

**SENATE . . . . . No. 2105****The Commonwealth of Massachusetts**

PRESENTED BY:

***Cynthia Stone Creem****To the Honorable Senate and House of Representatives of the Commonwealth of Massachusetts in General Court assembled:*

The undersigned legislators and/or citizens respectfully petition for the adoption of the accompanying bill:

An Act relative to the future of clean heat in the Commonwealth.

PETITION OF:

NAME:	DISTRICT/ADDRESS:	
<i>Cynthia Stone Creem</i>	<i>Norfolk and Middlesex</i>	
<i>Steven Owens</i>	<i>29th Middlesex</i>	<i>1/25/2023</i>
<i>Vanna Howard</i>	<i>17th Middlesex</i>	<i>1/31/2023</i>
<i>James K. Hawkins</i>	<i>2nd Bristol</i>	<i>2/8/2023</i>
<i>James B. Eldridge</i>	<i>Middlesex and Worcester</i>	<i>3/5/2023</i>
<i>Jack Patrick Lewis</i>	<i>7th Middlesex</i>	<i>3/8/2023</i>
<i>Lydia Edwards</i>	<i>Third Suffolk</i>	<i>3/16/2023</i>
<i>Marc R. Pacheco</i>	<i>Third Bristol and Plymouth</i>	<i>4/12/2023</i>
<i>Edward J. Kennedy</i>	<i>First Middlesex</i>	<i>4/24/2023</i>
<i>Joanne M. Comerford</i>	<i>Hampshire, Franklin and Worcester</i>	<i>4/25/2023</i>
<i>Jason M. Lewis</i>	<i>Fifth Middlesex</i>	<i>5/1/2023</i>
<i>Brendan P. Crighton</i>	<i>Third Essex</i>	<i>9/15/2023</i>
<i>Joan B. Lovely</i>	<i>Second Essex</i>	<i>12/12/2023</i>
<i>Pavel M. Payano</i>	<i>First Essex</i>	<i>1/5/2024</i>

# SENATE . . . . . No. 2105

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By Ms. Creem, a petition (accompanied by bill, Senate, No. 2105) of Cynthia Stone Creem, Steven Owens, Vanna Howard, James K. Hawkins and other members of the General Court for legislation relative to the future of heat in the Commonwealth. Telecommunications, Utilities and Energy.

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[SIMILAR MATTER FILED IN PREVIOUS SESSION  
SEE SENATE, NO. 2148 OF 2021-2022.]

## The Commonwealth of Massachusetts

\_\_\_\_\_  
In the One Hundred and Ninety-Third General Court  
(2023-2024)  
\_\_\_\_\_

An Act relative to the future of clean heat in the Commonwealth.

*Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:*

1           SECTION 1. Chapter 23J of the General Laws, as amended by chapter 179 of the acts of  
2   2022, is hereby amended by inserting after section 9 the following section:-

3           Section 9A. (a) There is hereby established and placed within the center a separate fund  
4   to be known as the thermal transition trust fund. The center shall hold the thermal transition fund  
5   in an account or accounts separate from other funds. There shall be credited to the thermal  
6   transition fund; (i) revenues collected pursuant to section 20(b) of chapter 25, and (ii) any other  
7   funds directed to the thermal transition trust fund. All amounts credited to the thermal transition  
8   trust fund shall be held in trust and used solely for activities and expenditures consistent with the  
9   permitted purposes of the thermal transition trust fund as set forth in subsection (b), including the

ordinary and necessary expenses of administration and operation associated with the thermal transition trust fund. Unless otherwise specified, all monies of the thermal transition trust fund, from whatever source derived, shall be paid to the treasurer of the center. Such monies shall be deposited, in the first instance, by the treasurer in national banks, in trust companies, savings banks and cooperative banks chartered under the laws of the commonwealth, or in other banking companies in compliance with section 34 of chapter 29. Funds in these accounts shall be paid out on the warrant or other order of the treasurer of the center and the director of the thermal transition trust fund or other person that the board may authorize to execute warrants. Any unexpended balance in the thermal transition trust fund at the close of a fiscal year shall remain in the thermal transition trust fund and shall be available for expenditure in the following fiscal year; provided however, that the thermal transition trust fund shall not be in deficit at the end of any state fiscal year.

(b) The center may make expenditures from the thermal transition trust fund for the following purposes, giving priority to low- and- moderate-income customers:

(i) to replace any gas appliance with an electric appliance including but not limited to an electric heat pump, to upgrade electric service as needed and to mitigate any pre-weatherization barrier as needed in the building to enable a customer to connect to a non-emitting renewable thermal infrastructure project as provided in section 145A of chapter 164 or to other non-combusting sources of thermal energy. The Massachusetts clean energy technology center shall be responsible to determine the maximum cost per appliance, to ensure any necessary upgrade of an electric service, to ensure any necessary mitigation of any pre-weatherization barrier, to ensure the installation of such electric appliances, and to ensure that the building has been insulated pursuant to the energy efficiency program established by section 19 of chapter 25. Any

remaining cost not covered for such work shall be attached to the meter to be paid off by savings over time on the customer's energy bill, with the amount of such bill maintained at the same level as for the calendar year previous to such upgrades, adjusted for inflation, energy rates and number of degree days. The secretary of energy and environmental affairs shall, within 12 months of enactment of this section, promulgate regulations or directives for the implementation of this requirement.

(ii) to retrain existing employees who work on gas pipeline infrastructure to support the transition from a job working on gas infrastructure to a comparable job working on thermal pipes or other aspects of a non-emitting renewable thermal infrastructure project or other non-combusting sources of thermal energy. The center shall oversee such retraining programs and may allocate funds to a training facility or a gas company for the retraining of existing employees.

(c) The center shall provide a report to the secretary at the end of each fiscal year that summarizes results and expenditures from the thermal transition trust fund over the prior 12 months. The secretary shall report annually, no later than October 1, on the expenditures from the thermal transition bond fund and on the results achieved by the programs established by this section to the governor and to the clerks of the house of representatives and the senate, who shall forward such report to the president of the senate, the speaker of the house of representatives, and the chairs of the house and senate committees on ways and means.

SECTION 2. Section 19 of chapter 25, as amended by chapter 179 of the acts of 2022, is hereby amended by inserting after the words "demand side management programs" the following:-

“and non-emitting renewable thermal energy programs, including but not limited to heat pumps for heating and cooling”

SECTION 2. Said section 19 of said chapter 25, as amended by chapter 179 of the acts of 2022, is hereby amended by inserting after the word “practicable” the following:-

; and provided further, that the programs maximize to the greatest extent possible the use of non-emitting renewable thermal energy, including but not limited to heat pumps for heating and cooling, to reduce greenhouse gas emissions pursuant to the mandates of chapter 21N.”

SECTION 3. Section 20 of said chapter 25, as appearing in the 2020 Official Edition, is hereby amended by striking out subsection (a) and inserting in place thereof the following:-

(a) The department shall require a mandatory charge of 15 mills per therm for all gas consumers and a mandatory charge of 0.5 mill per kilowatt-hour for all electricity consumers, except those served by a municipal lighting plant which does not supply generation service outside its own service territory or does not open its service territory to competition at the retail level, to support the development and promotion of renewable energy projects. All revenues generated by the mandatory charge for electricity consumers shall be deposited into the Massachusetts Renewable Energy Trust Fund, established under section 9 of chapter 23J. All revenues generated by the mandatory charge for gas consumers shall be deposited into the thermal transition trust fund within the Massachusetts Renewable Energy Trust Fund, established pursuant to section 9A of chapter 23J.

SECTION 4. Section 1 of chapter 164, as appearing in the 2020 Official Edition, is hereby amended by striking out the definition of “Gas company” and inserting in place thereof the following definition:-

77 “Gas company”, a corporation organized for the purpose of making and selling or  
78 distributing and selling, gas or utility-scale non-emitting renewable thermal energy within the  
79 commonwealth, even though subsequently authorized to make or sell electricity; provided  
80 however, that gas company shall not mean an alternative energy provider.

81 SECTION 5. Said section 1 of said chapter 164 is hereby further amended by inserting  
82 after the definition of “Mitigation” the following three definitions:-

83 “Networked geothermal system”, a utility-scale non-emitting renewable thermal energy  
84 infrastructure consisting of underground distribution pipelines that connect distributed thermal  
85 sources and or thermal storage, including geothermal boreholes and non-combusting electric heat  
86 pumps, to provide a customer or network of customers with thermal energy for heating and  
87 cooling.

88 “Non-emitting renewable thermal energy”, thermal energy that provides heating or  
89 cooling without combustion and that does not release greenhouse gas emissions as defined in  
90 section 1 of chapter 21N.

91 “Non-emitting renewable thermal infrastructure project”, a utility-scale project that  
92 replaces natural gas distribution infrastructure with distribution infrastructure that supplies non-  
93 emitting renewable thermal energy. A non-emitting renewable thermal infrastructure project may  
94 include, but is not limited to, a networked geothermal system.

95 SECTION 6. Section 1I of said chapter 164, as appearing in the 2020 Official Edition, is  
96 hereby amended by inserting after the first paragraph the following paragraph:-

A gas company shall include in its annual service quality standards report submitted to the department under this section the percentage and amount of funds allocated to each factor in the local distribution adjustment factors fund, including the following: energy efficiency, non-emitting renewable thermal energy, environmental response, consultants for the office of the attorney general under section 11E of chapter 12, residential assistance, and any other factor included in such fund. Such report shall also include the cost of political or promotional advertising as defined by section 33A of this chapter, and the cost of repairing, upgrading or replacing gas infrastructure with new gas infrastructure or non-emitting renewable thermal infrastructure under sections 145 and 145A of this chapter.

SECTION 7. Said chapter 164 is hereby amended by striking out section 30 and inserting in place thereof the following:-

Section 30. The department may, after notice and a public hearing, authorize a gas or electric company to carry on its business in any town in the commonwealth other than the town named in such gas or electric company's agreement of association or charter, subject to sections 86 to 88, inclusive, and such company may purchase, hold and convey real and personal estate in such other town necessary for carrying on its business therein. In rendering an authorization pursuant to this section, the department shall make written findings, considering the priorities of the department as provided in section 1A of chapter 25, including public health and the impact on indoor air quality, safety, potential for stranded assets, and evaluating any non-emitting alternatives to expansion of gas distribution infrastructure.

SECTION 8. Section 33A of said chapter 164 is hereby amended by inserting after the word "agency" the following:-

119 ; provided, however, that any such advertising that promotes the use of natural gas,  
120 renewable natural gas, or hydrogen must disclose the impacts on public health, including indoor  
121 air quality, and public safety hazards of natural gas, renewable natural gas or hydrogen and their  
122 effects on greenhouse gas emissions and the mandates pursuant to chapter 21N

123 SECTION 9. Said chapter 164 is hereby amended by striking out section 75B and  
124 inserting in place thereof the following section:-

125 Section 75B. Any person, partnership, corporation or any other legal entity, organized  
126 under the laws of the commonwealth which shall desire to construct and operate a natural gas  
127 pipeline or non-emitting renewable thermal infrastructure situated wholly within the  
128 commonwealth may qualify to do business within the commonwealth as a natural gas pipeline  
129 company or as non-emitting renewable thermal energy corporation after hearing upon a petition  
130 filed with the department and after the department has determined that such facilities are  
131 necessary for the purpose alleged and will serve the public convenience and is consistent with  
132 the public interest. In the case of a petition for a non-emitting renewable thermal energy  
133 infrastructure, the department may approve the petition if the person, partnership, corporation or  
134 other legal entity demonstrates there are a sufficient number of customers to connect to such  
135 infrastructure and that such proposed infrastructure will meet the priorities of the department as  
136 provided in section 1A of chapter 25, including reduction of greenhouse gas emissions, impact  
137 on public health including indoor air quality, safety, potential for stranded assets, and  
138 affordability; provided however, that a legal entity proposing to construct such renewable  
139 thermal infrastructure wholly on private land shall be exempt from the requirement to qualify  
140 under this section. In the case of a petition for gas facility, any person, partnership, corporation  
141 or any other legal entity, organized under the laws of the commonwealth or of any other state or



of the United States which holds a certificate of public convenience and necessity issued under the provisions of chapter 15B of the United States Code which may be cited as the federal "Natural Gas Act" authorizing it to construct a natural gas transmission line and appurtenant facilities within the commonwealth, shall be considered as a natural gas pipeline company within the meaning of this chapter upon filing with the department a certified copy of such certificate.

SECTION 10. Said chapter 164 is hereby amended by striking out section 76 and inserting in place thereof the following section:-

Section 76. The department shall have the general supervision of all gas and electric companies and shall make all necessary examinations and inquiries and keep itself informed and report publicly on the condition of the respective properties owned by such corporations and the manner in which they are conducted with reference to the public health, including indoor air quality, safety and convenience of the public, the reduction of greenhouse gas emissions pursuant to chapter 21N, and as to their compliance with the provisions of law and the orders, directions and requirements of the department and the commonwealth; provided, however, that any alternative energy producer shall not be considered to be a municipality, manufacturing company, corporation or other person engaged in the manufacture, sale, distribution or transmission of gas or electricity and shall be exempt from regulation by the department.

SECTION 11. Section 76C of said chapter 164 is hereby amended by inserting at the end thereof the following sentence:-

In establishing such rules and regulations, the department shall prioritize safety, security, reliability of service, affordability, equity and reductions in greenhouse gas emissions to meet

statewide greenhouse gas emissions limits and sublimits established pursuant to chapter 21N, in accordance with section 1A of chapter 25.

SECTION 12. Said chapter 164 is hereby amended by striking out section 92 and inserting in place thereof the following section:-

Section 92. On written petition of any person, having a residence or place of business in a town where a corporation is engaged in the manufacture, transmission or sale of gas or the distribution of electricity, aggrieved by its refusal or neglect to supply him with gas or electricity, the department may, after notice to the corporation to appear at a time and place therein named to show cause why the prayer of such petition should not be granted, issue an order directing and requiring it to supply the petitioner with gas or other thermal energy, as determined by the department pursuant to the priorities of section 1A of chapter 25, or electricity, upon such terms and conditions as are legal and reasonable; provided, however, that if such corporation is engaged in such town solely in the transmission of gas such order shall not be made where it appears that compliance therewith would result in permanent financial loss to the corporation. A gas company may meet any obligation to serve by providing a customer with non-emitting renewable thermal energy, including but not limited to networked geothermal infrastructure or an electric heat pump.

SECTION 13. Section 106 of said chapter 164 is hereby amended by inserting after the word “chapter” the following:-

; provided, that the department shall restrict the injection in any amount of a substitute fuel from any source into a gas distribution system that delivers thermal energy to a building unless it determines that such substitute fuel: (i) is non-emitting in its lifecycle; (ii) does not pose

a safety hazard to persons or property; and (iii) has reliable sources of supply that ensure affordability for customers; and provided further, that the department shall prohibit the injection of any amount of hydrogen into a gas distribution system that delivers thermal energy to a residential, municipal, commercial or other building, except as provided in subsection (d) of section 141 of this chapter.

SECTION 14. Said chapter 164 is hereby amended by striking out section 141 and inserting in place thereof the following section:-

Section 141. (a) In all decisions or actions regarding rate designs, the department shall consider the impacts of such actions on: (i) on-site generation; (ii) the replacement of gas infrastructure with utility-scale non-emitting renewable thermal energy infrastructure or non-combusting alternative sources of thermal energy; (iii) the reduction of greenhouse gases as mandated by chapter 21N to reduce energy use; (iv) efforts to increase efficiency and encourage non-emitting renewable sources of energy; (v) the findings of utility-scale non-emitting renewable thermal energy pilots approved by the department of public utilities pursuant to section 99 of chapter 8 of the acts of 2021; (vi) data collected related to the design and operation of networked geothermal demonstration projects approved by the department of public utilities pursuant to chapter 102 of the acts of 2021, including data on any reduction of lost and unaccounted for gas as defined in section 147; and (vii) the use of new financial incentives to support energy efficiency efforts.

(b) To aid the department in its determination of the public interest under this section, a gas company seeking approval by the department of a contract that requires the construction or expansion of gas infrastructure after January 1, 2025, shall within 90 days issue a request for

proposal and shall hold a competitive solicitation for non-combusting alternative thermal energy solutions that reduce greenhouse gas emissions, as a condition of approval of such contract by the department; provided further, that the department shall approve such alternative thermal energy solution if it finds that it is in the public interest as compared to the contract proposed by the gas company.

(c) In a rate design or other plan for non-emitting renewable thermal infrastructure filed pursuant to section 145 of this chapter, the department shall approve a merger of the rate base of such infrastructure with the rate base of gas infrastructure and shall permit cross-subsidization between gas and non-emitting renewable thermal energy rate payers.

(d) After January 1, 2025, in all decisions or actions regarding a rate design or other plan submitted by a gas company, the department shall not approve a rate design or other plan that expands the gas distribution infrastructure other than extension of a service line to a customer from an existing main pipeline, or that includes the distribution of hydrogen in a pipeline that provides thermal energy to a residential or commercial building; provided, however, the department may approve a rate design or other plan which expands or includes the distribution of non-emitting renewable thermal energy to any building; and provided further, that a rate design that provides distribution of gas or green hydrogen to an industrial process that is difficult to decarbonize may only be permitted if such distribution of gas or green hydrogen meets applicable state and federal public health and safety standards.

(e) In any decision or action regarding a rate design, the department shall make written findings stating the basis for its decision, considering the priorities of the department in section 1A of chapter 25 and including but not limited to, impacts on the following: (i) the estimated

229 average energy bill by customer type and rate class for both heating and cooling; (ii) greenhouse  
230 gas emissions from combustion of fuel and from gas leaks; (iii) best available scientific research  
231 on outdoor air quality; (iv) indoor air quality from combustion of fuel and from gas leaks; (v)  
232 safety incidents; (vi) availability of cooling to be provided by alternative systems; (vii) the  
233 potential for stranded assets; (viii) the energy burden for low income customers; (ix) single point  
234 failures; (x) energy sources produced and purchased within the commonwealth; and (xi) any  
235 other factor relevant to the decision or action by the department.

236 (f) The department shall not approve a rate design or other plan that includes payment by  
237 a gas company or an electric company of fees or other costs associated with membership in a  
238 trade association or similar associations whose purpose is to promote natural gas, renewable  
239 natural gas, or hydrogen as sources of clean energy, nor shall the department approve a rate  
240 design or other plan that includes costs for an advertising or promotional advertising campaign  
241 that promotes natural gas, renewable natural gas, or hydrogen as sources of clean energy without  
242 such campaign disclosing the public health impacts, including the impact on indoor air quality,  
243 and safety hazards of natural gas, renewable natural gas or hydrogen and their components, and  
244 their effects on greenhouse gas emissions and the mandates of chapter 21N.

245 SECTION 15. Section 144 of said chapter 164 is hereby amended, in subsection (f), by  
246 inserting at the end thereof the following two sentences:

247 As part of such oversight and monitoring, the department shall require an annual audit of  
248 gas leaks reported to the department by a gas company, such audit to be conducted by a qualified  
249 independent contractor chosen jointly by the department and the attorney general. Such audit  
250 shall include a statistically significant random selection of reported leaks and shall include for

each leak (i) the leak classification; (ii) the leak extent measurement; and (iii) the success of any repairs of such leak. The department shall make such audit available to the public by July 1 of each year.

SECTION 16. Said chapter 164 is hereby amended by striking out section 145 and inserting in place thereof the following section:-

Section 145. (a) "Eligible infrastructure replacement", a replacement or an improvement of existing infrastructure of a gas company that: (i) is made on or after January 1, 2015; (ii) is designed to improve public health, including indoor air quality, and public safety or infrastructure reliability; (iii) does not increase the revenue of a gas company by connecting an improvement for a principal purpose of serving new customers or increasing gas pipeline capacity; (iv) reduces, or has the potential to reduce, lost and unaccounted for natural gas through a reduction in natural gas system leaks; and (v) is not included in the current rate base of the gas company as determined in the gas company's most recent rate proceeding; (vi) shall, whenever feasible, include use of advanced leak repair technology approved by the department to repair an existing leak-prone gas pipe to extend the useful life of the such gas pipe by no less than 10 years; (vii) shall, whenever feasible, include replacing gas infrastructure with utility-scale non-emitting renewable thermal energy infrastructure; and (viii) shall, whenever feasible, include zonal electrification projects through programs approved under section 145B of this chapter.

(b) A gas company shall file with the department a plan to address aging or leaking natural gas infrastructure within the commonwealth and the leak rate on the gas company's natural gas infrastructure in the interest of public safety, reducing greenhouse gas emissions

pursuant to chapter 21N, and reducing lost and unaccounted for natural gas through a reduction in natural gas system leaks. In accounting for any reduction in lost and unaccounted for natural gas, a gas company shall rely on data specific to the commonwealth related to the loss of gas in transmission, storage, distribution, and use by consumers. Each company's gas infrastructure plan shall include interim targets for the department's review. The department shall review these interim targets to ensure each gas company is meeting the appropriate pace to reduce the leak rate on and to replace the gas company's natural gas infrastructure in a safe and timely manner and to reduce greenhouse gas emissions according to applicable sublimits pursuant to chapter 21N. The interim targets shall be for periods of not more than 6 years or at the conclusion of 2 complete 3-year walking survey cycles conducted by the gas company. The gas companies shall incorporate these interim targets into timelines for reducing greenhouse gas emissions and removing all leak-prone infrastructure filed pursuant to subsection (c) and may update them based on overall progress. The department may levy a penalty against any gas company that fails to meet its interim target in an amount up to and including the equivalent of 2.5 per cent of such gas company's transmission and distribution service revenues for the previous calendar year.

(c) Any plan filed with the department shall include, but not be limited to: (i) eligible infrastructure replacement of mains, services, meter sets and other ancillary facilities composed of non-cathodically protected steel, cast iron and wrought iron, prioritized to implement the federal gas distribution pipeline integrity management plan annually submitted to the department and consistent with subpart P of 49 C.F.R. part 192; (ii) an anticipated timeline for the completion of each project; (iii) the estimated cost of each project; (iv) rate change requests; (v) a description of customer costs and benefits under the plan; (vi) the relocations, where practical, of a meter located inside of a structure to the outside of said structure for the purpose of

improving public safety; (vii) infrastructure proposed to be replaced or repaired, including replacement of gas infrastructure with utility-scale non-emitting renewable thermal energy infrastructure or non-combusting electric heat pumps; (viii) work plans including location by street segment with cross streets or street numbers showing where the segment of leak-prone infrastructure scheduled to be replaced or repaired begins and ends; (ix) capacity of existing infrastructure, including but not limited to, diameter and pressure of pipes; (x) how the replacement infrastructure complies with the mandates of chapter 21N and section 1A of chapter 25 to reduce greenhouse gas emissions; (xi) repairs of grade 3 leaks having a significant environmental impact as defined by section 144 (c); provided, however that such repairs shall be cost effective and shall comply with applicable state and federal safety regulations related to pipeline infrastructure; (xii) number of customers per street segment expressing a desire to transition to non-emitting renewable sources of thermal energy; (xiii) for each replacement project, an explanation, with reference to the standards developed pursuant to subsection (k), of why replacement of the infrastructure is appropriate, taking into account the cost to ratepayers and the reduction of greenhouse gas emissions as required by chapter 21N; and (xiv) any other information the department considers necessary to evaluate the plan.

As part of each plan filed under this section, a gas company shall include a timeline for repairing or removing all leak-prone infrastructure on an accelerated basis specifying an annual repair or replacement pace and program end date with a target end date of: (i) not more than 20 years from the filing of a gas company's initial plan; or (ii) a reasonable target end date considering the allowable recovery cap established pursuant to subsection (f). The department shall not approve a timeline as part of a plan unless the allowable recovery cap established pursuant to subsection (f) provides the gas company with a reasonable opportunity to recover the



costs associated with repairing or removing all leak-prone infrastructure on the accelerated basis set forth under the timeline utilizing the cost recovery mechanism established pursuant to this section; provided, however, that no cost recovery or depreciation associated with gas infrastructure shall be claimed by such gas company after January 1, 2050. After filing the initial plan, a gas company shall, at 5-year intervals, provide the department with a summary of its repair or replacement progress to date, a summary of work to be completed during the next 5 years, a report of any leak-prone infrastructure remaining in the service territory of the gas company by street segment with cross streets or street numbers showing where the segment begins and ends, including the likely year of replacement of such infrastructure and the estimated cost of replacement at the current cost of replacement for the type of pipe in the location, and any similar information the department may require. The department shall require a gas company to file an updated long-term timeline as part of a plan if it alters the cap established pursuant to subsection (f).

(d) If a gas company files a plan on or before October 31 for the subsequent construction year, the department shall review the plan within 6 months. The plan shall be effective as of the date of filing, pending department review. The department may modify a plan prior to approval at the request of a gas company or make other modifications to a plan as a condition of approval. The department shall consider the costs and benefits of the plan including, but not limited to, impacts on ratepayers, reductions of lost and unaccounted for natural gas through a reduction in natural gas system leaks, compliance with the mandates of chapter 21N to reduce greenhouse gas emissions, and improvements to public health, including air quality, and public safety, and shall make written findings of factors considered. The department shall give priority to plans narrowly tailored to addressing leak-prone infrastructure most immediately in need of replacement;

provided, however, that the department shall not approve a non-emergency repair or replacement of leak-prone infrastructure without an analysis of non-combusting alternatives such as non-emitting renewable thermal energy infrastructure or non-combusting electric heat pumps.

(e) If a plan is in compliance with this section and the department determines the plan to reasonably accelerate eligible infrastructure repair or replacement and provide benefits, the department shall issue preliminary acceptance of the plan in whole or in part. A gas company shall then be permitted to begin recovery of the estimated costs of projects included in the plan beginning on May 1 of the year following the initial filing and collect any revenue requirement, including depreciation, property taxes and return associated with the plan.

(f) On or before May 1 of each year, a gas company shall file final project documentation for projects completed in the prior year to demonstrate substantial compliance with the plan approved pursuant to subsection (e) and that project costs were reasonably and prudently incurred. The department shall investigate project costs within 6 months of submission and shall approve and reconcile the authorized rate factor, if necessary, upon a determination that the costs were reasonable and prudent. Annual changes in the revenue requirement eligible for recovery shall not exceed (i) 1.5 per cent of the gas company's most recent calendar year total firm revenues, including gas revenues attributable to sales and transportation customers, or (ii) an amount determined by the department that is greater than 1.5 per cent of the gas company's most recent calendar year total firm revenues, including gas revenues attributable to sales and transportation customers. Any revenue requirement approved by the department in excess of such cap may be deferred for recovery in the following year.

(g) All rate change requests made to the department pursuant to an approved plan, shall be filed annually on a fully reconciling basis, subject to final determination by the department pursuant to subsection (f). The rate change included in a plan pursuant to section (c), reviewed pursuant to subsection (d) and taking effect each May 1 pursuant to subsection (e) shall be subject to investigation by the department pursuant to subsection (f) to determine whether the gas company has over collected or under collected its requested rate adjustment with such over collection or under collection reconciled annually. If the department determines that any of the costs were not reasonably or prudently incurred, the department shall disallow the costs and direct the gas company to refund the full value of the costs charged to customers with the appropriate carrying charges on the over-collected amounts. If the department determines that any of the costs were not in compliance with the approved plan, the department shall disallow the costs from the cost recovery mechanism established under this section and shall direct the gas company to refund the full value of the costs charged to customers with the appropriate carrying charges on the over collected amounts.

(h) The department may promulgate rules and regulations under this section. Such regulations shall include a performance-based financial incentive to a gas company to reduce miles of gas infrastructure and to build utility-scale non-emitting renewable thermal energy infrastructure eligible under subsection (c)(2); provided, however, that such infrastructure complies with the mandates of chapter 21N to reduce greenhouse gas emissions. Such regulations shall be promulgated within 12 months of the effective date of this provision. The department may discontinue the replacement program and require a gas company to refund any costs charged to customers due to failure to substantially comply with a plan or failure to reasonably and prudently manage project costs.

(i) No less than 90 days before filing a plan with the department, a gas company shall notify each customer connected to leak-prone pipeline segments proposed to be replaced in such plan. Such notice shall include the available schedule of the next five years for replacement of pipeline infrastructure on the customer's street, the expected duration, the anticipated cost for such replacement, the impact on public health including indoor air quality, public safety, the availability of cooling, and the estimated impact on the energy bill of such customer. The department shall convene a stakeholder engagement group including the department of environmental protection, the department of energy resources, the attorney general, and representatives of environmental justice communities, gas workers and environmental organizations to review and approve such outreach plan to inform customers of the pipeline infrastructure project. A gas company shall provide an opportunity to each customer connected to such leak-prone pipe to express any choice the customer may have that proposed funds be spent on installation of non-emitting renewable thermal infrastructure or non-combusting electric heat pumps instead of gas infrastructure.

(j) Within 3 days of any plan submitted to the department by a gas company for repair, replacement or improvement of any existing infrastructure pursuant to this section, a gas company shall send such plan to the municipality whose service territory is covered by such plan, as a condition of approval by the department of such plan. Within 30 days of receipt of such plan, such municipality may provide the gas company with comments and questions about the plan. Within 15 days of receipt of such comments and questions, the gas company shall respond to questions such municipality has about the plan. Within 3 days of approval of such plan by the department, the gas company shall send such approval to the municipality whose service territory is covered by the plan.

(k) The department shall develop standards to inform a decision by a gas company whether to repair or replace leak-prone infrastructure. The department shall require a gas company to repair rather than replace infrastructure when conditions it specifies are met and shall conduct audits to ensure compliance with any such requirement. If a gas company replaces infrastructure required by the department to be repaired, the gas company shall not be permitted to recover the cost of the replacement for such infrastructure.

SECTION 17. Said chapter 164 is hereby amended by inserting after section 145 the following three sections:-

Section 145A. (a) By December 31, 2025, a gas company shall file with the department a plan for the transition by January 1, 2050, of such company's pipeline infrastructure from emitting sources of thermal energy to non-emitting renewable sources of thermal energy. Such plan shall include: (i) number of customers whose source of thermal energy is projected to be transitioned each year from emitting to non-emitting sources of thermal energy; (ii) number of miles of pipelines projected to be transitioned each year from emitting to non-emitting sources of thermal energy or which are retired from use; (iii) the thermal technology projected to be deployed by number of customers and miles of pipe transitioned including but not limited to air-source heat pumps, ground source heat pumps, networked geothermal, or other non-combusting thermal energy technology; (iv) the estimated amount of reduction in greenhouse gas emissions coming from the gas distribution system; and (v) the projected impact on a gas company's workforce and on customers' energy bills, affordability, and safety. Such plan shall be updated annually by December 31 of each year as provided in subsection (b) of this section.

(b) A gas company shall file annually by December 31 a update to the plan filed pursuant to subsection (a) which shall include: (i) the street segments and number of customers connected to such street segments which will transition from gas service to non-emitting renewable thermal infrastructure such as networked geothermal in the coming year; (ii) the plan in the coming year to retire gas infrastructure and to transition such customers to alternative sources of non-emitting renewable thermal energy such as non-combusting electric heat pumps; (iii) the estimated greenhouse gas emissions from existing gas infrastructure not yet scheduled for transition in the coming year; (iv) the plan to reduce greenhouse gas emissions from infrastructure determined to have no technical option to transition to non-emitting renewable thermal in the coming year; and (v) other such other information as the department may require.

(c) In any consideration of the cost effectiveness of transitioning from existing gas infrastructure to non-emitting renewable thermal infrastructure, a gas company shall consider the following factors: (i) the leak status of the existing infrastructure; (ii) the current depreciation, schedule of future depreciation, and potential for avoided costs; (iii) the impact on public health and public safety; (iv) the potential for avoided costs; (v) the customer cost and resulting energy burden; and (vi) the expected reduction of greenhouse gas emissions as required by chapter 21N. In the interest of protecting ratepayers, a gas company may apply to the department to replace all gas appliances with electric appliances and to no longer provide gas service to the customer if cost avoidance is found to benefit ratepayers. If the department approves such application, a gas company may replace a customer's gas appliances with electric appliances, and may provide necessary upgrades to a customer's electric service, insulation and mitigation of pre-weatherization barriers. Funding for such upgrades may come from funds available from energy

efficiency programs pursuant to section 19 of chapter 25 or from funds available from the thermal transition trust fund pursuant to section 9A of chapter 23J.

(d) The department shall make available for review by the public plans filed by a gas company under this section.

(e) The department shall, within 12 months of the enactment of this section, promulgate regulations or directives as needed to implement the requirements of this section.

Section 145B. (a) The department shall permit a gas company to sell, lease, install, and service air source heat pumps, ground source heat pumps, heat pump water heaters, induction stoves, electric clothes dryers, and other electric appliances and equipment that serve as non-combusting alternatives to gas appliances and equipment.

(b) No later than January 1, 2024, the department shall require a gas company to design and offer to each customer a plan which increases the availability, affordability, and feasibility of conversion of the customer's gas appliances and gas equipment to electric appliances and electric equipment; provided, that the plan shall prioritize customers and zones of customers who are served by gas distribution infrastructure that is identified for replacement pursuant to section 145 of this chapter; and provided further, that such plan shall seek, whenever feasible, to convert zones of customers living in contiguous locations, rather than individual customers.

(c) In approving a plan proposed by a gas company to convert a customer's gas appliances and gas equipment to electric appliances and electric equipment, the department shall develop a methodology for determining rates payable by a customer to a gas company that facilitates conversion from gas to electricity, including but not limited to, charges applicable only to a customer who pursues conversion from gas to electricity through such plan. The department

shall permit a gas company to recover the actual costs of conversion from gas to electricity from a customer through such plan, including recovery of such costs from a customer who no longer receives gas service following conversion from gas to electricity. Any costs to be recovered shall only include the actual costs of conversion and shall not include any cost to the gas company associated with revenue lost by a gas company from the conversion by a customer from gas to electricity as a source of thermal energy. The department shall approve in advance reimbursement for costs incurred by a gas company to ensure lowest feasible cost for such conversions. A plan by a gas company to convert a customer's gas appliances and gas equipment to electric appliances and electric equipment shall include an option for the customer to choose appliances and equipment with a higher cost than those provided through a gas company, so long as the customer pays the difference in cost between standard appliances and equipment and higher cost models. The department shall establish guidelines outlining criteria and procedures to be used by the department for reviewing a proposal, including factors the department shall consider for plan approval.

(d) A gas company may petition the department independently or in coordination with the department of energy resources to approve: (i) a financing plan for the costs of conversion from gas to electricity to be repaid by a participating customer on such gas or electric bill of such customer; (ii) other financing plans developed by a gas company; or (iii) other cost-effective plans that reasonably accelerate conversion of customers from gas to electricity; provided, that such plans will not unreasonably burden customers who remain customers of a gas company.

(e) The department shall issue a decision on a plan filed by a gas company for conversion of customers' energy supply from gas to electricity pursuant to this section within 6 months of



496 the date of filing such plan. A gas company shall file appropriate tariff changes and otherwise  
497 implement any plan for conversion from gas to electricity approved under this section.

498 (f) Participation in a plan approved under this section shall not affect a customer's  
499 eligibility for other energy efficiency or electrification incentives available under state or federal  
500 law.

501 Section 145C. In any plan or other action filed by a gas company under sections 145,  
502 145A, or 145B of this chapter that includes a plan to install a non-emitting networked renewable  
503 thermal infrastructure, such gas company shall include a plan to provide training and continued  
504 employment at pre-existing wages and benefits to workers employed by such gas company  
505 whose jobs would otherwise be eliminated or significantly changed by a transition from gas  
506 infrastructure to non-emitting renewable thermal infrastructure.

507 SECTION 18. Section 3 of chapter 149 of the acts of 2014 is hereby repealed.

508 SECTION 19. The department shall issue regulations within 12 months of the effective  
509 date of this section establishing an electric rate class for customers using air-source, ground-  
510 source and networked-geothermal heat pumps reflective of their pattern of use when determined  
511 to be of benefit to the electric grid load factor and thereby to the electric grid rate payer.