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Re: Natural Gas Fact Finding – Alternative Scenario Modeling (UM 2178)

Our undersigned organizations, made up of climate and energy justice advocates and experts, appreciate the opportunity to submit comments in response to gas utilities' alternative scenarios modeling in the Natural Gas Fact Finding proceeding (UM 2178).

We are grateful to the Oregon Public Utility Commission (OPUC) Staff for responding to stakeholder requests by requiring gas utilities to model these alternative compliance scenarios. As we explain further below, compared to the initial modeling results provided in the Workshop #3, these alternative scenarios provide a more realistic outlook for how we can meet our statewide emissions reduction goals.

As our organizations expressed in previous comments, climate realities, state and local regulations, economics, and a variety of other factors indicate that business-as-usual gas system growth is unrealistic. After years of climate-driven disasters including heat waves and wildfires, ratepayers will increasingly seek electric options on their own and local communities will continue to consider limiting or eliminating new and existing methane gas hookups as avenues to meet their climate goals. Communities nationwide are exploring or have adopted building electrification measures, and the trend is only going to spread. Just last month, Eugene's City Council voted to advance two electrification-related policies.[1] And earlier this week—in a significant move demonstrating the lack of feasibility for fossil fuel projects in the state due to significant public and grassroots opposition—the Jordan Cove LNG pipeline effort was finally abandoned.[2]

What these trends—and the alternative scenario compliance model results—highlight is that electrification is a growing trend and can provide significant decarbonization and savings benefits to communities and the state. As more communities opt to transition from gas to electric buildings, it is critical that the OPUC do everything in its power to support this transition in both the short- and long-term while ensuring that it is equitable and affordable for all Oregonians. We hope this message, along with a variety of programmatic, ratemaking and planning regulatory tools we suggested after Workshop 4 (some of which we raise again below) are included in the upcoming staff report to Commissioners.

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[1] Megan Banta, 'We need to be tough': Eugene officials will discuss requiring all-electric in new building projects, Nov. 20, 2021, *available at* https://www.registerguard.com/story/news/2021/11/20/eugene-climate-change-natural-gas-electrification-nw-natural/8657640002/.

[2] Carisa Cevgaske, Jordan Cove developers abandon plans for pipeline, Coos Bay LNG pipeline, Dec. 1, 2021, *available at* https://www.oregonlive.com/business/2021/12/jordan-cove-developers-abandon-plans-for-pipeline-coos-bay-lng-terminal.html.

Specifically, as we outline further below, the OPUC Staff should include in their upcoming report recommendations that the Commission do the following:

1. Align energy efficiency spending with least-cost decarbonization pathways;
2. Reform line-extension policies to curb risky gas system expansion;
3. Support gas system pruning to strategically resize the gas system while avoiding wasted costs;
4. Expand efforts to ensure robust low- and moderate-income (LMI) ratepayer protections as gas customers move to electrify; and
5. Consider accelerated depreciation schedules to mitigate cost impacts to residential ratepayers.

Some of these recommendations will take time to implement, but **the following actions can and should be taken in the short-term, without delay:**

1. Revise the line-extension allowance policy;
2. Revise ETO's fuel-switching policy to encourage switching from gas and bulk fuels to more-efficient electric options; and
3. Expand low-income weatherization programs to allow for funds to be used for low-income electrification options and/or create a pilot program to encourage equitable electrification for LMI households.

As always, the OPUC must continue to expand efforts to ensure robust low-income ratepayer protections.

I. Gas Utility Responses to the Regulatory Tools Workshop Highlight their Reluctance to Meaningfully Address Climate and Ratepayer Risks

Before discussing the utilities' alternative scenarios modeling results, we want to briefly address their feedback on the regulatory tools discussion in this proceeding. Utility comments in response to Workshop #4 expressly objected to the OPUC considering any regulatory tools that would encourage electrification or reduce gas demand[3] and raised concerns about electrification, or tools meant to encourage electrification, as being outside of the scope of this proceeding. However, as we explain below and as stakeholders have expressed in previous comments, electrification is a critical mechanism to meet Oregon's carbon emissions reductions goals and can help reduce costs and provide a myriad of benefits to Oregon ratepayers, particularly when compared to investing in expensive, risky, and ultimately unrealistic fuel sources like RNG and hydrogen.

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[3] *See, e.g.,* Avista Utilities Natural Gas Fact Finding Comments on Regulatory Tools (Oct. 26, 2021), *available at* https://edocs.puc.state.or.us/efdocs/HAC/um2178hac142332.pdf ("Avista is concerned with the framing of the regulatory tools discussion and the expanded scope for the NGFF has taken . . . the matrix discussed and provided by [RAP] . . . is not geared towards the regulatory tools that may be used to mitigate potential ratepayer impacts from natural gas utilities compliance with DEQ's CPP."); Northwest Natural Comments (Oct. 26, 2021), *available at* https://edocs.puc.state.or.us/efdocs/HAH/um2178hah165724.pdf ("Establishing decarbonization mandates or pre-deciding how the state should achieve its climate action goals are not within the Commission's statutory purview."). Cascade Natural Gas, for its part, merely objected to an exclusive focus on electrification. *See, e.g.,* Cascade Natural Gas Comments on Workshop #4b (Oct. 26, 2021), *available at* https://edocs.puc.state.or.us/efdocs/HAC/um2178hac145937.pdf ("However, we are concerned that some pathways identified by RAP appear to be based on unexamined presuppositions regarding the exclusive viability of electrification as the sole tool for achieving decarbonization.").

It makes sense that the gas companies would be resistant to tools that would rein in their spending or encourage customers to invest in electric alternatives. As one example, Avista illuminated their resistance to such tools by saying, "[We suggest] that Staff only include discussion of the regulatory tools that adhere to the scope and objectives outlined and avoid any tools with targeted outcomes of harming natural gas utilities or electrification."[4] But objection from these companies is not a reason for the OPUC to shy away from considering these tools, particularly if the outcome would be best for both mitigating carbon emissions, public health risks, and cost impacts to ratepayers.

Further, the OPUC should be skeptical of the gas companies' requests for planning at the expense of near-term implementation of programmatic and ratemaking tools. NW Natural's comments in particular laid out their case for delaying action under the pretense of asking for a series of questions to be answered before any regulatory tools are considered. In nearly every case, as we have pointed out in previous comments, studies have already been completed which address their concerns and show that electrification is a cost-effective way to decarbonize buildings in Oregon and indeed across the US. Although we agree that robust planning is important, we think that a variety of additional tools—including those we address further below—can be implemented immediately, in tandem with longer-term planning efforts.

II. Alternative Scenario Model Results Indicate Electrification is a Desirable Outcome

We appreciate having the alternative scenario model results as a means of comparison with the utilities' initial CPP compliance modeling. These results provide some insight into the costs and benefits of a future all-electric energy system compared to one with significant investments in RNG, hydrogen, and gas heat pumps.[5] Even if there is more to learn and tease out from these results, or additional modeling that will be required, the results are heartening. Ambitious electrification is an efficient way to accelerate emissions reductions and take advantage of technologies and solutions that are available and cost-effective today, versus unproven or yet-to-be-commercialized solutions relied upon in the initial gas utility models.

We do note that Avista's submission is disappointing; without narrative text explaining its modeling results, stakeholders are unable to weigh in on the results. We request the OPUC Staff direct Avista to update its submission to provide an accompanying summary of its results.

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[4] Avista Utilities Natural Gas Fact Finding Comments on Regulatory Tools (Oct. 26, 2021) at 2, *available a*t https://edocs.puc.state.or.us/efdocs/HAC/um2178hac142332.pdf.

[5] *See* Tom DiChristopher, Hydrogen, RNG 'not ready for prime time' in gas grid - state policymakers, June 1, 2021, *available at* https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/hydrogen-rng-not-ready-for-prime-time-in-gas-grid-8211-state-policymakers-64792110 (quoting former New York State Public Service Commission Chair John Rhodes' statement that RNG and hydrogen shouldn't be used as justification for building more gas infrastructure, as they are not "ready for prime time").

A. NW Natural

NW Natural's alternative scenarios modeling indicates electrification is the most efficient method to decarbonize the fossil gas sector. Furthermore, because electrification is the most likely future scenario, this modeling provides some helpful initial insight into how the OPUC might aid in the transition while keeping an eye on ratepayer interests.

NW Natural's alternative scenarios modeling results plainly demonstrate that with aggressive electrification, emissions fall dramatically. With the significant climate risks facing the state, but with the important targets set out in HB 2021, these results provide assurance that Oregon has a clear path to achieve emissions reductions in the near term.

With respect to the modeling on costs, it is important to remember that NW Natural's CPP modeling was wildly optimistic with respect to customer growth, and the availability of RNG and gas heat pumps. The results are nevertheless interesting. Between the aggressive electrification modeling in Alternative Scenario 1 and the CPP modeling, NW Natural's results indicate that ratepayers will face lower annual increases in residential bills in the early years.[6] Commercial ratepayer costs are equivalent under both scenarios until 2030.[7] Under Alternative Scenario 1, NW Natural recognizes that there would be no additional costs required to comply with the CPP, and costs to comply with the CPP in Alternative Scenario 2 would be delayed until the 2040s.

The alternative scenarios highlight the need for the OPUC to both 1) manage the electrification transition so that LMI households are able to electrify quickly and are not left stranded on the gas system as costs go up, and 2) plan to mitigate cost impacts for remaining customers. A desire to comprehensively investigate the effect of broad-scale electrification on the electric and gas systems to address long-term reliability and peak demand issues is important, but such an investigation should not stop the OPUC from immediately considering ways to avoid future commitments that will expand the gas system, as we discuss below.

B. Cascade Natural Gas

In its alternative scenario submission, Cascade Natural Gas (Cascade) notes that it is "also including in its filing summary data from [a] study performed by the Company regarding potential costs of converting a home with natural gas water and space heating to all electric, for Staff's consideration in its analysis of the estimated costs of the transferred load. For example, In Scenario #2, Cascade modeling identifies that a little over 60,000 residential customers are projected to be converted to all electric from 2021 to 2040. At an average cost of $22,500 per home, the total cost of conversion would be approximately $1.35 Billion."[8]

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[6] *Compare* NW Natural, Compliance Modeling Presentation--Second Update at 53, https://edocs.puc.state.or.us/efdocs/HAC/um2178hac10454.pdf *with* NW Natural, Alternative Climate Protection Program Compliance Scenarios at 9.

[7] *Id.*

[8] Cascade Natural Gas Alternative Scenarios Modelling, 'RE UM 2178 Natural Gas Fact Finding Per EO 20-04" (Nov. 17, 2021), *available at* https://edocs.puc.state.or.us/efdocs/HAC/um2178hac9387.pdf.

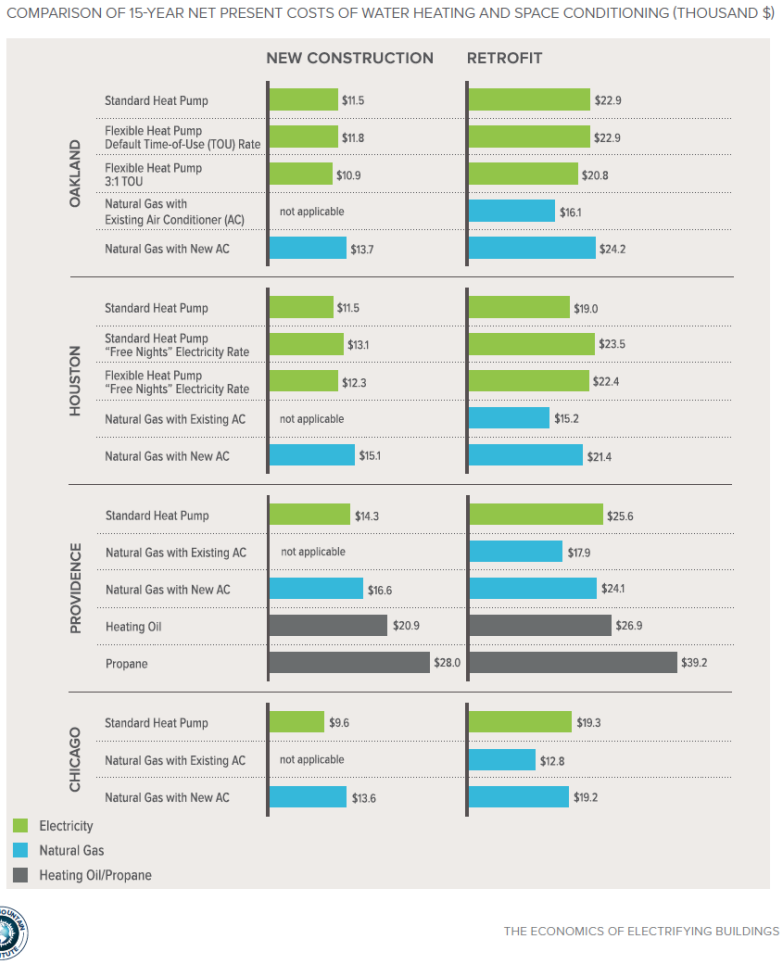
This is a highly misleading and unrealistic assessment of the true costs of electrification. Over the 20-year period described in this analysis, it is a fact that nearly all the homes which utilize gas for space heating and water heating will require replacements of furnaces and water heaters due to the natural lifespan of these devices. Consumer Reports states the average life expectancy of a gas furnace to be 15–20 years and recommends replacing them after 15 years.[9] Gas storage water heaters will last 10–15 years according to the US Department of Energy.[10] Some homes may need 2 water heater replacements within this time span.

The true cost of electrifying these homes, therefore, is the *additional cost* of an electric replacement compared to a gas replacement. Currently, it would cost more to upgrade gas appliances to electric heat pumps for space and water heating than to replace them with new polluting gas appliances, partly due to electrical upgrades to older homes that are sometimes necessary. However, that additional cost would be only a fraction of the $22,500 quoted since the Avista study does not list the expected costs for gas replacements for comparison.

A more useful and relevant study has been conducted by RMI comparing the retrofit costs of installing heat pumps for space and water heating versus the cost of new gas appliances in four cities: Oakland, California; Houston, Texas; Providence, Rhode Island; and Chicago, Illinois. In each case, retrofitting heat pumps for space and water heating was more expensive, but when air conditioning is included in the comparison the costs were comparable or less expensive than the gas plus AC installation (see Figure 1 below).[11] In addition, new 120V heat pump water heaters are coming on the market in 2022 which will dramatically reduce the cost of retrofitting by eliminating the need for new circuits and wiring in older homes.[12]

[9] Consumer Reports, "Gas Furnace Buying Guide". November 1, 2021, https://www.consumerreports.org/cro/gas-furnaces/buying-guide/index.htm.
[10] Us Department of Energy- Energy Saver, "Tankless or Demand-Type Water Heaters," *available at* https://www.energy.gov/energysaver/tankless-or-demand-type-water-heaters.
[11] RMI, "The Economics of Electrifying Buildings", 2018, *available at* https://rmi.org/insight/the-economics-of-electrifying-buildings/.
[12] Advanced Water Heater Initiative, "About Heat Pump Water Heaters", *available at* https://www.advancedwaterheatinginitiative.org/about-heat-pump-water-heaters.

Figure 1.



Reforming incentive policies and line extension allowance (LEA) policies could further benefit the cost comparison between electric versus gas heating upgrades. Eliminating fuel switching prohibitions for ETO incentives and discontinuing gas appliance incentives would go a long way to overcoming any cost differences. Electric LEAs for panel and wiring upgrades in houses that need those improvements would also reduce costs to install heat pump water heaters, space heating and induction stoves, and could be justified based on the higher electricity load those homes will demand.

Finally, this misleading analysis does not consider operational costs. As all the modelling in this docket demonstrates, gas prices will increase significantly over the next years due to the costs of compliance with decarbonization goals, as well as other factors such as the continued rise in gas commodity prices and the expected shift of more homes to electricity for heating. At the same time, renewable electricity costs continue to decline and are forecasted to decline further. In 2020 alone, onshore wind prices fell by 16% and solar PV prices by 7%, continuing decades of price decreases.[13]

[13] International Renewable Energy Agency, "Majority of New Renewables Undercut Cheapest Fossil Fuel on Cost", June 22, 2021, https://www.irena.org/newsroom/pressreleases/2021/Jun/Majority-of-New-Renewables-Undercut-Cheapest-Fossil-Fuel-on-Cost.

When all of these factors are included it is extremely likely that it will be *less expensive overall* for homeowners in Oregon to replace gas appliances with higher efficiency, non-polluting electric alternatives.

C. Avista

Unfortunately, Avista's submission did not comply with the OPUC's direction to provide updated graphics and tables similar to those supplied for the initial CPP modeling results. Without a summary of the modeling results explaining the outcomes, the whole exercise is futile. We note that without an explanation guiding stakeholders to an understanding of the results, an already complicated process becomes impenetrable to the average participant. We know the OPUC is working hard to ensure its processes are as transparent as possible. We ask Staff to direct Avista to supplement its filing in a way that complies with the OPUC's directions of October 1, 2021.

III. Alternative Scenario Results Point to Appropriate Regulatory Tools

NW Natural and Cascade modeling shows sharp emissions reductions with aggressive electrification. However, as we note above, the modeling also indicates costs to ratepayers will increase as fewer of them remain on the system. For this reason, it is imperative that the OPUC evaluate and adopt the necessary regulatory tools that can address this risk, including incentivizing and helping low-income ratepayers electrify.

We know that decreased gas demand is inevitable. As a result, the OPUC and regulated utilities need to prepare for and try to mitigate higher costs on a smaller subgroup of customers by safeguarding those customers (particularly LMI customers) rather than delaying the transition. The OPUC should prioritize adoption of the regulatory tools that will accelerate the transition to widespread beneficial electrification while mitigating cost impacts on ratepayers as gas system demand declines. The following five policies are the most important regulatory tools to prioritize.

A. Align Energy Efficiency Spending with Least Cost Decarbonization Pathways

Based on the more comprehensive decarbonization modeling now available, the OPUC must establish clear energy efficiency rules that incentivize efficient electrification. These policy directives should include specific direction to Energy Trust of Oregon (ETO) to prioritize incentives for highest efficiency electric equipment, actively promote fuel switching when economic for the customer, and begin the phase out of gas appliance incentives. It is now clear that efficient building electrification is a least-cost pathway to meeting Oregon's decarbonization commitments. The state's energy efficiency portfolio must reflect this electrification priority as soon as possible.

The OPUC should also emphasize income-qualified weatherization programs. Tighter building envelopes make it easier for customers to see bill savings after switching from fossil gas to efficient electric appliances, in turn growing the economic market potential of electrification measures. Expanding access to weatherization programs for low-income customers is key to ensuring those customers can participate in the clean energy transition along with wealthier customers who are already likely to live in better insulated homes.

The OPUC must be clear that this realignment of efficiency priorities is not and will never be at the cost of customer choice. ETO's current fuel switching policy states that because the "Trust does not intend its incentives to affect fuel choice… [it] will not advocate fuel-switching."[14] This is a limitation justified by a false dichotomy that the OPUC must correct. All ETO programs are voluntary. No Oregon energy customer is forced to choose a more efficient appliance at the store simply because that appliance is discounted by an ETO program. Customers will maintain that same choice over appliance styles and fuel sources regardless of what products ETO funds. Aligning voluntary ratepayer-funded programs with the least-cost pathway to meeting the state's climate commitments is simply a matter of fiscal responsibility—of ensuring public dollars are not spent at cross-purposes of the public good.

B. Reform Line-extension Policies to Curb Risky Gas System Expansion

Oregon must immediately reform its gas line extension allowance policy and eliminate the subsidy for gas connections to new residential and commercial buildings. As our previous comments detailed, Oregon utilities are subsidizing gas line extensions which encourage expanding the gas system infrastructure at a time when the gas system will need to begin the process of phase out.

A recent Stanford study on strategies to decarbonize the gas system in California showed that a moratorium on new gas hookups coupled with incentives for electrification was effective at lowering overall systems emissions with a minimal impact to residential ratepayers. In this study, emissions were lowered by 15% with only an 11% increase to residential rates. Eliminating gas line extension allowances in Oregon would not completely curtail new gas hookups, but would have a similar effect in greatly reducing the number of new connections and the associated infrastructure costs. This policy would not greatly impact residential rates, but would protect ratepayers from incurring the costs of unnecessary new gas infrastructure.[15]

Two neighboring states have made bold moves to reduce or phase out the gas line extension allowance since our last set of comments, Washington and California.[16] Those policies are described below.

1. *Washington immediately cut its line extension allowance by half and will revisit for a full phaseout*

At a recent Washington Utilities and Transportation Commission (UTC) open meeting, the UTC voted to immediately cut in half the gas line extension allowance because the existing allowance was not in line

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[14] Energy Trust of Oregon, 4.03.000-P Fuel-Switching Policy, *available at* https://www.energytrust.org/wp-content/uploads/2016/11/4.03.000.pdf.

[15] Stanford Woods Institute on the Environment, *The Costs of Building Decarbonization Proposals for Natural Gas Ratepayers: Identifying Cost Effective Paths to a Zero Carbon Building Fleet,* June 2021, *available at* https://woodsinstitute.stanford.edu/system/files/publications/Building_Decarbonization_Policy_CA_Natural_Gas_Ratepayers_Whitepaper.pdf.

[16] In addition to Washington and California, Colorado's PUC also proposed to amend the state's gas rules for line extensions by requiring that line extension policies adhere to the "principle that the full incremental cost associated with new development and growth shall be borne generally by the customers that cause those incremental costs" and that such policies must align with the state's GHG emissions reduction goals. *See* Decision No. C21-0610 in Proceeding No. 21R-0449G.

with the state's climate goals. The UTC will continue to discuss a zero-dollar allowance in the context of another gas proceeding.

Washington utilities currently use a perpetual net present value (PNPV) calculation to effectively subsidize new gas hookups at over $4000/ home. The UTC noted that most commenters on the line extension issue, including utilities, recognized that the current line extension allowance using PNPV methodology "is contrary to the legislature's clear direction to reduce greenhouse gas emissions and the use of fossil fuels. As many commenters aptly observed, it is imperative that we address climate change, including the health impacts of greenhouse gases and methane emissions on Washington's communities and citizens."[17]

The UTC, on October 29, 2021, instead adopted a Net Present Value calculation with a 7–year timeframe to cut the line extension allowance essentially in half, but will revisit a zero-dollar line extension allowance in the existing Future of Gas docket. "Recognizing the urgency of this issue, we view our decision today as an interim measure that will substantially reduce line extension allowances while we continue to engage in dialogue with regulated utilities and other stakeholders in Docket U-210553, the Commission's broader examination of energy decarbonization impacts and pathways for electric and gas utilities to meet state emissions targets."[18]

2. California proposes to eliminate the line extension allowance by July 2023

The California Public Utilities Commission (CPUC) recently released a proposed rulemaking that would completely eliminate the gas line extension allowance, the gas line extension refund, and gas line extension discount for residential and non-residential customers by July 1, 2023.[19] The rulemaking is just commencing.

The staff memo concludes that the "CPUC should use its broad regulatory authority to act decisively in support of building decarbonization. Other states, including Washington, have recently revised or are considering revising their gas line extension rules. Staff's recommendations are consistent with the direction of California climate policy and would meaningfully accelerate the pace of building decarbonization across the state. Adoption of Staff's recommendations would have a minimal impact on property prices, but would help reduce GHG emissions and save ratepayers money without limiting any builder from still seeking a gas line extension if one is still desired."[20]

Staff also concludes that adopting the three recommendations to eliminate the gas extension allowances, refunds and discounts "would send a strong signal to the builder community that future building projects should transition away from gas use, thus encouraging all-electric new construction and aiding the effort to reduce GHG emissions across California."[21]

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[17] Washington Utilities and Transportation Commission, Dkt.No. UG-210729, Order No. 1 at para. 27 (Oct. 29, 2021).
[18] *Id.*
[19] California Public Utilities Commission, Rulemaking 19-01-011, Phase III scoping memo at p. 1-2.
[20] *Id.* at 47.
[21] *Id.* at. 2.

Finally, the elimination of the gas line extension allowances, refunds and discounts would have significant ratepayer benefits and would save "approximately $120 million annually, based on 2020 data. This savings could, in turn, be used for a multitude of useful purposes."[22] The CPUC staff did not endorse a particular use for the savings but did cite an example that these cost savings could be used to accelerate the depreciation of existing gas pipelines and related infrastructure to ensure that any costs resulting from building decarbonization are shared amongst a broader group of gas ratepayers and do not fall more heavily on the last remaining gas customers who may be disproportionately low-income.

Additionally, electric line extension allowance policies should be revised to provide allowances for "behind the meter" upgrades to reduce barriers to electrification in existing homes, such as panel and wiring upgrades to enable increased electric loads for heating, cooking and EV charging. While these modifications to electric line extension allowance policy might appear to be outside the scope of this docket, they should be considered together with actions to eliminate the gas line extension allowance in order to accelerate the transition to clean, affordable energy for heating buildings in Oregon and to help to avoid building expensive and unnecessary gas infrastructure at ratepayers expense.

The Oregon PUC should include a discussion of the line extension allowances and other subsidies within this proceeding to move to eliminate the subsidy as soon as possible.

C. Support Gas System Pruning to Strategically Resize Gas System While Avoiding Wasted Costs

The more comprehensive decarbonization modeling also highlights the need to smartly manage the gas utilities' current infrastructure. As was noted by the utilities, fixed costs account for a large percentage, if not the majority, of the gas system's costs. As customers opt out of the gas system in favor of electrification, a smaller percentage of gas customers will be asked to maintain a system that is no longer appropriately sized. When coupled with increased hydrogen and RNG, lower-income customers ultimately pay *both* an increased share of the gas system's fixed costs *and* higher fuel costs. Accordingly, it is critical that the OPUC take a leading role in evaluating how to best minimize fixed costs.

One option to minimize fixed infrastructure costs is "branch pruning," whereby targeted electrification efforts allow for capping and abandoning portions of gas distribution infrastructure. While branch pruning undoubtedly comes with various legal hurdles (discussed below), in a study from Stanford's Woods Institute for the Environment, evaluating various decarbonization strategies for the gas industry in California, branch pruning showed the greatest potential for both reducing emissions and minimizing costs.[23] The Woods' study evaluated four scenarios against a reference case where no action is taken to reduce gas usage or emissions: (1) a statewide moratorium on gas hookups in new construction starting in 2026; (2) RNG increases 2 percent/year reaching 20 percent by 2030; (3) a ban on new gas-fueled appliances starting in 2026; and (4) strategic branch pruning starting in 2023. As shown in Figure 2 below, branch pruning showed significant greenhouse gas reductions with a lower or similar rate impact

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[22] *Id.* at 46.

[23] Stanford Woods Institute on the Environment, *The Costs of Building Decarbonization Proposals for Natural Gas Ratepayers: Identifying Cost Effective Paths to a Zero Carbon Building Fleet,* June 2021, *available at* https://woodsinstitute.stanford.edu/system/files/publications/Building_Decarbonization_Policy_CA_Natural_Gas_Ratepayers_Whitepaper.pdf.

compared to the alternative scenarios. For instance, a statewide moratorium on gas hookups in new construction achieved only half the emission reduction with a similar rate increase. The RNG scenario and a ban on new gas-fueled appliances also yielded emission reductions but with very significant rate increases.

Figure 2. Results of gas industry decarbonization strategies in California

Policy Option	**GHG Emission Reduction in 2035**	**Customer Rate Change in 2035**
1. Statewide moratorium on gas hookups in new construction starting in 2026	15%	11%
2. RNG increases 2 percent/year reaching 20 percent by 2030	30%	37%
3. Ban on new gas-fueled appliances starting in 2026	51%	56%
4. Strategic branch pruning starting in 2023	32%	12%

Although these results were specific to California, and a combination of these strategies might be beneficial, they indicate the potential for branch pruning to both reduce emissions and manage rate increases. As a result, it would be well worth the OPUC's time to evaluate the potential for branch pruning in Oregon.

To begin, the OPUC should assess where branch pruning would be most valuable and how to effectively develop community-based incentives to transition entire communities off of the gas system. In a report on equitable electrification for California, the Greenlining Institute recommended a five-step approach to ensuring that environmental and social justice communities[24] are not left behind in the transition to building electrification. Their approach includes: assessing community needs, including understanding the barriers preventing community members from electrifying their homes; establishing community-led decision making; developing metrics and a plan for tracking that includes both clean energy benefits and community benefits such as residents' ability to pay their energy bills; ensuring funding and program leveraging; and improving outcomes.[25] This approach would help to ensure deliberate and inclusive

[24] Greenlining Institute, Equitable Building Electrification: a Framework for Powering Resilient Communities (2019), *available at* https://greenlining.org/wp-content/uploads/2019/10/Greenlining_EquitableElectrification_Report_2019_WEB.pdf. Environmental and social justice communities are defined as: predominantly people of color or living on low incomes; underrepresented in the policy setting or decision-making process; subject to disproportionate impact from one or more environmental hazards; and likely to experience disparate implementation of environmental regulations and socioeconomic investments.

[25] *Id.*

action and can be applied to branch pruning efforts, which will require collective action of entire communities to abandon and cap portions of the gas system.

A second question concerns whether the OPUC has authority to require abandonment of certain portions of the gas system, if doing so would be in the best interest of ratepayers. The answer will require analysis of various legal requirements and may require additional authority granted from the legislation. The OPUC should begin that analysis now. However, pursuant to Or. Admin. R. 860-021-0305(10), utility service may be disconnected "[w]hen the Commission approves the disconnection of service." The OPUC, thus, appears to have broad authority overseeing disconnections. Nonetheless, the OPUC would need to ensure that a gas service disconnection was adequately substituted with electric service and was available to all within the targeted community. Gas and electric utilities in Oregon have an obligation to serve, in exchange for exclusive monopoly territories.[26] The OPUC will need to ensure that the service obligation is met. Additionally, utilities will seek guarantees that reconnection will not later be required if they decommission and abandon portions of the current system.

D. Expand Efforts to Ensure Robust LMI Ratepayer Protections as Gas Customers Move to Electrify

Under all modeled future scenarios, it is clear that robust LMI ratepayer protections will be critical to ensure that the costs of decarbonization are not put on those who are least able to pay for it.

As we expressed in our previous comments, the OPUC should take a multi-pronged approach to implementing LMI protections, including developing new programs to drive electrification and weatherization improvements for lower-income households specifically. These programs will deliver economic and health benefits to these communities in addition to lowering statewide emissions.

While in general the OPUC should double-down on electrification programs that help everyone, it should prioritize new programs that specifically focus on LMI households to avoid potential negative bill impacts for those ratepayers. These projects should be developed with key stakeholders at the table who might not have had the opportunity to participate in this UM 2178 proceeding, but who are most closely familiar with the needs of LMI communities and the challenges with implementing energy efficiency programs in these communities. Special attention should be given to programs focusing on rural communities and the unique challenges they face in transitioning to electric solutions. This will ensure that programs are designed to maximize effectiveness and ensure that those most in need are truly served by these programs.

One clear, no-regrets option to ensure LMI households reap the benefits of this clean energy transition would be to expand affordable weatherization and electrification solutions for LMI and rural houses and rental units. Weatherization, electric heat pumps for heating and cooling, and induction cooking will improve comfort and indoor air quality, reduce health risks, improve the productivity of those targeted by the programs, and reduce operating costs and greenhouse gas emissions. As Oregon is likely to see an

[26] The Territory Allocation Law, codified in Or. Rev. Stat. 758.400 to 758.475.

influx of federal funding for these electric solutions, the OPUC can help ensure that these funds go to the communities that need assistance the most.

E. Consider Accelerated Depreciation to Mitigate Cost Impacts to Residential Ratepayers

As RAP outlined in their presentation and stakeholders highlighted in previous comments, lowering the rate base is an important strategy to mitigate the long-term rate increases we can expect to see for gas customers who remain on the system in the coming decades, while lowering the risk of stranded assets. Accelerating depreciation is one option to lower the rate base, but the OPUC should consider this within the larger context of what is best for ratepayers. While accelerating depreciation may be an important tool to reduce long-term costs to ratepayers stuck on the gas system as others electrify, it should not be used as a tool to effectively give utilities a buyout for their bad investments. While considering accelerating depreciation schedules, the OPUC should also weigh whether it would be better to use available funds to help ratepayers more directly.

That said, in considering accelerated depreciation, the OPUC should include two distinct scenarios. First, for existing gas infrastructure, the OPUC should evaluate accelerating depreciation on the remaining book value of these assets.[27] Over the coming years, it is extremely likely that significant numbers of gas customers will transition to all-electric systems, that the gas system may need to change or shrink significantly, and that remaining gas infrastructure may become obsolete. If the depreciation schedules remain unchanged, it is likely that gas infrastructure may become stranded assets and that customers who remain on the gas system for longer (e.g., lower-income and middle-income customers) will be responsible for disproportionately high shares of the depreciation expense. Accelerating the depreciation schedule can help to ensure that a larger customer base helps pay for the costs of existing—and previously deemed prudent—investments rather than allowing the remaining costs of the existing system to fall on those with the least ability to pay.[28]

Second, when evaluating any new infrastructure, the OPUC should evaluate costs on a shorter depreciation schedule of 10 years or less. While utility capital investments are often designed to last for multiple decades, new investments in gas infrastructure—especially those related to heating buildings—are unlikely to remain economically prudent over such a long time horizon. Any new investment in the build out of gas infrastructure should be closely scrutinized and have its costs evaluated on a short-term timeframe in order to fully evaluate likely costs to ratepayers. If gas utilities choose to nevertheless pursue new infrastructure projects with longer assumed lifespans, the OPUC should make clear that ratepayers will only be responsible for the costs through the project's first ten years, unless the gas utility can demonstrate that continued operation and maintenance of the infrastructure is in customers' best interest. Otherwise, shareholders should be responsible for any remaining undepreciated book value.

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[27] Many gas infrastructure investments have extremely long asset lives, in some cases reaching 60 or even 80 years. As a result, even for infrastructure that was installed and deemed prudent decades ago, there may be significant remaining undepreciated book value meant to be recovered from ratepayers over the next several decades.

[28] While accelerating the depreciation schedule can result in a short-term rate increase, paying off the debt sooner ultimately lowers costs. While the potential rate shock should be closely examined and strategies should be developed to limit impact on low-income customers, allowing depreciation schedules to remain unchanged puts gas utility customers remaining on the system at greater risk of significant rate increases in the future.

IV. Concluding Thoughts

As this Natural Gas Fact Finding proceeding (UM 2178) begins to wind down and Staff prepare their draft report, we urge the OPUC to do everything in its authority to support a just and equitable transition off of fossil fuels and onto clean-powered electricity. We hope the Commission will do so urgently while protecting ratepayers' best interests—including access to affordable energy and avoidance of stranded assets and ballooning infrastructure costs.

Ultimately, it is critical that throughout and after this specific proceeding, the OPUC takes responsibility for driving the transition away from methane gas and on to cleaner and healthier electric resources to best serve the public interest. We are past a time when we can afford to just passively study the problem of growing gas reliance, hook-ups, and infrastructure in Oregon. This is a critical decade when we need to drastically cut fossil fuel reliance and greenhouse gas emissions in our state and world. It is time for urgent action directed by the OPUC to ensure our energy system is on track to be climate-resilient, energy-smart, equitable, affordable, reliable, and fossil-free.

Thank you for your consideration of our comments and we look forward to continuing to participate in this process.

Signed,

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