

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>

SENATE No. 2105

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.

[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

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

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

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

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

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

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

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

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

57 SECTION 2. Said section 19 of said chapter 25, as amended by chapter 179 of the acts of
58 2022, is hereby amended by inserting after the word “practicable” the following:-

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

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

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

74 SECTION 4. Section 1 of chapter 164, as appearing in the 2020 Official Edition, is
75 hereby amended by striking out the definition of “Gas company” and inserting in place thereof
76 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:-

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

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

108 Section 30. The department may, after notice and a public hearing, authorize a gas or
109 electric company to carry on its business in any town in the commonwealth other than the town
110 named in such gas or electric company's agreement of association or charter, subject to sections
111 86 to 88, inclusive, and such company may purchase, hold and convey real and personal estate in
112 such other town necessary for carrying on its business therein. In rendering an authorization
113 pursuant to this section, the department shall make written findings, considering the priorities of
114 the department as provided in section 1A of chapter 25, including public health and the impact
115 on indoor air quality, safety, potential for stranded assets, and evaluating any non-emitting
116 alternatives to expansion of gas distribution infrastructure.

117 SECTION 8. Section 33A of said chapter 164 is hereby amended by inserting after the
118 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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

226 (e) In any decision or action regarding a rate design, the department shall make written
227 findings stating the basis for its decision, considering the priorities of the department in section
228 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

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

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

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

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

273 pursuant to chapter 21N, and reducing lost and unaccounted for natural gas through a reduction
274 in natural gas system leaks. In accounting for any reduction in lost and unaccounted for natural
275 gas, a gas company shall rely on data specific to the commonwealth related to the loss of gas in
276 transmission, storage, distribution, and use by consumers. Each company's gas infrastructure
277 plan shall include interim targets for the department's review. The department shall review these
278 interim targets to ensure each gas company is meeting the appropriate pace to reduce the leak
279 rate on and to replace the gas company's natural gas infrastructure in a safe and timely manner
280 and to reduce greenhouse gas emissions according to applicable sublimits pursuant to chapter
281 21N. The interim targets shall be for periods of not more than 6 years or at the conclusion of 2
282 complete 3-year walking survey cycles conducted by the gas company. The gas companies shall
283 incorporate these interim targets into timelines for reducing greenhouse gas emissions and
284 removing all leak-prone infrastructure filed pursuant to subsection (c) and may update them
285 based on overall progress. The department may levy a penalty against any gas company that fails
286 to meet its interim target in an amount up to and including the equivalent of 2.5 per cent of such
287 gas company's transmission and distribution service revenues for the previous calendar year.

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

296 improving public safety; (vii) infrastructure proposed to be replaced or repaired, including
297 replacement of gas infrastructure with utility-scale non-emitting renewable thermal energy
298 infrastructure or non-combusting electric heat pumps; (viii) work plans including location by
299 street segment with cross streets or street numbers showing where the segment of leak-prone
300 infrastructure scheduled to be replaced or repaired begins and ends; (ix) capacity of existing
301 infrastructure, including but not limited to, diameter and pressure of pipes; (x) how the
302 replacement infrastructure complies with the mandates of chapter 21N and section 1A of chapter
303 25 to reduce greenhouse gas emissions; (xi) repairs of grade 3 leaks having a significant
304 environmental impact as defined by section 144 (c); provided, however that such repairs shall be
305 cost effective and shall comply with applicable state and federal safety regulations related to
306 pipeline infrastructure; (xii) number of customers per street segment expressing a desire to
307 transition to non-emitting renewable sources of thermal energy; (xiii) for each replacement
308 project, an explanation, with reference to the standards developed pursuant to subsection (k), of
309 why replacement of the infrastructure is appropriate, taking into account the cost to ratepayers
310 and the reduction of greenhouse gas emissions as required by chapter 21N; and (xiv) any other
311 information the department considers necessary to evaluate the plan.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

494 (e) The department shall issue a decision on a plan filed by a gas company for conversion
495 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.