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For a thriving New England

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Submitted via Electronic Mail

October 21, 2022

Luly Massaro, Clerk
Public Utilities Commission
89 Jefferson Boulevard
Warwick, RI 02888

Re: PUC Docket 22-01-NG - Comments of Conservation Law Foundation Regarding Public Utilities Commission Staff's Draft Scope of Docket

Dear Public Utilities Commission Staff:

The Conservation Law Foundation ("CLF") is pleased to offer comments regarding the Draft Staff Recommendation for Public Comment in Public Utilities Commission ("PUC") Docket 22-01-NG – Investigation Into the Future of the Regulated Gas Distribution Business in Rhode Island in Light of the Act on Climate. CLF thanks the PUC Staff for their thoughtful approach to designing a scope and process for the docket, and for their consideration of these comments.

Founded in 1966, CLF is a nonprofit, member-supported, regional environmental organization working to conserve natural resources, protect public health, and promote thriving communities for all in the New England region. CLF protects New England's environment for the benefit of all people. We use the law, science, and the market to create solutions that preserve our natural resources, build healthy communities, and sustain a vibrant economy. We are working to cut emissions from the heating sector, and push for affordable and equitable heating policies across New England.

CLF has joined with several other environmental advocacy organizations to submit group comments, and submits these comments separately to provide more specific feedback on the scoping of the technical pathways analysis (section C of the draft scope) and a few other topics.

1. **Consultants performing the technical pathways analysis should answer to the PUC rather than the utility; alternatively, the PUC should have its own experts perform a parallel analysis**

Consultants employed by the utility to perform the technical pathways analysis will necessarily have a conflict of interest. If the experts performing the analysis do not answer to the PUC directly, then the PUC should at least engage its own consultants to perform a parallel analysis to

ensure that a neutral, public policy-focused analysis takes place. As discussed below, analyses should be transparent and accessible to stakeholders.

2. Each modeled pathway must be consistent with legal mandates of the Act on Climate

Pathways that are not consistent with the State's overriding greenhouse gas ("GHG") emissions reduction mandates are not realistic and are counterproductive to the PUC making essential and timely decisions. Each scenario considered or modeled must also be consistent with the State's other energy policies, such as the renewable energy standard, renewable energy procurements (offshore wind, etc.), and the statutory requirement to achieve all cost-effective energy efficiency. Where achieving a pathway modeled in a given case would require changes to statute or regulation, the analysis must be explicit about that assumption and the required change.

To the extent possible the modeled pathways should also be contextualized within the upcoming update to the State's Greenhouse Gas Emissions Reduction Plan.

3. Each analysis should evaluate scenarios that are complete and internally consistent

When developing cases, the analysis should assume that the governmental, utility, and private sector actors reflected in a given scenario (including residents and businesses) would act reasonably to make cost-effective and prudent decisions. The analysis must avoid scenarios in which some entities make decisions that don't make sense (such as choosing manifestly non-cost-effective appliances or fuels, unless there is a compensating policy or program that changes their incentives). Each case presented and analyzed must be the best version of its scenario, attempting to solve all the problems raised within it. "Straw" scenarios that serve primarily as a foil to make a preferred scenario or scenarios look better are not useful.

a. Analyses must account for the broader energy system, not just the gas utility sector

A key question in developing scenarios will be the extent of remaining emissions from the gas utility sector, in the context of overall achievement of GHG reductions. It is therefore critical for analyses to be explicit about assumptions, emissions, and services delivered by the broader energy system. Electrification of building heating, for example, requires modeling of the electric sector in concert with pipeline gas; electrification of transportation offers potential controllable load that could reduce costs in the electric sector. The analyses should address the need for all sectors to contribute to meeting legal mandates, with the goal of finding an implementable all-sector path with both reasonable costs and sufficient certainty of success.

b. Analyses should be clear and reasonable regarding assumptions for policies and pathways implemented in other states and regions

While Rhode Island utilities and policymakers cannot be completely sure of the structure of policies and long-term goals of other states and provinces, the analyses must take the stated objectives and statutory or regulatory requirements of other jurisdictions into account. For

example, it is not reasonable to assume that Rhode Island will meet its goals while its neighbors pursue a "business as usual" path. Four of the other five states in the ISO New England region—Massachusetts, Connecticut, Maine, and Vermont—have enforceable statutes mandating deep GHG emissions reductions by 2050. The analysis must clearly document and justify the assumptions for the pathways pursued in other states or provinces. This is particularly important around shared resources (such as the regional transmission system) or limited resources (such as biofuel with credible lifecycle carbon accounting and agricultural waste).

c. Analyses should incorporate reasonable assumptions regarding the efficacy and impact of policies that comprise part of the scenario

Scenarios must not simply assume 100 percent success at achieving a policy target, or 100 percent participation in a program, without backing up those assumptions with clear sources and/or analysis. For instance, even regulatory tools such as building codes take some time to achieve their full effect due to development timelines and they are only as good as their enforcement.

4. Analyses should utilize a well-defined and explained benefit-cost framework

PUC Staff's draft scope appropriately includes the question: "What effects of decarbonization should be tracked between scenarios? For example, benefits, costs, rate impacts, inclusion and participation, reliability factors, impacts on other sectors, etc."

We agree with PUC Staff's recommendation that the PUC must determine its principles for harmonizing the requirements of the Act with regulation of the gas system. PUC Staff compares this process to the development of the Docket 4600 framework, which may well serve as a useful starting point for developing a cost-benefit framework in this docket. The framework should require the use of the Total Resource Cost test and include all benefits and costs associated with the energy system as well as all benefits and costs associated with program participants. Following one of the key principles of the National Standard Practice Manual, the analysis should include any other benefits and costs that support the State's policy goals and objectives which go beyond the Docket 4600 framework.

5. Analyses should be transparent and accessible to stakeholders

Developing trust in the results of analysis requires the ability to understand and follow the details of quantitative analysis. The consultants performing the pathways analysis must publish the models used or (if proprietary models must be used) publish all inputs and outputs and set up a process for stakeholders to request scenarios to be run. As just one illustrative example, when modeling heating service delivery during winter peaks, the consultants should be prepared to share models of and assumptions regarding the electric and gas sectors (such as the generation mix, electric and gas prices to different sectors and entities, and the planning reliability criteria used).

We agree with PUC Staff's recommendation that a "technical working group" of stakeholders be convened, and that it have input on the development and delivery of the pathways analysis

report. This should include regular check-ins with agendas covering presentations of draft or interim results (rather than simply updates on the process).

It is also important to also engage and inform beyond those stakeholders who already engaged. For example, explicit and targeted engagement with environmental justice, energy justice, and consumer protection advocates should inform how scenarios' results are evaluated and presented.

6. **Analyses and recommendations should account for the risk of failure along different pathways, as well as the path dependence which limits the ability to change course in the event of failure, and identify the state of technological maturity (and associated amount of risk) for each technology**

Some pathways may depend on technologies not yet in wide use or production (such as hydrogen boilers or gas heat pumps) and most will assume that technologies improve in their performance over time. However, product availability and performance are not assured. Similarly, new policy or programmatic approaches may have greater risk of failure or may need more time to be effective than assumed. For example, when developing scenarios one technology may appear to enable a cheaper path under baseline assumptions, but if it were to fail to be available or were not adopted, the resulting pathways could result in very high costs. Meanwhile, another technology or policy approach might be more proven but slightly more expensive, or allow optionality and flexibility in the case of failure. Analyses should make clear where this tradeoff exists, and how it informs the recommendations.

7. **Recommendations should be sufficient to achieve a pathway consistent with State policy, and identify clear responsibilities for action**

Where recommendations differ from, or elaborate upon, the objectives and policies presented in the 2022 update to the State's Greenhouse Gas Emissions Reduction Plan, the consultants must present sufficient detail and analysis to show that the recommended policies or actions achieve the same GHG objectives with reasonable cost, both before 2030 and in their effects between 2030 and 2050.

Recommendations should be actionable, with both a clearly identified entity that would act and a clear timeline for action. In the case where it is not clear that a recommendation can be executed (e.g., it depends on federal action or action by another entity outside of Rhode Island), the report should identify the fallbacks that would be needed to achieve the proposed pathway.

Where possible, recommendations should be measurable and paired with the appropriate metrics. The report should also present the potential limits or obstacles to meeting the recommendations (and what the source of that barrier is, such as legislative, shareholder, regulator, etc.).

8. **The analysis must use best practices for methane emissions accounting, and include methane leakage in modeling for alternative fuels**

In any analyses relating to biomethane or "renewable natural gas," consultants must provide and justify explicit assumptions regarding cost and availability of biomethane for consumption in

Rhode Island, including accounting for GHG emissions resulting from methane leakage throughout supply chain; providing (and justifying) explicit assumptions regarding the net GHG emissions resulting from the use of biomethane in the manner incorporated into the scenario; and making a clear case supporting any claim of zero or negative net emissions.

Gas, whether fossil gas or "renewable natural gas," is approximately 90% methane, and gas leaks—which occur at nearly every part of the production and distribution process—are the main source of methane emissions in Rhode Island. Methane is an extremely potent GHG, with a Global Warming Potential ("GWP") 86 times that of carbon dioxide per unit mass in the short term.[1] Small changes in modeled gas leakage rates can therefore have enormous impacts on overall modeled emissions and the viability of different pathways.

PUC Staff's draft scope includes two questions on how GHGs are measured under the Act on Climate:

> a) How are emissions accounted for by the EC4 in each sector and for the state?
> b) What emissions and actions are represented in the 1990 GHG inventory and the current GHG inventory?

In the case of emissions from methane leaks, CLF believes that it is prudent to look beyond the State's past accounting practices and consider whether such emissions have been undercounted, and how more rigorous accounting might affect the pathways analysis. We hope that if it is discovered that past methane accounting may be improved upon in this docket, the improved accounting will be incorporated into the State's next emissions inventory.

A 2019 report by the Stockholm Environmental Institute and Brown University's Climate and Development Lab argues convincingly that the leakage rate used in Rhode Island's GHG emissions inventories is likely far too low.[2] It bases its modeling on a 2015 study of gas leaks in Boston—a city with a makeup of pipelines (by material, type, and age) comparable to Providence—that found a leakage rate of 2.7%.[3] This is substantially higher than the rate used in Rhode Island's modeling. It also uses a 20-year, rather than 100-year GWP time horizon, reflecting the limited time we have to preserve a livable planet.

Incorporating this more accurate accounting of gas leakage increases 2017 baseline emissions from 10.8 million metric tons of carbon dioxide equivalents ("MtCO2e") to 15.7 MtCO2e—a 45% increase in <u>overall</u> statewide emissions.[4] This estimate is massively higher than that of the

[1] *See* Intergovernmental Panel on Climate Change, *Climate Change 2013: The Physical Science Basics* 714 (2013), *available at* https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_all_final.pdf.

[2] *See* Stockholm Envtl. Inst. & Brown Univ. Climate and Dev. Lab, *Deeper Decarbonization in the Ocean State: The 2019 Rhode Island Greenhouse Gas Reduction Study* 20–23 (2019), *available at* https://www.sei.org/wp-content/uploads/2019/09/deeper-decarbonization-in-the-ocean-state.pdf; *see also* R.I. Exec. Coordinating Council on Climate Change, *Rhode Island Greenhouse Gas Emissions Reduction Plan* (2016), *available at* http://climatechange.ri.gov/documents/ec4-ghg-emissions-reduction-plan-final-draft-2016-12-29-clean.pdf (using data that assumes a lower gas leakage rate).

[3] *See* Kathryn McKain et al., *Methane Emissions from Natural Gas Infrastructure and Use in the Urban Region of Boston, Massachusetts* (2015), *available at* https://www.pnas.org/content/pnas/112/7/1941.full.pdf.

[4] *Id.* at 15.

State's 2019 Emissions Inventory, which counts a miniscule 0.15 MtCO2e in emissions from natural gas distribution in 2016.[5]

In addition to leaks from pipes along the distribution system, a significant amount of methane leaks occur behind the meter. In over 40 million homes across the United States, natural gas stoves leak methane through post-meter leaks and incomplete combustion.[6] Over a 20-year period, the amount of methane leaked from gas stoves in the United States has a similar GHG emissions impact as that of half a million cars.[7] In addition to the significant climate impacts of leaking natural gas stoves, these leaks have an adverse impact on indoor air quality, including release of NO_2 (a respiratory irritant that results in asthma), coughing, trouble breathing, and other respiratory symptoms.[8] This issue is not limited to aging or cheap gas stoves, but rather is a common issue among gas stoves of all ages and price points.[9]

Thank you very much for your consideration of these comments.

Sincerely,

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[5] R.I. Dep't of Envtl. Mgmt., *2016 Rhode Island Greenhouse Gas Emissions Inventory* 5 (2019), *available at* http://www.dem.ri.gov/programs/air/documents/ghg-emissions-inventory-16.pdf.

[6] Lebel et al., *Methane and NO_x Emissions from Natural Gas Stoves, Cooktops, and Ovens in Residential Homes*, 56 Envtl. Sci & Tech. 2529 (2022), at A.

[7] *Id.*

[8] *Id.* at C.

[9] *Id.* at I.