

Maine State Legislature
Committee on Energy, Utilities and Technology
January 23, 2024

**Testimony of Conservation Law Foundation in Support of L.D. 2077,
*An Act Regarding Customer Costs and the Environmental and Health Effects of Natural Gas***

Chairman Lawrence, Chairman Zeigler, and members of the Committee on Energy, Utilities and Technology, my name is Emily Green and I am a Senior Attorney with the Conservation Law Foundation (CLF). CLF appreciates the opportunity to submit this testimony in support of L.D. 2077.

CLF is a member-supported nonprofit advocacy organization working to conserve natural resources, protect public health, and build healthy communities in Maine and throughout New England. In Maine for almost four decades, CLF works to ensure that laws and policies are developed, implemented and enforced that protect and restore our natural resources; are good for Maine's economy and environment; and equitably address the climate crisis.

CLF urges the committee to vote ought to pass on L.D. 2077 to initiate critical conversations about the future of Maine's gas systems, utilities, and ratepayers, while putting a pause on gas growth in the meantime. Expansion of Maine's gas systems undermines Maine's mandatory climate targets and jeopardizes Mainers' health. Yet even while Maine increasingly adopts and implements climate policies favoring building electrification, gas utilities continue to spend and recover costs from ratepayers under traditional utility business models.

L.D. 2077 is Maine's opportunity to get this right. Maine can hit the brakes on expansion and investment and plan an affordable, orderly transition away from the gas system. Business-as-usual puts Maine instead on a path to an expensive, disorderly transition that will hit low income and fixed income customers the hardest.

Maine's Climate Law Is Transforming Fossil Fuel Use for Heating

In recent years, Maine's Legislature has significantly strengthened climate law and policy, including by enacting *An Act to Promote Clean Energy Jobs and to Establish the Maine Climate Council*¹ ("Climate Law"). The Climate Law mandates reductions of gross greenhouse emissions by 45% by 2030 and 80% by 2050.² The Legislature subsequently doubled down on the climate commitments, directing the state to achieve carbon neutrality by 2045.³

¹ P.L. 2019, ch. 476.

² 38 M.R.S. § 576-A.

³ P.L. 2022, ch. 517, § 1, An Act To Achieve Carbon Neutrality in Maine by the Year 2045.

Achieving those binding targets will require emissions cuts across all sectors, including substantial decarbonization of heating. In setting the path for slashing greenhouse gases from buildings, Maine’s Climate Action Plan is bullish on electric heat pumps.⁴ The Plan explains, “heat pumps and heat-pump water heaters . . . are among the most cost-effective ways to reduce greenhouse gas emissions,”⁵ and touts the benefits of building electrification to “make Maine’s homes and businesses safer, healthier, more comfortable, and more affordable.”⁶ The Plan recommends, to “meet Maine’s climate and equity goals, weatherization and heat-pump incentive programs should continue to expand to reach more Maine people. . .”⁷ More specifically, the Climate Action Plan calls for installation of “at least 100,000 new heat pumps in Maine by 2025, ensuring that by 2030, 130,000 homes are using between 1-2 heat pumps and an additional 115,000 homes are using a whole-home heat-pump system. Install at least 15,000 new heat pumps in income-eligible households by 2025.”⁸ After Maine surpassed its 100,000 heat pump goal two years ahead of time, Governor Janet Mills announced a new, bolder target: installing 175,000 more heat pumps by 2027.⁹

Maine is a nationwide leader on heat pump deployment, but we’re hardly alone in recognizing the many benefits of the technology—including good jobs, reduced reliance on fossil fuels, and cutting costs for Mainers—“a hat trick for sure,” according to Governor Mills.¹⁰ Rather, Maine’s enhanced commitment to heat pumps came as the U.S. Climate Alliance, a “bipartisan coalition of 25 governors representing approximately 60 percent of the U.S. economy and 55 percent of the U.S. population,” together announced a number of building decarbonization initiatives and commitments.¹¹ This included a collective pledge to “quadrupling heat pump installations by the end of the decade” with 20 million heat pump installations, with 40% of benefits going toward disadvantaged communities.¹² These efforts will be aided in large part by the federal government, with the Inflation Reduction Act of 2022 pouring billions of dollars towards the nation’s “transition[] from a fossil fuel economy to a clean energy economy,”¹³ including in the form of tax credits and rebates to lower the costs of heat pump manufacturing and installation.¹⁴

These state and federal commitments reflect a broad consensus that continued reliance on fossil fuels for heating is incompatible with emissions reductions.¹⁵ Neither promises of hydrogen nor

⁴ See Maine Climate Council, *Maine Won’t Wait, a Four-year Plan for Climate Action* (Dec. 2020) (“Climate Action Plan”), at 47-49, 51, 107.

⁵ Climate Action Plan at 47.

⁶ *Id.*

⁷ *Id.*

⁸ *Id.* at 48.

⁹ State of Maine Office of Governor Janet T. Mills, [After Maine Surpasses 100,000 Heat Pump Goal Two Years Ahead of Schedule, Governor Mills Sets New, Ambitious Target](#), (July 21, 2023).

¹⁰ *Id.*

¹¹ United States Climate Alliance, [U.S. Climate Alliance Announces New Commitments to Decarbonize Buildings Across America, Quadruple Heat Pump Installations by 2030](#), (Sept. 2023).

¹² *Id.*

¹³ Department of Energy, [Inflation Reduction Act of 2022 - What it Means for You](#), (Aug. 22, 2022).

¹⁴ See, e.g. Department of Energy, Office of Policy, [Making Our Homes More Efficient: Clean Energy Tax Credits for Consumers](#), (Dec. 21, 2022); see also Department of Energy, Office of State and Community Energy Programs, [Home Energy Rebates Programs](#).

¹⁵ See, e.g., Massachusetts Executive Office of Energy and Environmental Affairs, [Massachusetts 2050 Decarbonization Roadmap](#), (Dec. 2020) at 44-45 (“Across a wide range of potential futures, electrification of end

biomethane (so called “renewable natural gas”) can escape this conclusion.

Methane is a potent greenhouse gas regardless of the source.¹⁶ As such, even small leaks are significant.¹⁷ In fact, research has shown that even ongoing efforts to replace leaky gas distribution infrastructure have not reduced atmospheric methane concentrations, suggesting end-use appliances and technology are responsible for a more significant amount of leaks than anticipated.¹⁸ Even in a theoretical scenario where non-fossil derived methane could be captured and delivered to the point of combustion without leaking, there is no indication that sufficient cost-effective supply capacity exists.¹⁹ Moreover, claims of very low or even negative life-cycle greenhouse gas emissions from biomethane are often premised on faulty assumptions and must be closely scrutinized.²⁰ And combustion of methane indoors, whatever the source, releases emissions harmful to health.²¹

Hydrogen, even if made with renewable electricity, is too volatile a fuel to pipe throughout our streets and into our homes. Any future applications for hydrogen will have to be limited to sectors and industries that cannot be electrified. As it pertains to hydrogen, emissions accounting must consider the inputs required to produce hydrogen (including electricity and/or fossil fuels) and the outputs of the hydrogen production process (including GHG emissions). Further, cost-effective energy planning must identify and account for the required infrastructure for the production, processing, and storage of hydrogen and for the required pipeline infrastructure, as well as associated investments required for that infrastructure.²² For those applications which cannot be electrified, hydrogen should be produced only from clean resources and only from excess clean energy left over after other needs are met.

In short, the limited role that biomethane and hydrogen may play in a decarbonized economy cannot escape the widespread conclusion that aggressive electrification is the best path forward to cost effectively eliminate GHG emissions.²³

uses, particularly space heating through the use of electric heat pumps, was found to be the most economically advantageous and cost-effective decarbonization strategy for widespread deployment across the Commonwealth’s building sector”).

¹⁶ U.S. Env’t Prot. Agency, [Overview of Greenhouse Gases](#), (May 16, 2022).

¹⁷ Sargent, et al., [Majority of US Urban Natural Gas Emissions Unaccounted for in Inventories](#), (Oct. 2021).

¹⁸ *Id.*

¹⁹ The American Gas Foundation and ICF’s optimistic High Resource Potential case estimates a nationwide biomethane supply limit of about 3,800 TBTU/year, which is about 80 percent of recent US residential methane consumption and less than one quarter of the methane used in buildings and industry. See ICF for American Gas Foundation, [Renewable Sources of Natural Gas: Supply and Emissions Reduction Assessment](#), (Dec. 2019) and https://www.eia.gov/dnav/ng/ng_cons_sum_dcu_nus_a.htm. See also The Commonwealth of Massachusetts, Department of Public Utilities, D.P.U. 20-80-B, [Order on Regulatory Principles and Framework](#), (Dec. 6, 2023) at 68-69 (“Record evidence shows that there is significant uncertainty regarding the availability of RNG.”).

²⁰ See, e.g., Conservation Law Foundation, [Limited and Careful Use: The Role of Bioenergy in New England’s Clean Energy Future](#), (Oct. 30, 2023) at 34-35.

²¹ See, e.g., *id.* at 39.

²² Hopkins, Asa, et al., Synapse Energy Economics, [Scoping a Future of Gas Study](#), (Jan. 2021) at 10.

²³ See, e.g., Conservation Law Foundation, [Limited and Careful Use: The Role of Bioenergy in New England’s Clean Energy Future](#), (Oct. 30, 2023); see also The Building Decarbonization Coalition, [The Future of Gas in New York State](#) (March 2023), at 18; see also The Commonwealth of Massachusetts, Department of Public Utilities, D.P.U. 20-80-B, [Order on Regulatory Principles and Framework](#), (Dec. 6, 2023) at 68-72 (recognizing that “long-term use of the natural gas distribution system generally will be limited to strategic circumstances where

Gas Use is Detrimental to Health

Inconsistency with Maine’s climate mandates isn’t the only reason to take a hard look at continued and expanded reliance on methane gas for heating our buildings. New studies are increasingly linking methane gas use to indoor air pollution detrimental to human health, including nitrogen dioxide and benzene, a known carcinogen.²⁴ Poor air quality and the associated impacts are notoriously inequitable. Pre-existing and chronic health conditions exacerbated by air pollution are associated with race, income, and age.

Maine Needs to Address the Methane Gas System

Conventionally, gas utilities have expanded their service areas and grown their customer bases and been entitled to recover the costs of their investments from ratepayers. But expansion of Maine’s gas systems by traditional means undermines Maine’s mandatory Climate Law and jeopardizes Mainers’ health. This incompatibility portends disruption to traditional gas utility regulation. Yet Maine has done nothing to deter business-as-usual operations by its gas utilities, which continue to promote themselves to new customers.²⁵

CLF supports L.D. 2077 because it forces the state and stakeholders to come to the table to grapple with the impacts of Maine’s mandatory decarbonization targets on methane gas use, gas systems, gas utilities, and ratepayer costs. The process of transitioning our communities, their buildings and heating systems, the gas utilities that provide service to them, and the regulatory structure that governs them, will demand thoughtful and thorough planning to ensure just outcomes. A holistic investigation by the Public Utilities Commission is necessary to develop an adequate regulatory framework and ensure a just energy transition.

In the meantime, L.D. 2077 would rightly pause gas system expansion. Unless the Legislature takes action, Maine’s local distribution companies will continue to operate under business-as-usual conditions, including by entering long-term gas contracts and building new gas infrastructure, actions that are fundamentally at odds with climate action. Only this morning, Maine’s Public Utilities Commission found prudent Northern Utilities’ entry into agreements that will provide the utility with 12,500 Dth/day of incremental methane gas capacity for a thirty-year term—beyond Maine’s 2045 and 2050 mandatory decarbonization targets—and approved cost recovery through gas rates.²⁶

electrification is not feasible for all natural gas application,” but finding that “RNG currently does not meet the Department’s least-cost supply planning standards given the higher cost of RNG relative to pipeline gas,” “more studies are required in this area to support the claim that RNG is a zero-emissions fuel,” and “we are not convinced that sufficient RNG stocks will be available to ensure the alleged potential environmental benefits.” Disallowing cost recovery for “system upgrades due to the density of the fuels.”); see also Haley, Ben, et al., [Deep Decarbonization Pathways Analysis for Washington State](#) (Dec. 2016).

²⁴ See, e.g., D. Michanowicz et al., *Environ. Sci. Technol.* 2022, [Home is Where the Pipeline Ends: Characterization of Volatile Organic Compounds Present in Natural Gas at the Point of the Residential End User](#), 56, 14, 10258–10268 (June 28, 2022).

²⁵ See, e.g., [Rebates - Summit Natural Gas of Maine \(summitnaturalgasmaine.com\)](#); see also [Rebates and Incentives - MNG \(mainenaturalgas.com\)](#).

²⁶ *Northern Utilities Inc., d/b/a Unitil*, Request for Approval of Precedent Agreements for Empress Path Pipeline Capacity, No. 2023-00254, Oral Deliberations (Me. P.U.C. Jan. 23, 2024).

Allowing unbridled gas system expansion risks trouble for Maine down the line—whether for our climate targets, or our gas customers, or both. Today’s misguided investments lock Mainers into decades of additional gas use, disincentivizing utilities, the state, and ratepayers from moving away from fossil fuels. There is a substantial risk that such infrastructure would be used for the duration of its useful life, even if such use undermines climate policy.

As Maine increasingly implements its climate policies, gas utilities will face reduced customers and decreased demand. Gas infrastructure that ceases operating before the end of its useful life will leaving stranded assets, the cost of which will be passed on to customers.²⁷ Meanwhile, to offset declining demand and revenues, gas utilities will raise rates for their remaining customers. These higher prices will incentivize those who can afford it to pursue alternative energy sources and seek disconnection from gas, creating a negative feedback loop.²⁸ Allowing unmitigated expansion and these consequences will raise serious equity and economic efficiency concerns as fixed gas system costs are borne by a diminishing customer base, likely comprised of lower-income consumers least able to migrate to clean technologies.²⁹

Maine is fortunate: because less than ten percent of homes today heat with gas—far lower than the national average—we can design and implement a transition away from methane gas before extensive investments destined to outlast their useful lives. A thoughtful, managed transition, paired with sensible limitations on gas system expansion in the meantime, offer a reasonable path forward.

District Geothermal May Present Building Decarbonization Opportunities

CLF also notes our support for section 6 of L.D. 2077, directing the Commission to conduct an inquiry into district geothermal systems. These neighborhood-scale projects have the potential to provide efficient, affordable and reliable clean heating and cooling to neighborhoods through shared networks of water pipes that transfer heat in and out of buildings. Thanks to steady underground temperatures, ground source heat pumps connected to the network are far more efficient than methane gas furnaces, resulting in lower energy costs and flattening grid demand. And they offer the prospect of utilizing existing gas infrastructure to some extent.

Northeast states are at the forefront of exploring the promise of district geothermal, and the U.S. Department of Energy recently awarded \$13 million to 11 communities designing geothermal heating and cooling systems.³⁰ As Maine begins to contemplate its transition away from fossil fuels for heating, it should take this opportunity to investigate clean alternatives.

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²⁷ See, e.g., Heather Payne, [The Natural Gas Paradox: Shutting Down a System Designed to Operate Forever](#), 80 Md. L. Rev. 693 (2021).

²⁸ The Building Decarbonization Coalition, [The Future of Gas in New York State](#), (Mar. 2023) at 18.

²⁹ See, e.g., Conservation Law Foundation, [Limited and Careful Use: The Role of Bioenergy in New England’s Clean Energy Future](#), (Oct. 30, 2023), at 5.

³⁰ Department of Energy, [DOE Announces \\$13 Million to Support Community Geothermal Heating and Cooling Solutions](#), (Apr. 25, 2023).

Thank you for the opportunity to testify in favor of L.D. 2077. We urge the Committee to support this effort and to vote ought to pass.

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Please find attached the testimony of Conservation Law Foundation in support of L.D. 2077. Thank you for your consideration.