

WRITTEN STATEMENT
of
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Before the
Senate Committee on Global Warming and Climate Change

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Commonwealth of Massachusetts

HEARING on
“The Future of Gas”

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Chair Creem, Vice Chair Barrett, and the other members of the Committee:

Thank you for this opportunity to appear before you today. My name is Dorie Seavey. I am an independent applied research economist and the author of the report, *GSEP at the Six-Year Mark*. That report, released last fall, is an in-depth research study of the Commonwealth's Gas System Enhancement Plan (GSEP).

Filings show that GSEP is administered by the Department of Utilities (DPU) in a piecemeal fashion—as six separate company projects—but, in fact, GSEP is the largest infrastructure investment program ever undertaken in the Commonwealth. Despite its consequential implications, this mega-project does not receive the scrutiny, analysis, and evaluation it warrants.

My remarks today address the role that GSEP plays in the “Future of Gas” pathways put forward by the gas companies in the DPU 20-80 Investigation. GSEP has been a stealth player in 20-80, but it could not be more **foundational** to five of the eight pathways modeled by the Consultants—Efficient Gas Equipment, Hybrid, Targeted and Low Electrification, and Networked Geothermal. Each of these pathways—as they are defined by the Consultants—would simply not be feasible if GSEP disappeared. GSEP is foundational because the program allows the gas companies to speed up installation of new polyethylene plastic pipe so that the fracked gas they distribute can be blended with biomethane, synthetic natural gas and hydrogen.

GSEP's founding mission was to reduce leaks, promote safety, and lower methane emissions. But **this original purpose has quietly morphed**. GSEP has become the gas companies' accelerated investment vehicle for making our gas distribution system biofuel- and hydrogen-ready.¹ Nowhere in statute, however, has this new purpose received the Legislature's blessing.²

I would bring to your attention three specific GSEP-related issues: costs, gas leaks and methane emissions.

GSEP's costs. Even though five of the eight pathways in the “Future of Gas” Investigation assume the successful conclusion of GSEP, the Consultants' report does not explicitly provide a projection of GSEP's state-wide costs.³ However, the Consultants do provide a detailed forecast of annual GSEP investments through 2039 in an appendix to their final report.⁴ I used these annual forecasts to calculate the projected total cost of GSEP, assuming the DPU approved rate of return on pipeline assets for each gas company and the 60-year asset life for polyethylene pipes claimed by the gas companies in their CY2022 GSEP proceedings. **The resulting total GSEP cost is \$40 billion (measured in constant 2019 dollars).**

Gas leaks. The original GSEP program was expected to reduce gas leaks but, seven years in, there is still no convincing evidence that the program has delivered significant improvements on this front. While the end-of-year leak count has been declining—by about 5,000 leaks since 2014—the year-to-year decrease is much less than the annual new leak count. Leak repair activity at best manages to keep up with the new leaks emerging each year.⁵

Methane emissions. The Commonwealth uses outdated emissions factors that have been eclipsed by the findings of numerous scientific studies. As a result, our estimated methane emissions account for only a fraction of actual leaked gas.⁶ We also fail to use a lifecycle approach to measuring emissions—a best practice increasingly being adopted around the world.⁷

I commend this Committee for including GSEP in your review of the Future of Gas Investigation. The 20-80 Investigation has not given GSEP the scrutiny it deserves. And just a few days ago, the DPU

published its Procedural Schedule for the next phase of the Investigation rejecting the AGO/DOER recommendation for an extended 20-80 process that provides for a GSEP working group.⁸

DPU, instead, appears to be fast-tracking the sweeping set of regulatory requests made by the gas companies. If approved by the DPU, these requests would enable the gas companies to accomplish two key things:

1. Enable the procurement and use of biofuels, synthetic natural gas, and hydrogen; and
2. Begin charging ratepayers a new tariff as soon as possible to fund the so-called “decarbonization” activities of the gas companies and build up a reserve to finance accelerated cost recovery. This tariff would be in addition to the existing GSEP and Energy Efficiency tariffs.

In conclusion, I urge the Legislature to confront the disconnect between GSEP’s original purpose and what the program is being used for now. And I urge you to confront the staggering \$40 billion GSEP costs buried in the 20-80 Investigation. Surely these costs must be on the table if we are to properly assess the opportunity costs of the gas industry’s preferred pathways.

In terms of legislative action, I fully support the **Future of Heat bill**—it addresses important structural weaknesses in GSEP. And I must urge you to take **two additional consequential actions** to reign in a runaway GSEP program and better align GSEP with our climate mandates:

First, correct the Commonwealth’s methane emissions factors and incorporate a lifecycle greenhouse gas inventory approach. Requiring accurate emissions measurements will reorder the relative attractiveness of the eight 20-80 pathways in favor of electrification and the GeoGrid. Until the state’s measurement methods are corrected, neither the 20-80 Investigation nor GSEP will be aligned with the Commonwealth’s climate goals, and we will lack a sound, scientific, data-based foundation for decision making about our energy transition.

The **second** action is to exclude hydrogen and biofuels from the gas distribution system. These alternative fuels are not affordable, clean, safe, or healthy when piped into homes and they are not a wise or equitable investment for our heating sector.

Together with the Future of Heat bill, these two actions would dramatically alter the gas companies’ pipeline investment calculus, leading to a smart, strategic deceleration of GSEP while opening the door for gas companies to evolve their business models toward non-emitting, renewable thermal energy.

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ENDNOTES

¹ What does GSEP's new purpose mean financially for the six investor-owned gas companies? It reinvigorates over 90% of the gas industry's rate base in Massachusetts (see Figure 26 of the [Independent Consultant Report](#)) and provides for cost recovery at a nearly 10% rate of return over the next 60 years, allowing the gas industry to leverage its capital infrastructure for blended gases.

² For a non-stealth description of GSEP's new role, see the recently released [UMass-Lowell "Future of Hydrogen for MA"](#) on the viability of implementing hydrogen in Massachusetts (p. 72): "*With the GSEP active, metal pipelines will continue to be replaced with plastic independent of any interest updating infrastructure for hydrogen compatibility.*" The report points to the fact that so far over half of the Commonwealth's pipelines have been replaced with plastic. An additional 4,000 miles of mains and hundreds of thousands of services remain to be replaced. The report suggests that GSEP's timeline "*be accelerated to hasten Massachusetts' displacement of natural gas with green hydrogen, reducing carbon emissions more quickly.*" (p. 72)

³ Instead, references are made to "a significant increase in gas system costs through the mid-2030s," driven in large part by GSEP ([Independent Consultant Report](#), p. 68).

⁴ See Appendix 4 (Input Assumptions) of the [Independent Consultant Report](#), worksheet titled "GSEP Investment Forecast."

⁵ In its latest gas leaks report to the Legislature ([21-GLR-01](#)), the DPU claims that total gas leaks declined by 7.7 percent from 2019 to 2020 (p. 9). But this claim is highly questionable for two reasons. First, gas company responses to interrogatories from the Attorney General in the current GSEP proceedings show that the vast majority of gas leaks are identified by "odor calls" from the public, and that in 2020, odor calls declined by an unusually large amount—13 percent—probably reflecting a Covid lock-down effect (calculations by Seavey). Second, by the end of 2020, Eversource Gas of Massachusetts appears to have revised its leak inventory, eliminating 1,314 leaks from its books (see Appendix A of 21-GLR-01, p. 24).

⁶ It is noteworthy that, even with the Massachusetts Department of Environmental Protection's faulty emission factors, the gas companies participating in GSEP have been unable to meet the methane emissions reduction targets set by MassDEP's methane emissions reduction program. In 2018 and 2019, total gas company methane emissions exceeded the maximum annual emissions targets established in DEP's methane reduction program. In 2020, the three largest companies exceeded their allowable emissions limits by a combined total of 7,408 metric tons of CO₂e. Nominal compliance in all three years was achieved only by petitioning for set-aside emissions. See the reporting provided at: <https://www.mass.gov/service-details/reducing-methane-ch4-emissions-from-natural-gas-distribution-mains-services-310-cmr-773> and [GSEP at the Six-Year Mark](#), pp. 41-44.

⁷ The Consultants acknowledge this weakness, noting clearly that their analysis assumes that so-called "renewable fuels" have a net-zero GHG impact and that they are using the Commonwealth's emissions factors for the natural gas system: "*In this study, consistent with the Massachusetts GHG inventory, the Consultants have assumed that renewable fuels have a net-zero GHG impact. This contrasts with other states, such as New York, that have adopted a lifecycle approach to accounting the GHG impacts of renewable fuels. The Consultants recognize that treating renewable fuels as having net-zero emissions is a simplification of the complex carbon flux associated with these fuels, as is further detailed in Appendix 1. As such, pathways that rely more heavily on renewable fuels bear risks related to lifecycle emissions and GHG accounting methods.*" (p. 52)

⁸ The purpose of the working group, [as proposed by the AGO/DOER](#), would have been to develop recommendations for regulatory and legislative changes to align GSEP with applicable climate mandates while ensuring the safety and reliability of the transitioning gas system.