bill protection, during which the total

amount paid by the customer for electric service shall not exceed the amount that would have been payable by the customer under that customer's previous rate schedule. A customer may choose a different rate schedule after one year.

(2) If the Department approves default service rates that include time-varying pricing on an opt-out basis, the opt-in time of use rate structure may be discontinued, but each distribution company must offer a time-varying default service rate to all residential and all small commercial and industrial customers at all times. In considering an opt-out time-varying rate structure, the Department must consider the impacts of such a structure on low-income and vulnerable consumers and take appropriate mitigating actions, including the consideration of continuing low-income discount and other selected categories of customers on non-time-varying rate structures, and allowing these categories of customers to opt into time-varying rates.

(3) The Department is hereby authorized and directed to promulgate rules and regulations necessary to carry out the provisions of this subsection, including, but not limited to, (i) the procedure for procurement of time-varying default service offerings and (ii) separately accounting for the reconciliation of expenses for time-varying default service procurement from customers on time-varying default service.

SECTION 112. Section 16 of chapter 298 of the acts of 2008 is hereby amended by striking out, in lines 3 and 4, the words ", and shall expire on December 31, 2020.

SECTION 113. The executive office of energy and environmental affairs shall develop a pilot program for solar and renewable energy mobility systems.

Nonexclusive access to rights-of-way may be granted to solar and renewable energy mobility system network providers if the networks: (i) are privately-funded construction; (ii) are

privately operated without government subsidies; (iii) exceed 120 passenger miles per gallon or equivalent energy efficiency; (iv) exceed safety performance of transportation modes already approved for use; and (v) gather more than 2 megawatt-hours of renewable energy per network mile per typical day.

The executive office of energy and environmental affairs shall promulgate regulations for solar and renewable energy mobility system networks based on the following criteria: (i) system design, fabrication, installation, safety, insurance and inspection practices consistent with the American Society for Testing and Materials International Committee F24 on Amusement Rides and Devices; (ii) environmental approvals which shall be granted based on a ratio of energy consumed per passenger mile of the innovation versus transport modes approved to operate in the rights-of-way; and (iii) provided, however, that taxes and fees assessed on solar and renewable energy mobility system network providers, passengers and cargo shall be limited to 5 per cent of the gross revenues and shall be paid to the aggregate rights-of-way holders by the solar or renewable energy system network provider.

SECTION 114. The General Laws are hereby amended by inserting after chapter 21O the following chapter:-

CHAPTER 21P.

COMPREHENSIVE ADAPTATION MANAGEMENT PLAN TO ADDRESS CLIMATE CHANGE.

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

"Adaptation", a response and process of adjustment to actual or expected climate change and its effects that seeks to increase the resiliency and reduce the vulnerability of the commonwealth's built and natural environments and seeks to moderate or avoid harm or exploit beneficial opportunities to reduce the safety and health risks that vulnerable human populations and resources may encounter due to climate change.

"Executive office", the executive office of energy and environmental affairs.

"Hazard mitigation", an effort using nonstructural measures to reduce loss of life and property by lessening the impacts of major storms.

"Plan", the comprehensive adaptation management plan to address climate change and any revised plans developed pursuant to this chapter.

"Public utility company", shall have the same meaning as defined in the second paragraph of subsection (j) of section 5 of chapter 21E.

"Resilience", the ability to respond and adapt to changing conditions and withstand and rapidly recover with minimal damage from disruption due to climate-related events and impacts that may include, but shall not be limited to, shoreline improvement, seawall maintenance and expansion, infrastructure improvement and innovative building design and construction.

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

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

Section 2. (a) The secretary of energy and environmental affairs and the secretary of public safety and security, in consultation with appropriate secretariats as determined by the governor, shall develop, draft and adopt a comprehensive adaptation management plan to address climate change. The plan shall be revised at least once every 5 years. The plan shall be developed and revised with guidance from the comprehensive adaptation management plan advisory commission established in section 3.

The plan shall include policies to encourage and provide guidance to state agencies, state authorities, municipalities and regional planning agencies to proactively address the impacts of climate change. The plan shall also provide a process for local and regional climate vulnerability assessment and adaptation strategy development and implementation and may encourage and provide guidance to municipalities on how to proactively address the impacts of climate change.

Upon the adoption of the plan, all certificates, licenses, permits, authorizations, grants, financial obligations, projects, actions and approvals issued thereafter by a state agency or state

authority shall be consistent, to the maximum extent practicable, with the plan. A copy of the plan and any revisions thereof shall be filed with clerks of the senate and house of representatives.

(b) The plan shall include, but not be limited to: (i) a statement setting forth the commonwealth's goals, expected outcomes and a path for achieving results and priorities and principles for ensuring effective prioritization for the resiliency, preservation, protection, restoration and enhancement of the commonwealth's built and natural infrastructure; (ii) a commitment to sound management practices that takes into account the existing natural, built and economic characteristics of the commonwealth's most vulnerable areas and human populations; (iii) data on existing and projected climate trends that is based on the latest data, forecasting and models regarding climate change indicators and trends that shall include, but not limited to, extreme weather events, changes for temperature, precipitation, drought, sea level, inland and coastal flooding and wildfire; (iv) a statement on the preparedness and vulnerabilities in the commonwealth's emergency response and infrastructure resiliency that shall include, but not be limited to, energy, transportation, communications, health and other systems; (v) an assessment of economic vulnerability that shall include, but not limited to, an assessment of local businesses in high-risk communities; (vi) an assessment of natural resources and ecosystems that identifies vulnerabilities and strategies to preserve, protect, restore and enhance the natural resources and ecosystems; (vii) approaches for the commonwealth to increase the resiliency of government operations; and (viii) policies and strategies for ensuring that adaptation and resiliency efforts complement efforts to reduce greenhouse gas emissions and contribute towards the commonwealth's ability to meet the statewide emission limits established pursuant to chapter 21N.

Section 3. (a) There shall be a comprehensive adaptation management plan advisory commission to assist the secretary of energy and environmental affairs and the secretary of public safety and security in developing the plan under section 2. The commission shall consist of: the secretary of energy and environmental affairs or a designee; the secretary of public safety and security or a designee; 1 member to be appointed by the president of the University of Massachusetts who shall be employed by the university and have expertise in climate science and 19 persons to be appointed jointly by the secretary of energy and environmental affairs and the secretary of public safety and security, 1 of whom shall be an employee at the Massachusetts emergency management agency, 1 of whom shall have expertise in transportation and built infrastructure, 1 of whom shall have expertise in commercial, industrial and manufacturing activities, 1 of whom shall have expertise in commercial and residential property management and real estate, 1 of whom shall have expertise in energy generation and distribution, 1 of whom shall have expertise in wildlife and land conservation, 1 of whom shall have expertise in water supply and conservation, 1 of whom shall have expertise in the outdoor recreation economy, 1 of whom shall have expertise in economic and environmental justice, 1 of whom shall have expertise in ecosystem dynamics, 1 of whom shall have expertise in coastal zones and oceans, 1 of whom shall have expertise in rivers and wetlands, 1 of whom shall be a professional engineer, 1 of whom shall be from a statewide nonprofit land and water conservation organization; 1 of whom shall have expertise in historic and cultural resources, 1 of whom shall be a property owner in a coastal community, 1 of whom shall have expertise in small business administration, 1 of whom shall be a certified floodplain manager and 1 of whom shall have expertise in local government. The secretary of energy and environmental affairs and the secretary of public safety and security shall jointly designate 1 commission member to serve as chair.

(b) The advisory commission shall prepare a report that:

(i) identifies: (A) how the secretary of energy and environmental affairs can support existing adaptation, resilience and hazard mitigation efforts of state agencies, such as the StormSmart Coasts program in the office of coastal zone management, the coastal erosion commission report, BioMap2 at the department of fish and game and vulnerability studies being conducted by state agencies; (B) new actions that may be implemented immediately using existing state agency legal authority, state resources and funding based upon the recommendations included in the climate change impact report prepared pursuant to section 9 of chapter 298 of the acts of 2008 and existing climate change plans prepared by regional planning agencies and municipalities; (C) unilateral actions that may be taken by the executive branch to increase climate adaptation, resilience and hazard mitigation which shall include, but not be limited to, executive orders and policy directives issued by the governor or policies, regulations and guidance issued by the secretary of energy and environmental affairs; (D) recommendations of new climate resilience and adaptation actions that require legislative approval, state resources or funding, including identification of funds to leverage opportunities through public and private partnerships; and (E) the cost of climate adaptation management within the 5-year term of the plan based upon the adaptation actions recommended in the report, existing climate adaptation plans, including those prepared by regional planning councils and municipalities, and state agency cost assessments outlined in section 4; and

(ii) provides information relative to the risks associated with climate change, both means and extremes, including, but not limited to, the risks associated with changes in temperature, drought, increased precipitation and coastal and inland flooding identified in the report of the

advisory committee on flood risks created by climate change established in section 39 of chapter 52 of the acts of 2014.

The advisory commission shall submit revisions or amendments to the report as necessary.

Section 4. Each state agency, state authority and public utility company as designated by the secretary of environmental affairs and the secretary of public safety and security shall, in consultation with the executive office and at least once every 5 years, develop and update a vulnerability and adaptation assessment for the portfolio of assets of the state agency, state authority or public utility company. The vulnerability assessment shall be based on the relevant scientific data and information collected by the comprehensive adaptation management plan advisory commission pursuant to section 3.

The vulnerability assessments shall classify the economic losses over time associated with each major asset for the relevant climate risks as unacceptable, noncritical or immaterial; provided, however, that such climate risks shall include, but not be limited to, coastal and inland flooding and extreme heat. For assets exposed to unacceptable losses, the vulnerability assessment shall include order-of-magnitude cost-estimates for: (i) measures to protect the assets; (ii) measures to make the assets resilient; and (iii) removal and relocation of the assets from exposed areas. Estimates shall also be prepared for the economic, social and environmental damages if adaptation actions are not taken. Qualitative cost-benefit discussions of projected social impacts of flood prevention versus flood resilience shall also be included in the vulnerability assessment.

Section 5. The secretary of energy and environmental affairs and the secretary of public safety and security shall, not less than 6 months before establishing the plan pursuant to this chapter, provide for public access to the draft plan in electronic and printed copy form and shall provide for a public comment period that shall include at least 5 public hearings across the commonwealth. The secretary of energy and environmental affairs and the secretary of public safety and security shall publish notice of a public hearing in the Environmental Monitor not less than 30 days but not more than 35 days before the date of a hearing. Notice of a public hearing shall also be published at least once a week for the 4 consecutive weeks preceding a public hearing in newspapers of general circulation serving the municipality in which the hearing shall be held. The public comment period shall remain open for not less than 60 days from the date of the final public hearing. After the close of the public comment period, the secretary of energy and environmental affairs and the secretary of public safety and security shall issue a final plan. The plan, together with legislation necessary to implement the plan, if any, shall be filed with the clerks of the senate and house of representatives.

Section 6. The plan shall be consistent with this chapter and any other relevant general and special laws. Nothing in the plan shall be construed to supersede existing general or special laws or to confer any rights or adversely impact existing rights or remedies in addition to those conferred by general or special laws existing on the effective date of this chapter.

Section 7. The secretary of energy and environmental affairs shall develop and support a comprehensive adaptation management plan grant program. The program shall consist of: (i) financial assistance to municipalities for the development and implementation of comprehensive cost-effective adaptation management plans; (ii) technical planning guidance for adaptive municipalities through climate vulnerability assessments and adaptation strategy development;

and (iii) development of a definition of impacts by supporting municipalities conducting climate vulnerability assessments. The grants shall be used to advance efforts to adapt land use, zoning, infrastructure, policies and programs to reduce the vulnerability of the built and natural environment to changing environmental conditions that are a result of climate change. The secretary of energy and environmental affairs shall develop and implement an outreach and education program about climate change and its effects in low-income and urban areas. The department of energy resources may make available monies from amounts collected by the Department of Energy Resources Credit Trust Fund established in section 13 of chapter 25A for the grant program.

Comprehensive adaptation management plans shall include, but not be limited to: (i) a climate vulnerability assessment and adaptation strategy development; (ii) a demonstrated understanding of municipal characteristics, including environmental and socioeconomic characteristics; and (iii) prioritization of protecting identified inland and coastal vulnerable locations not yet built upon.

Section 8. The executive office, in consultation with the division of capital asset management and maintenance, may acquire, by purchase from willing sellers and for conservation and recreation purposes, land that abuts or is adjacent to areas that are subject to the ebb and flow of the tide or on barrier beaches or in velocity zones of flood plain areas and on which structures have been substantially and repeatedly damaged by severe weather, including those areas that have been rejected by the Pre-Disaster Mitigation Grant Program and the Hazard Mitigation Grant Program administered by the Federal Emergency Management Agency.

Prior to the acquisition of land under this section, the executive office shall, after consultation with the municipality in which the land is located, develop a conservation and recreation management plan and a coastal erosion mitigation and management plan for the land. The plan shall set forth the priority, description and location of lands to be acquired and any land management agreement reached between the agency and municipality that provides for local responsibility to carry out the development and management of the property. Land acquired pursuant to this section shall contain a deed restriction stating that the land shall be used for conservation and recreation purposes only.

Land shall not be acquired under this section until after a public hearing to consider the management plan has been held by the executive office in the municipality in which the land is located. The executive office shall notify the mayor or city manager and city council or board of alderman in a city or the board of selectmen, planning board and conservation commission, if any, of a town not later than 10 days before such a hearing.

If the executive office deems it necessary to make appraisals, surveys, soundings, borings, test pits or other related examinations to obtain information to carry out this section, the executive office or its authorized agent or employee may, after due notice by registered mail, enter upon lands, water and premises, not including buildings, to make such an appraisal, survey, sounding, boring, test pit or other related examination and the entry shall not be a trespass. The executive office shall provide reimbursement for any injury or actual damages resulting to the land, water or premises caused by an act of the executive office or its authorized agent or employee and shall, so far as possible, restore the land, water or premises to its condition prior to the appraisal, survey, sounding, boring, test pit or other related examination.

Section 9. (a) The executive office, acting for and on behalf of the commonwealth, may lease to a municipality or nonprofit organization certain property acquired by the commonwealth pursuant to section 8 or by the Federal Emergency Management Agency under 42 U.S.C. § 4001, et seq for use as conservation and recreation areas. The lease shall be for not more than 25 years.

A lease shall be in such form and contain such provisions as the secretary of energy and environmental affairs, in consultation with the division of capital asset management and maintenance, shall determine, including terms and conditions necessary to comply with laws relative to the protection of barrier beaches; provided, however, that the form shall be approved by the attorney general. A lease shall include express conditions that the land shall be used for conservation and recreation purposes only and that permanent structures shall not be erected on the land and a reversionary clause that requires the lease to be terminated if the leased land is used in violation of a law relative to barrier beaches or a condition of the lease.

(b) In consideration for the granting of a lease authorized in subsection (a), the lessee municipality or nonprofit organization shall agree to maintain the acquired land as a clean, safe and orderly conservation or recreation area.

SECTION 115. Funds shall be expended from item 2000-7070 of section 2A of chapter 286 of the acts of 2014 for the comprehensive adaptation management plan grant program established in section 7 of chapter 21P of the General Laws.

SECTION 116. Not later than 180 days after the effective date of this act, the commissioner of environmental protection shall promulgate rules regulating the dredging, filling or altering of land subject to coastal storm flowage pursuant to section 40 of chapter 131 of the General Laws.

SECTION 117. The comprehensive adaptation management plan advisory commission shall complete the report required by subsection (b) of section 3 of chapter 21P of the General Laws not later than January 1, 2019.

SECTION 118. For the purposes of section one hundred and nineteen to one hundred twenty three, the following words shall, unless the context clearly requires otherwise, have the following meanings:—

"Board", the pension reserves investment management board established in section 23 of chapter 32 of the General Laws.

"Company", a sole proprietorship, organization, association, corporation, partnership, joint venture, limited partnership, limited liability partnership, limited liability company or other entity or business association, including all wholly-owned subsidiaries, majority-owned subsidiaries, parent companies or affiliates of such entities or business associations that exist for profit-making purposes.

"Direct holdings", all securities of a company held directly by the public fund or in an account or fund in which the public fund owns all shares or interests.

"Fossil fuel company", a company identified by a Global Industry Classification System code in one of the following sectors: (1) coal and consumable fuels; (2) integrated oil and gas; (3) oil and gas exploration and production.

"Indirect holdings", all securities of a company held in an account or fund, such as a mutual fund, managed by 1 or more persons not employed by the public fund, in which the public fund owns shares or interests together with other investors not subject to this act.

"Public fund", the Pension Reserves Investment Trust or the Pension Reserves Investment Management Board charged with managing the pooled investment fund consisting of the assets of the State Employees' and Teachers' Retirement Systems as well as the assets of local retirement systems under the control of the board.

SECTION 119. Notwithstanding any general or special law to the contrary, within 30 days of the effective date of this act, the public fund shall facilitate the identification of all fossil fuel companies in which the fund owns direct or indirect holdings.

SECTION 120. Notwithstanding any general or special law to the contrary, the public fund shall take the following actions in relation to fossil fuel companies in which the fund owns direct or indirect holdings.

(a) The public fund shall sell, redeem, divest or withdraw all publicly-traded securities of each company identified in section 119 according to the following schedule: (i) at least 20 per cent of such assets shall be removed from the public fund's assets under management within 1 year of the effective date of this act; (ii) 40 per cent of such assets shall be removed from the public fund's assets under management within 2 years of the effective date of this act; (iii) 60 per cent of such assets shall be removed from the public fund's assets under management within 3 years of the effective date of this act; (iv) 80 per cent of such assets shall be removed from the public fund's assets under management within 4 years of the effective date of this act and (v) 100 per cent of such assets shall be removed from the public fund's assets under management within 5 years of the effective date of this act.

(b) At no time shall the public fund acquire new assets or securities of fossil fuel companies.

(c) Notwithstanding anything in this act to the contrary, subsections (a) and (b) shall not apply to indirect holdings in actively managed investment funds; provided, however, that the public fund shall submit letters to the managers of such investment funds containing fossil fuel companies requesting that they consider removing such companies from the investment fund or create a similar actively managed fund with indirect holdings devoid of such companies. If the manager creates a similar fund, the public fund shall replace all applicable investments with investments in the similar fund in an expedited timeframe consistent with prudent investing standards. For the purposes of this section, private equity funds shall be deemed to be actively managed investment funds.

SECTION 121. Notwithstanding any general or special law to the contrary, with respect to actions taken in compliance with this act, the public fund shall be exempt from any conflicting statutory or common law obligations, including any such obligations with respect to choice of asset managers, investment funds or investments for the public fund's securities portfolios and all good faith determinations regarding companies as required by this act.

SECTION 122. Notwithstanding any general or special law to the contrary, the public fund shall be permitted to cease divesting from companies under subsection (a) of section 120, reinvest in companies from which it divested under said subsection (a) of said section 120 or continue to invest in companies from which it has not yet divested upon clear and convincing evidence showing that the total and aggregate value of all assets under management by, or on behalf of, the public fund becomes: (i) equal to or less than 99.5 per cent; or (ii) 100 per cent less 50 basis points of the net value of all assets under management by, or on behalf of, the public fund in the previous year as a direct result of divestment. Cessation of divestment, reinvestment

or any subsequent ongoing investment authorized by this section shall be strictly limited to the minimum steps necessary to avoid the contingency set forth in the preceding sentence.

For any cessation of divestment, and in advance of such cessation, authorized by this subsection, the public fund shall provide a written report to the attorney general, the senate and house committees on ways and means and the joint committee on public service, updated semi-annually thereafter as applicable, setting forth the reasons and justification, supported by clear and convincing evidence, for its decisions to cease divestment, to reinvest or to remain invested in fossil fuel companies.

SECTION 123. The public fund shall file a copy of the list of fossil fuel companies in which the fund owns direct or indirect interests with the clerks of the senate and the house of representatives and the attorney general within 30 days after the list is created. Annually thereafter, the public fund shall file a report with the clerks of the senate and the house of representatives and the attorney general that includes: (1) all investments sold, redeemed, divested or withdrawn in compliance with subsection (a) of section 120 and (2) all prohibited investments from which the public fund has not yet divested under subsection (a) of said section 120.

SECTION 124. The General Laws are hereby amended by inserting after chapter 21A the following chapter:-

CHAPTER 21A½.

THE MASSACHUSETTS GREEN ENERGY DEVELOPMENT BANK.

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

“Bank”, the Massachusetts Green Energy Development Bank established pursuant to section 2.

“Board”, the Massachusetts Green Energy Finance Board established pursuant to section 3.

“Bonds” or “notes”, such bonds and notes as are issued by the bank pursuant to this chapter.

“Energy improvements”, any renovation or retrofitting of commercial real property to reduce energy consumption or installation of a renewable energy system to service commercial real property.

“Energy technologies”, all methods used to produce, distribute, conserve and store energy or otherwise improve the efficiency of energy utilization, which emphasize renewable energy sources, including, but not limited to, solar, wind, bioconversion and solid waste, and which aim to preserve and protect the environment and public health and safety.

Section 2. (a) There is hereby created a body politic and corporate to be known as the Massachusetts Green Energy Development Bank. The bank is hereby constituted a public instrumentality and the exercise by the bank of the powers conferred by this chapter shall be considered to be the performance of an essential governmental function.

The bank is hereby placed in the executive office of the governor but shall not be subject to the supervision or control of said office, or of any board, bureau, department or other center of the commonwealth, except as specifically provided in this chapter.

(b) The bank shall be governed by the board and shall continue as long as it shall have bonds or notes or guarantee commitments outstanding and until its existence is terminated by law. Upon the termination of the existence of the bank, all right, title and interest in and to all of its assets and all of its obligations, duties, covenants, agreements and obligations shall vest in and be possessed, performed and assumed by the commonwealth.

(c) It shall be the duty and purpose of the bank to: (1) evaluate and coordinate financing for energy improvements and energy technologies throughout the commonwealth; (2) provide loans, loan guarantees, debt securitization, insurance, portfolio insurance, and other forms of financing support or risk management to qualified energy improvements and energy technologies; (3) facilitate the financing of long-term energy improvement and energy technology purchasing by governmental and non-governmental not-for-profit entities; (4) foster the development and consistent application of transparent underwriting standards, standard contractual terms, and measurement and verification protocols for qualified energy improvements and energy technologies; (5) promote and facilitate the financing of energy improvements and energy technologies in the commonwealth that will abate climate change by increasing zero or low carbon electricity generation and transportation capabilities; (6) ease the economic effects of transitioning from a carbon-based economy to a clean energy economy; (7) facilitate job creation through the construction and operation of energy improvement and energy technology; and (8) work to eliminate the use of fossil fuels and carbon emitting fuels throughout the commonwealth.

Section 3. (b) The bank shall be governed and its corporate powers exercised by a board of directors known as the Massachusetts Green Energy Finance Board. The board shall consist of 7 members appointed by the governor for a term of 4 years, 1 of whom shall be the commissioner of banks, who shall serve ex officio, 1 of whom shall be the secretary of energy and environmental affairs, who shall serve ex officio, 1 of whom shall be the executive director of the Massachusetts clean energy technology center, 2 of whom shall be experienced in the field of public or private finance and management, and 2 of whom shall be engineers with at least 10 years' experience in the field of renewable energy or energy efficiency. The members shall annually elect a chairperson and vice-chairperson of the board. Each director shall serve without compensation but may be reimbursed for actual and necessary expenses reasonably incurred in the performance of their duties, including reimbursement for reasonable travel; provided, however, that such reimbursement shall not exceed $3000 annually. Any person appointed to fill a vacancy in the office of a member of the board shall be appointed in a like manner and shall serve for only the unexpired term of such former member. Any director shall be eligible for reappointment. Any director may be removed from his appointment by the governor for cause.

(c) A majority of directors shall constitute a quorum and the affirmative vote of a majority of directors present at a duly called meeting, if a quorum is present, shall be necessary for any action to be taken by the board. Any action required or permitted to be taken at a meeting of the directors may be taken without a meeting if all of the directors consent in writing to such action and such written consent is filed with the records of the minutes of the meetings of the board. Such consent shall be treated for all purposes as a vote at a meeting. Each director shall make full disclosure, under subsection (d), of his financial interest, if any, in matters before the board by notifying the state ethics commission, in writing, and shall abstain from voting on any

matter before the board in which he has a financial interest, unless otherwise permissible under chapter 268A.

(d) Chapters 268A and 268B shall apply to all ex-officio directors and employees of the bank. Said chapters 268A and 268B shall apply to all other directors, except that the bank may purchase from, sell to, borrow from, loan to, contract with or otherwise deal with any person in which any director of the bank is in any way interested or involved; provided, however, that such interest or involvement is disclosed in advance to the members of the board and recorded in the minutes of the board; and provided, further, that no director having such an interest or involvement may participate in any decision of the board relating to such person. Employment by the commonwealth or service in any agency thereof shall not be deemed to be such an interest or involvement.

(e) The board shall have the power to appoint and employ an executive director who shall be the chief executive, administrative and operational officer of the bank and shall direct and supervise the administrative affairs and the general management of the bank. The executive director shall appoint and employ a chief financial and accounting officer and may, subject to the general supervision of the board, employ other employees, consultants, agents, including legal counsel and advisors, and shall attend meetings of the board. No funds shall be loaned, transferred or otherwise dispersed by the bank without the approval of the board and the signatures of the chief financial and accounting officer of the bank.

(f) The board shall bi-annually elect 1 of its members as treasurer and 1 of its members as secretary. The secretary of the board shall keep a record of the proceedings of the board and shall be custodian of all books, documents, and papers filed by the board and of its minute book and

seal. The secretary of the board shall cause copies to be made of all minutes and other records and documents of the bank and shall certify that such copies are true copies, and all persons dealing with the bank may rely upon such certification.

(g) All officers and employees of the bank having access to its cash or negotiable securities shall give bond to the bank at its expense in such amounts and with such surety as the board may prescribe. The persons required to give bond may be included in 1 or more blanket or scheduled bonds.

(h) Board members and officers who are not compensated employees of the bank shall not be liable to the commonwealth, to the bank or to any other person as a result of their activities, whether ministerial or discretionary, as such board members or officers except for willful dishonesty or intentional violations of law. Neither members of the board nor any person executing bonds or policies of insurance shall be liable personally thereon or be subject to any personal liability or accountability by reason of the issuance thereof. The board may purchase liability insurance for board members, officers and employees of the bank and may indemnify such persons against claims of others.

(k) The board shall adopt a written policy providing for the delegation in writing of any of its powers and duties.

Section 4. The bank shall have all powers necessary or convenient to carry out and effectuate its purposes including, without limiting the generality of the foregoing, the power to:

(1) adopt and amend by-laws, regulations and procedures for the governance of its affairs and the conduct of its business for the administration and enforcement of this chapter; provided, however, that regulations adopted by the bank shall be adopted pursuant to chapter 30A;

(2) exercise any powers necessary for the commonwealth to be in compliance federal law;

(3) maintain offices at places within the commonwealth as it may determine and to conduct meetings of the bank in accordance with its by-laws;

(4) promote economy and efficiency and to leverage federal funding and private sector investment;

(5) develop and administer a long-term energy improvement and energy technology plan for the commonwealth;

(6) establish criteria and establish procedures for project selection for use in selecting qualifying energy improvements and energy technologies to receive funds pursuant to section 5;

(7) enter into agreements and transactions with federal, state and municipal agencies and other public institutions and private individuals, partnerships, firms, corporations, associations and other entities on behalf of the bank;

(8) institute and administer separate accounts and funds for the purposes of making allocations, grants or loans to qualifying energy improvements and energy technologies to receive funds pursuant to section 5;

(9) sue and be sued in its own name, plead and be impleaded; and

(10) issue bonds, notes and other evidences of indebtedness as provided in this chapter.

Section 5. (a) The bank may set up and maintain such separate funds and accounts as are necessary to provide and direct funding to qualifying energy improvements or energy

technologies. Such funds or accounts shall be credited with any appropriations authorized by the general court, bond or note proceeds, grants, gifts, donations, bequests or other monies received in accordance with the law. The bank may make loans from such funds or accounts, in accordance with the terms of subsection (c).

(b) The bank may issue and sell bonds or notes of the bank for the purpose of providing funds to finance qualifying energy improvements or energy technologies. Any bond or note issued under this section: (1) shall constitute the corporate obligation of the bank; (2) shall not constitute a debt of the commonwealth within the meaning or application of the constitution of the commonwealth; and (3) shall be payable solely as to both principal and interest from (i) the proceeds of bonds or notes, if any; (ii) investment earnings on the proceeds of bonds or notes; or (iii) other funds available to the bank for such purpose.

(c) The board shall develop a comprehensive application process by which persons may submit plans for energy improvements or energy technologies for review and approval by the bank. An approved energy improvement or energy technology plan shall be considered a qualifying plan. The bank shall enter into funding agreements with the proponents of such qualifying plans which shall detail the terms of a disbursement of funds from the bank for the plan and specific terms for the repayment or recoupment of funds.

Section 6. The board may issue rules and regulations as necessary to implement this chapter.

SECTION 125. Section 26A of chapter 21 of the General Laws, as appearing in the 2014 Official Edition, is hereby amended by inserting after the word “effluent”, in line 67, the following words:- , hydraulic fracturing fluid.

SECTION 126. Section 27 of said chapter 21, as so appearing, is hereby amended by adding the following clause:-

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

SECTION 127. Section 42 of said chapter 21, as so appearing, is hereby amended by inserting after the word “commonwealth”, in line 3, the following words:- ,or into an injection well or into a treatment works in the commonwealth.

SECTION 128. (a) As used in this section, the following words shall have the following meanings unless the context clearly requires otherwise:-

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

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

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

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

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

(b) For the period from January 1, 2019 to December 31, 2028, inclusive, a person shall not engage in hydraulic fracturing.

(c) For the period from January 1, 2019 to December 31, 2028, inclusive, a person shall not collect, store, treat or dispose of wastewater hydraulic fracturing fluid, wastewater solids, drill cuttings or other byproducts from hydraulic fracturing.