

HOUSE No. 4081

The Commonwealth of Massachusetts

PRESENTED BY:

Thomas A. Golden, Jr.

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 concerning the expansion of renewable heating fuels and renewable thermal heating.

PETITION OF:

| NAME: | DISTRICT/ADDRESS: | DATE ADDED: |
|------------------------------|-----------------------|------------------|
| <i>Thomas A. Golden, Jr.</i> | <i>16th Middlesex</i> | <i>2/15/2021</i> |

HOUSE No. 4081

By Mr. Golden of Lowell, a petition (accompanied by bill, House, No. 4081) of Thomas A. Golden, Jr., relative to the expansion of renewable heating fuels and renewable thermal heating. Telecommunications, Utilities and Energy.

The Commonwealth of Massachusetts

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

An Act concerning the expansion of renewable heating fuels and renewable thermal heating.

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

1 SECTION 1. Section 9 of chapter 23J of the General Laws, as appearing in the 2018
2 Official Edition, is hereby amended by striking out, in line 6, the word “collected” and inserting
3 in place thereof the following words:- allocated to the trust fund.

4 SECTION 2. Section 3 of chapter 25 of the General Laws, as so appearing, is hereby
5 amended by striking out, in line 14, the words “chapter 164” and inserting in place thereof the
6 following words:- chapters 164, 164C and 164D.

7 SECTION 3. Section 20 of said chapter 25, as so appearing, is hereby amended by
8 striking out, in line 2, the figure “0.5” and inserting in place thereof the following figure:- 0.75.

9 SECTION 4. Subsection (a) of said section 20 of said chapter 25, as so appearing, is
10 hereby further amended by striking out the second sentence and inserting in place thereof the
11 following 2 sentences:- Two-thirds of revenues generated by the mandatory charge shall be
12 deposited into the Massachusetts Renewable Energy Trust Fund, established in section 9 of

chapter 23J. One-third of revenues generated by the mandatory charge shall be deposited into the Renewable Thermal Program Development Fund established in section 2QQQQQ of chapter 29.

SECTION 5. Chapter 29 of the General Laws is hereby amended by inserting after section 2OOOOO, as inserted by section 13 of chapter 358 of the acts of 2020, the following 2 sections:-

Section 2PPPPP. (a) There is hereby established and set up on the books of the commonwealth a fund known as the Renewable Heating Fuels Development Fund to be administered by the commissioner of energy resources. The purpose of the fund shall be to increase the supply of heating renewable energy credits available for compliance use by obligated entities, as defined in section 1 of chapter 164C. There shall be credited to the fund all alternative compliance payments made by obligated entities as provided in section 2 of said chapter 164C. Amounts credited to the fund shall be expended without further appropriation. Money remaining in the fund at the end of a fiscal year shall not revert to the General Fund and shall be available for expenditure in subsequent fiscal years. No expenditure shall be made from said fund that shall cause said fund to be in deficit at the close of a fiscal year.

(b) Money in the fund shall be expended to: (i) stimulate investment in renewable natural gas development by entering into agreements, including multi-year agreements, for heating renewable energy credits as defined in chapter 164C, hereinafter referred to as HRECs; (ii) provide technical and financial assistance for interconnection and feasibility studies, the development or the installation of qualified renewable heating fuel projects; (iii) issue assurances or guarantees to support the acquisition of HRECs; (iv) establish escrows, reserves or acquire insurance for the obligations of the fund; and (v) pay administrative costs of the fund incurred

not to exceed 10 per cent of the income of the fund, including, but not limited to, alternative compliance payments.

(c) The department shall adopt plans and guidelines for the management and use of the fund and enter into agreements with obligated entities to accept alternative compliance payments consistent with rules or purposes of the renewable heating fuel standards established in said section 2 of said chapter 164C. The department shall pursue opportunities at the state or federal level to advance the research and development of eligible resources, as defined in section 1 of said chapter 164C.

Section 2QQQQQ. There is hereby established and set up on the books of the commonwealth a fund known as the Renewable Thermal Program Development Fund, to be administered by the commissioner of energy resources. The purposes of the fund shall be to promote renewable thermal program development, including renewable thermal district heating development, feasibility studies, engineering design and construction support in partnership with utility renewable thermal investment. There shall be credited to the fund all revenues allocated to the fund under section 20 of chapter 25 and any income derived from the investment of amounts credited to the fund.

Amounts credited to the fund shall be expended without further appropriation. Money remaining in the fund at the end of a fiscal year shall not revert to the General Fund and shall be available for expenditure in subsequent fiscal years. No expenditure shall be made from said fund which shall cause said fund to be in deficit at the close of a fiscal year.

SECTION 6. Section 6 of chapter 62 of the General Laws, as amended by section 57 of chapter 358 of the acts of 2020, is hereby amended by adding the following 3 subsections:-

(x) (1) A partnership, limited liability corporation or other legal entity engaged in business in the commonwealth that: (i) is not a business corporation subject to the excise under chapter 63; and (ii) produces qualified renewable heating fuels, as defined in section 1 of chapter 164C, shall be allowed a refundable credit against its excise due under this chapter.

(2) The credit under this subsection shall be attributed on a pro rata basis to the owners, partners or members of the legal entity entitled to the credit under this subsection and shall be allowed as a credit against the tax due under this chapter from the owners, partners or members in a manner determined by the commissioner.

(3) The commissioner, in consultation with the commissioner of energy resources, shall promulgate regulations for the administration and implementation of this subsection.

(y) (1) As used in this subsection the following terms shall, unless the context clearly requires otherwise, have the following meanings:

“Qualified heating equipment”, renewable heating systems approved by the department of energy resources, including but not limited to air source heat pumps, ground source heat pumps, and heating equipment using low-carbon hydrogen.

“Taxpayer”, a taxpayer subject to taxation under this chapter.

(2) A taxpayer shall be allowed a tax credit against the taxes imposed by this chapter equal to 15 per cent of the total qualified expenditures incurred in connection with the purchase and installation of qualified heating equipment during the taxable year; provided, however, that the amount of credit allowed shall not exceed 15 per cent of the net expenditure for renewable energy source property.

(3) If the amount of the credit allowed under this subsection exceeds the taxpayer's tax liability, the commissioner shall treat the excess as an overpayment and shall pay the taxpayer the entire amount of the excess.

(4) The commissioner, in consultation with the commissioner of energy resources, shall promulgate regulations for the administration and implementation of this subsection.

(z) (1) As used in this subsection the following terms shall, unless the context clearly requires otherwise, have the following meanings:

“Geothermal district heating”, as defined in section 1 of chapter 164D.

“Taxpayer”, a taxpayer subject to taxation under this chapter.

(2) A taxpayer shall be allowed a tax credit against the taxes imposed by this chapter equal to 15 per cent of the total qualified expenditures incurred in connection with the purchase and installation of geothermal district heating infrastructure during the taxable year.

(3) If the amount of the credit allowed under this subsection exceeds the taxpayer's tax liability, the commissioner shall treat the excess as an overpayment and shall pay the taxpayer the entire amount of the excess.

(4) The commissioner, in consultation with the commissioner of energy resources, shall promulgate regulations for the administration and implementation of this subsection.

SECTION 7. Chapter 63 of the General Laws is hereby amended by inserting after section 38HH, as appearing in the 2018 Official Edition, the following 3 sections:-

Section 39II. There is hereby established a qualified renewable heating fuels production tax credit. A corporation engaged in business in the commonwealth that produces qualified renewable heating fuels, as defined in section 1 of chapter 164C, shall be allowed a refundable credit against its excise due under this chapter. The credit shall be calculated based on the production of qualified renewable heating fuels and the purchase of equipment to produce qualified renewable heating fuels.

The credit allowed under this section shall be allowed for the taxable year in which the production of qualified renewable heating fuels or purchase of equipment to produce qualified renewable heating fuels is made. The commissioner, in consultation with the commissioner of energy resources, shall promulgate regulations for the administration and implementation of this section.

Section 39JJ. There is hereby established a renewable heating systems tax credit. A corporation engaged in business in the commonwealth that purchases or installs qualified heating equipment, as defined in paragraph (1) of subsection (y) of section 6 of chapter 62, shall be allowed a refundable credit against its excise due under this chapter equal to 15 per cent of the total qualified expenditures incurred in connection with said purchase and installation during the taxable year; provided, however, that the amount of credit allowed shall not exceed 15 per cent of the net expenditure for renewable energy source property.

The credit allowed under this section shall be allowed for the taxable year in which the purchase or installation of qualified heating equipment is made. The commissioner, in consultation with the commissioner of energy resources, shall promulgate regulations for the administration and implementation of this section.

119 Section 39KK. There is hereby established a geothermal district heating infrastructure tax
120 credit. A corporation engaged in business in the commonwealth that purchases or installs
121 infrastructure supporting geothermal district heating, as defined in section 1 of chapter 164D,
122 shall be allowed a refundable credit against its excise due under this chapter equal to 15 per cent
123 of the total qualified expenditures incurred in connection with said purchase and installation
124 during the taxable year.

125 The credit allowed under this section shall be allowed for the taxable year in which the
126 purchase or installation of qualified heating equipment is made. The commissioner, in
127 consultation with the commissioner of energy resources, shall promulgate regulations for the
128 administration and implementation of this section.

129 SECTION 8. The General Laws are hereby amended by inserting after chapter 164B the
130 following 2 chapters:-

131 Chapter 164C

132 Renewable Heating Fuel

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

135 "Alternative compliance payment", a payment to the renewable heating fuels
136 development fund established in section 2PPPPP of chapter 29, which may be made in lieu of
137 standard means of compliance with this statute.

“Biogas”, a mixture of carbon dioxide and hydrocarbons, primarily methane gas, released from the biological decomposition of organic materials, which can be upgraded to meet the standards for injection into a common carrier pipeline.

“Biomass”, energy feedstocks that can be converted or upgraded to meet the standards for injection into a common carrier pipeline, including brush; stumps; lumber ends and trimmings; wood pallets; bark; wood chips; shavings; slash and other clean wood; agricultural waste; food and vegetative material; energy crops; landfill methane; or biogas.

"Commission", the commonwealth utilities commission established in section 2 of chapter 25.

"Compliance year", a calendar year beginning January 1 and ending December 31 for which an obligated entity must demonstrate that it has met the requirements of this chapter.

“Department”, the department of energy resources.

“Eligible resources”, resources producing qualified renewable heating fuels where the energy produced by the resource is: (i) delivered into the commonwealth for use by the commonwealth’s end-use customers; or (ii) used to provide heating service to customers in the commonwealth. Delivery of energy from an eligible resource may include: (1) a unit-specific bilateral contract for the sale and delivery of the energy into the commonwealth; (2) confirmation from the appropriate control entity that the renewable energy was actually settled in the system; or (3) any other requirements as the department deems appropriate.

“Environmental attributes”, any credits, emissions reductions, offsets, allowances or other benefits attributable to the production and delivery of renewable natural gas.

“Heating renewable energy credit” or “HREC”, a tradable certificate of proof of 1 unit of qualified renewable heating fuel sold to an obligated entities’ end-use customers that is issued, monitored, accounted for and transferred by a system as provided in section 3 and includes all of the environmental attributes associated with the production of that unit. One HREC shall be equal to 1 dekatherm of natural gas.

“Low-carbon hydrogen”, hydrogen produced with electricity generated from renewable energy systems or from conventional sources where any associated emissions are curtailed or offset by carbon management. Renewable energy systems include those that generate electric or thermal energy through the use of solar thermal, photovoltaics, wind, hydroelectric, geothermal electric, geothermal ground source heat, biogas produced by the anaerobic digestion or fermentation of biodegradable materials, tidal energy, wave energy, ocean thermal and fuel cells that do not utilize a fossil fuel resource.

“Obligated entity”, a person or entity that sells natural gas to end-use customers.

“Qualified investment”, any capital investment in gas distribution infrastructure incurred by a natural gas utility for the purpose of providing natural gas service while complying with the renewable heating fuel standard, such as renewable natural gas, hydrogen, or a blend of either or both with fossil natural gas. Qualified investments include costs of procurement of renewable natural gas and hydrogen from third parties that contribute to the obligated entity meeting the targets set forth in this chapter.

“Qualified investment infrastructure”, (i) a facility or any part of the equipment located at a facility that is used to create, gather and process biogas into renewable natural gas; inject renewable natural gas into a natural gas pipeline; or determine the constituents of renewable

natural gas before the injection of the renewable natural gas into a natural gas pipeline; or (ii) a facility or part of equipment located at a facility that is used to create, gather, methane or inject hydrogen into the pipeline.

“Qualified renewable heating fuels”, liquid and gaseous fuels and electricity derived from renewable biomass energy sources intended for use as heating oil, including low-carbon hydrogen and renewable natural gas.

“Renewable heating fuel standard” or “standard”, the required percentage sale of renewable heating fuels described in subsection (a) of section 2.

“Renewable natural gas”, pipeline quality methane derived from any combination of biogas, biomass, the methane of hydrogen and waste carbon dioxide, or the thermal gasification of renewable feedstocks.

Section 2. (a) Beginning in compliance year 2025, at least 3 per cent of the total therms sold annually by obligated entities, adjusted for losses, shall come from qualified renewable heating fuels. Beginning in compliance year 2030, at least 5 per cent of the total therms sold annually by obligated entities, adjusted for losses, shall come from qualified renewable heating fuels. Beginning in compliance year 2035, at least 7 per cent of the total therms sold annually by obligated entities, adjusted for losses, shall come from qualified renewable heating fuels. Beginning in compliance year 2040, at least 10 per cent of the total therms sold annually by obligated entities, adjusted for losses, shall come from qualified renewable heating fuels.

(b) If the department determines that achievement of the renewable heating fuel standards caused total customer bills for local distribution companies to rise more than by more than 2.5

per cent for a compliance year, the department shall suspend compliance for the next compliance year immediately following the determination.

(c) The department shall review whether adjustments to the renewable heating fuel standards for the following 2 compliance years are necessary to ensure that the total increase in customer bills remain below the percentage increase identified in subsection (b). This review shall assess the total incremental annual cost to meet the renewable heating fuel standards, including accounting for (i) any value received by a natural gas utility upon any resale of eligible fuels, such as any environmental credits or other credits associated with environmental attributes; and (ii) any savings achieved through avoidance of conventional gas purchases or development, such as avoided pipeline costs or carbon costs.

(d) The department may adjust prospective compliance year targets described in subsection (a); provided, however, that the cumulative annual percentage of natural gas sold shall comply with the 2040 target.

(e) If the department determines that there are not enough eligible resources to meet the targets identified in subsection (a) within the constraints of subsections (b) to (d), inclusive, the department shall direct natural gas utilities to develop qualified investments sufficient to meet the targets.

Section 3. (a) Compliance of an obligated entity with the renewable heating fuel standard may be demonstrated through: (i) procurement of HRECs; (ii) payment of alternative compliance payments to the renewable heating fuels development fund established in section 2PPPPP of chapter 29; or (iii) a combination of HREC procurement and alternative compliance payments. HRECs shall be issued, monitored, accounted for and transferred through a system maintained

and administered by the department or ISO-NE, as defined in section 1 of chapter 164. Obligated entities shall receive 1 HREC for each dekatherm of renewable heating fuel sourced from renewable sources. The commissioner shall promulgate rules and regulations for the payment of alternative compliance payments.

(b) To procure an HREC, an obligated entity's production source shall be certified by the commission as using eligible resources. Use of eligible resources shall be evidenced by reports issued by the commissioner of energy resources.

(c) In meeting the obligations of the renewable heating fuel standards, to the extent feasible and consistent with state and federal law, all investments, projects and activities undertaken pursuant to this chapter by any person or the department shall provide employment opportunities for all segments of the population and workforce, including minority-owned and female-owned business enterprises, and utilize labor and materials within the commonwealth to ensure the environmental benefits of avoided carbon emissions are not diminished by emissions associated with the transportation of labor or materials. The investments, projects and activities shall not discriminate based on race or socioeconomic status.

(d) The commissioner of energy resources shall promulgate rules and regulations for the implementation of the renewable heating fuel standards on or before December 31, 2022. The rules and regulations shall include, but be limited to, provisions for:

(i) verification of eligibility and production of eligible resources, as well as the energy content of qualified renewable heating fuels, including requirements to notify the commission in the event of a change in status, monitor qualified facilities to ensure annual average energy content matches the expected generation of HRECs;

(ii) certification of eligible resources by issuing statements of qualification within 90 days of application, including prospective reviews for applicants seeking to determine whether a facility would be eligible;

(iii) annual compliance filings to be made by all obligated entities within 1 month after tracking system data is available for the fourth quarter of each calendar year; provided, that all obligated entities shall cooperate with the commission in providing data necessary to assess the magnitude of obligation and verify the compliance of all obligated entities;

(iv) sanctions for obligated entities that, after investigation, have been found to fail to reasonably comply with the renewable heating fuel standards or department rules and regulations; provided, that no sanction or penalty shall relieve or diminish an obligated entity from liability for fulfilling any shortfall in its compliance obligation; provided further, that no sanction shall be imposed if compliance is achieved through alternative compliance payments; provided further, that the commission may suspend or revoke the certification of eligible resources that provide false information or fail to notify the commission in the event of a change in eligibility status or otherwise comply with commission rules; and provided further, that financial penalties resulting from sanctions from obligated entities shall not be recoverable in rates;

(v) mechanisms for the purposes of easing compliance burdens, facilitating bringing new eligible resources on-line and avoiding or mitigating conflicts with state-level source disclosure requirements and green marketing claims throughout the region; provided, that mechanisms shall allow obligated entities to demonstrate compliance over a compliance year and bank excess

267 compliance for 2 subsequent compliance years, capped at 20 per cent of the current year's
268 obligation; and

269 (vi) public reporting on the status of the implementation of standards, including the
270 comparative use of HRECs and alternative compliance payments and the amount of rate
271 increases authorized by the standards.

272 Section 4. The commission shall adopt regulations authorizing cost recovery by natural
273 gas local distribution companies of all prudent incremental costs arising from the implementation
274 of the renewable heating fuel standards, including, without limitation: (i) the purchase of
275 qualified renewable heating fuels or HRECs or the payment of alternative compliance payments;
276 (ii) required payments to support assessments for compliance purposes; (iii) the incremental
277 costs of complying with energy source disclosure requirements; (iv) qualified infrastructure
278 investments or other activities that will grow the supply and utilization of qualified renewable
279 heating fuels and provide environmental benefits to the commonwealth, including approval of
280 investment in conditioning, injection and distribution infrastructure, such as extending the
281 transmission or distribution system for the purpose of interconnection with a qualified facility;
282 (v) making a financial investment for the purposes of interconnecting a qualified facility or
283 otherwise ensuring that gas created by the facility can be delivered to customers in accordance
284 with statutory requirements for injection, compression, quality and safety or other department
285 or federal regulatory requirements; (vi) participating in a state or federal renewable energy
286 program or project, if participation by the natural gas local distribution company (1) consists of
287 the purchase or sale of gas produced or environmental attributes and (2) results in a reduction of
288 the cost of gas produced to the company's customers; (vii) providing customers with the option
289 to purchase gas produced from a qualified investment, with or without environmental attributes,

290 directly from the natural gas local distribution company; or (viii) any other activity that develops
291 qualified renewable heating fuel sources, advances the sale of qualified renewable heating fuel
292 sources or promotes the diversification in energy supply within the commonwealth to advance
293 the commonwealth's environmental or climate goals. Costs may be recovered by means of an
294 automatic adjustment clause or any another recovery mechanism authorized by rule.

295 Section 5. The department shall conduct a renewable heating fuels inventory, which shall
296 include:

297 (i) a list of the existing eligible resources, including the location, an estimate of lifecycle
298 greenhouse gas emissions and an assessment of supply chain infrastructure associated with each
299 eligible resource;

300 (ii) a list of the potential qualified renewable heating fuel sources, including the estimated
301 potential production quantities and energy content of sources;

302 (iii) discussion of the best use or uses for potential qualified renewable heating fuel
303 sources, taking into account estimated lifecycle greenhouse gas emissions, costs and whether the
304 potential source can be used to address local gas or electric constraints; and

305 (iv) a description of the technologies available for use at each potential qualified
306 renewable heating fuel source, including estimates from qualified renewable heating fuel
307 sources, small renewable energy generating facilities, as defined in section 143 of chapter 164,
308 renewable energy facilities that would be otherwise curtailed, or renewable energy
309 generating sources, as defined in subsection (b) of section 11F of chapter 25A,

Section 6. The department shall research and determine gas quality standards for the injection of renewable natural gas, low-carbon hydrogen and any other resources qualifying for the renewable heating fuel standards into the common carrier pipeline system. The purpose of the standards shall be to identify acceptable levels of constituents of concern for safety and environmental purposes, including ensuring pipeline integrity, while providing reasonable and predictable access to pipeline transmission and distribution facilities. The department shall consult industry groups and identify industry best practices in establishing the standards.

Section 7. The department may review and approve siting of low-carbon hydrogen production and delivery facilities and infrastructure.

Chapter 164D

Renewable Thermal Solutions

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

“Commission”, the commonwealth utilities commission.

“Department”, the department of energy resources.

“District heating”, systems that (i) provide useful thermal energy to multiple buildings from a central resource; (ii) distribute useful thermal energy among buildings connected to a common thermal network; or (iii) both provide and distribute useful thermal energy.

“Geothermal district heating”, the utilization of useful thermal energy generated and stored in the earth to provide heat to buildings and industry through a distribution network.

330 “Natural gas utility”, a natural gas local distribution company.

331 “Renewable thermal district heating”, district heating relying primarily on useful thermal
332 energy from a renewable thermal resource.

333 “Renewable thermal infrastructure”, infrastructure for the conversion or distribution of
334 thermal energy from a renewable thermal resource.

335 “Renewable thermal resource”, any facility that generates useful thermal energy using: (i)
336 naturally occurring temperature differences in ground, air or water, via geothermal ground loop,
337 ambient water loop, air source heat pump or other technology; (ii) excess thermal energy, also
338 referred to as waste heat, from building energy systems or commercial processes; (iii) sunlight;
339 (iv) combined heat and power; or (v) energy efficient steam technology.

340 “Useful thermal energy”, (i) energy in the form of direct heat, steam, hot water or another
341 thermal form that is used in production for which fuel or electricity would otherwise be
342 consumed; and (ii) beneficial measures for heating, cooling, humidity control, process use or
343 other valid thermal end use energy requirements for which fuel or electricity would otherwise be
344 consumed.

345 Section 2. (a) Natural gas utilities shall provide useful thermal energy through investment
346 in renewable thermal infrastructure.

347 (b) The commission shall adopt regulations authorizing a natural gas utility to make
348 investments in renewable thermal district heating networks, including geothermal district heating
349 networks. The commission may approve the recovery of prudently incurred costs associated with
350 the networks.

(c) Natural gas utilities may recover prudently incurred costs associated with geothermal district heating investment from customers receiving heating and cooling services as a result of the investment, or from gas delivery customers, until such time as a class of geothermal district heating customers can be established by the commission. Once a class of geothermal district heating customers has been established, the commission shall investigate the appropriate cost allocation and recovery of any geothermal district heating investments made prior to the establishment of the class.

SECTION 9. The department of energy resources shall undertake a statewide study of renewable thermal district heating network potential, financing and policy options for the purposes of eliminating barriers to investment and promoting use of renewable thermal district heating. The department shall consult with stakeholders including, but not limited to, geothermal industry, heating and cooling professionals, and electric and gas distribution companies. Not later than February 1, 2022, the department shall report its findings to the governor and the clerks of the house and senate.

SECTION 10. The credit established in subsection (y) of section 6 of chapter 62 shall be available in tax years 2022, 2023, 2024, 2025 and 2026.

SECTION 11. The gas quality standards established in section 7 of chapter 164C shall take effect not later than December 31, 2022.