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Via email to https://efiling.utc.wa.gov/Form

RE: **Docket UG-220131**
Comments from Green Energy Institute at Lewis & Clark Law School, Columbia Riverkeeper, 350 Seattle, Sierra Club (Washington chapter), Earth Ministry/Washington Interfaith Power & Light, Washington Physicians for Social Responsibility on Cascade Natural Gas Corporation's 2023 Integrated Resource Plan

Dear Chair Danner, Commissioners Rendahl and Doumit, and staff of the WUTC:

Thank you for the opportunity to offer feedback on the February 24, 2023 IRP filed by Cascade Natural Gas. Cascade is engaging in this integrated planning exercise in a context of dramatic and transformative federal, state, and local climate policy implementation. Oregon and Washington policies set a declining cap on greenhouse gas (GHG) emissions to reach climate targets, while the federal government is incentivizing electric appliances and local governments are evaluating available climate actions. For these reasons this 2023 IRP must be critically analyzed to ensure it meets the criteria for a "lowest reasonable cost" plan to meet system demand.[1]

We recognize the challenge Cascade is facing, but underscore that this policy upheaval means the Commission needs an IRP that meaningfully advances compliance with the state climate

[1] WAC 480-90-238.

policies. Cascade's 2023 IRP does not offer the Commission what it needs to assure itself that Cascade has a solid plan to responsibly comply with Washington's Climate Commitment Act (CCA) and Oregon's Climate Protection Plan (CPP). Beyond this IRP pending before the Commission, the proceeding may be a good opportunity to require Cascade to honestly confront how reductions in throughput or increased electrification will impact its rate base, and what actions the Commission and Cascade can take to protect impacted customers.

Our comments focus on the following flaws in the analysis.

- Cascade's energy efficiency efforts and any proposed increases in capacity should be evaluated in the context of the climate crisis;
- Cascade's contracted capacity on the GTN Xpress should be expressly disapproved of and any costs should be borne by the company's shareholders;
- Cascade fails to grapple with the need to adopt near-term emissions reduction actions while identifying realistic long-term compliance options;
- Cascade's load forecast lacks rigor and fails to account for future uncertainty;
- Cascade overly relies on renewable natural gas and renewable thermal certificates for Climate Protection Program compliance in Oregon; and
- Cascade should not be permitted to expend ratepayer dollars to examine hydrogen for future use.

I. Cascade's Action Plan Proposals for Energy Efficiency and Increased Capacity Must be Vetted

The IRP provides a critical opportunity for the Commission to exercise its authority to protect ratepayers from the risks associated with unnecessary investments that may become stranded assets, and to ensure that all investments can be characterized as "low regrets." In that latter category, investments that offer comfort, health, and safety benefits to ratepayers, and that are consistent with the climate policies, should be encouraged. Any investments in infrastructure that are incompatible with achieving climate goals must be avoided.

Cascade's demand side management (energy efficiency) solutions are, frankly, underwhelming. The IRP provides a critical opportunity for the company to recognize the transformational policy setting it finds itself in. It should be anticipating how to reduce emissions in actionable ways over the next decade. Instead, it provides very little detail about its energy efficiency plans. A residential and/or commercial demand response program, or geographically-targeted peak load reduction, could be a way to cost-effectively offset some of the capacity needs Cascade identifies in its IRP.

With respect to the eight projects Cascade plans to implement or review that "require an increase in capacity,"[2] we respectfully ask the Commission to consider whether the exhibit describing these projects is appropriately labeled confidential. If no part of the filing may be shared with the public, **we ask the Commission to carefully evaluate whether each of the listed reinforcement or replacement projects is (1) demonstrably and unavoidably necessary and (2) without any viable alternatives.** We do not need to underscore for you the impacts of the climate crisis, and the need for government action to immediately reduce emissions across all sectors. Continuing to approve investments in Cascade's gas infrastructure system that are not currently and indisputably necessary would be contrary to the stated equity and emissions goals of Washington State.

II. Cascade's Plans to Acquire Contracted Capacity on the GTN XPress must be Expressly Disallowed

The Commission should question the Company's decision to purchase 20,000 Dth/d from the GTN Xpress, a new gas pipeline expansion proposed by TC Energy, when the Attorneys General of both Washington and Oregon have objected to that expansion, and when the project poses serious environmental justice concerns. The Commission should also direct Cascade to consider alternatives to supply from the GTN XPress.

According to comments from the Attorneys General of Oregon, Washington, and California, Cascade's emissions resulting from the GTN Xpress project alone could be over five times Cascade's authorized amount for 2050. The states commented to FERC in December,

> Washington's Climate Commitment Act prevents covered facilities from collectively increasing annual emissions, and requires them to reduce their emissions over time, consistent with the state's greenhouse gas emission limits. Wash. Rev. Code 70A.65.060. But GTN's Project will more than double the operational emissions from the Starbuck Compressor Station, a covered facility in Washington. Under Oregon's Climate Protection Plan, Cascade Natural Gas (one of the Project shippers) must reduce emissions from 743,707 metric tons in 2022 to 74,371 metric tons by 2050.2 As described in the State's comments on the Draft EIS, Cascade's emissions resulting from this project alone could be over five times Cascade's authorized amount for 2050 – 401,333 metric tons annually.[3]

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[2] Cascade 2023 IRP at p.11-4.

[3] Comments on the Final Environmental Impact Statement for the GTN Xpress project by the states of Washington, California, and Oregon, FERC Docket CP22-02 (Dec. 19, 2022), available at https://stateimpactcenter.org/files/AGActions_20221220-5030_2022.12.19-Final_StatesComment_FEIS.pdf.

Cascade includes GTN Xpress as part of its baseline planning scenario without analyzing alternatives to meeting customer needs in Washington absent the project. The Commission should question why Cascade builds GTN Xpress into its analysis despite the fact that GTN Xpress has not been approved by FERC, and the states of Washington, Oregon, and California have objected to it. Cascade argued to FERC that demand for the project was driven by potential growth in customer demand, particularly near Bend, Oregon. Yet, FERC has assumed that up to 10,000 Dth/d of Cascade's purchased 20,000 Dth/d could be used in Washington. Neither the IRP nor FERC's analysis support additional pipeline capacity needs from GTN Xpress for Cascade's Washington customers.

The Commission must consider the environmental justice implications of GTN Xpress. According to FERC, two of the three compressor station upgrades will increase pollution near "minority" or "low-income" communities, and project impacts will be "predominantly borne by environmental justice communities."[4] FERC downplays the significance of the impacts, but the state of Washington asserts that the impacts may be significant. In the IRP, Cascade offers little information about how its resource plans address environmental justice concerns with respect to capacity additions. Expanding one of the biggest polluters in Washington - the Starbuck compressor - to serve a non-existent need in Washington conflicts with the Commission's goals for protecting environmental justice communities.

Finally, although it is unusual to require a natural gas utility to evaluate demand-side alternatives to a supply-side need, we find ourselves in unusual times that require creative solutions. If, in fact, Cascade can assure the Commission that it has (or will have) a genuine capacity shortage, it should evaluate alternatives that could alleviate the issue while also complying with state climate policy. Investing in demand-side solutions and other non-pipeline alternatives are gaining momentum around the country. For example, PG&E has initiated a zonal electrification pilot project at California State University Monterey Bay that will electrify 620 customers with behind the meter investments and retire an existing gas line, at a lower projected cost to ratepayers than investing in the pipeline.[5] Such projects could be designed to satisfy multiple goals, including meeting climate goals, protecting low-income communities, and saving ratepayers money.

III. Long-Term Uncertainty Requires the Commission to Protect Ratepayers

Cascade's IRP does not clearly demonstrate how it can realistically reduce its emissions in compliance with decarbonization policies. In the long-term, a strategy that relies on RNG, renewable thermal certificates (RTCs), and hydrogen is a highly risky approach. Additionally,

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[4] Fed. Energy Reg. Comm'n, Final Environmental Impact Statement for the GTN Xpress at 4-33, FERC Docket CP22-2-000 (Nov. 2022).

[5] Application of Pacific Gas and Electric Co. for Approval of Zonal Electrification Pilot Project (Aug. 10, 2022), available at https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M496/K451/496451495.PDF.

despite state and local movements to electrify buildings, state and federal decarbonization policies, and natural gas prices that are presently increasing and inherently unstable and unpredictable, Cascade assumes a steady growth in customers.

Pursuing this strategy enables Cascade to continue operating as usual for the next decade with minimal decarbonization efforts—a strategy that has been aptly named "tech-crastination."[6] This exposes Cascade to short-term compliance risk. Cascade relies on unrealistic RNG supply estimates, allowances, and credits to meet targets while it begins to explore hydrogen's role in its system. Short-run inaction and policy changes, such as excluding RTCs as a CPP compliance mechanism, or changes in RNG emissions accounting, increase the risk of non-compliance and higher rates. As a publicly regulated utility, Cascade must pursue decarbonization measures that reduce ratepayer risk in both the short- and long-term and this IRP does not provide valid reasoning that operating in a "business as usual" manner is the least cost, least risk approach to decarbonization.

For that reason, we recommend the Commission contemplate regulatory changes that may make it easier for the Commission to assess whether Cascade is planning in a reasonable and realistic manner. For example, a longer action plan might enable Cascade to consider non-pipe alternatives and demand response measures. Future distribution system planning should include a cost benefit analysis for non-pipe alternatives that reflects a high cost fuel price for alternative fuels, so that the IRP will more likely reduce risks to customers by proactively minimizing growth related investments in the distribution system. **On a related note, future IRPs should consider non-renewal of expiring pipeline capacity contracts and retirement of capacity resources.** The Commission might consider beginning to investigate pruning of the gas system; in future IRPs, a system map containing information about in-service dates of pipe and lowest recent observed pressures might begin to give the Commission and stakeholders an idea about where non-pipes alternatives may serve as a lower cost alternative to investing in pipeline. Finally, consideration of beneficial electrification as a comparator with other demand-side resources should be required so that the Commission, stakeholders, and the utility can begin to prepare for the future.

IV. Cascade's load projections are optimistic

Cascade estimates load growth to average 1.10% annually through 2050, with residential annual rates at 1.21%. It expects Oregon growth will outpace Washington.[7]

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[6] Borgeson, M., and Fakhry, R., *Hydrogen in Buildings: The Poster Child of Tech-Crastination*, September 7, 2021. https://www.nrdc.org/experts/rachel-fakhry/hydrogen-buildings-poster-child-tech-crastination

[7] Cascade 2023 IRP at p. 1-5.

We recognize that Cascade is faced with a drastically changing future. However, we question the basis of the Company's assertion that it will continue to grow through 2050. Cascade's load forecast does not realistically account for: 1) residential and commercial building code updates in Washington, 2) the possibility of line extension allowance updates in Oregon, 3) likely building code updates in Oregon, and 4) Inflation Reduction Act incentives to accelerate building electrification. Cascade is also not accounting for the possibility of reduced load associated with local policies supportive of beneficial electrification, especially in the Bend area. These policy changes will likely have near-term impacts.

Cascade has not adequately evaluated Washington's revised building code standards. Cascade notes that new building code standards may have some effect, but the Company understates the potential significance of the changes. The building codes now prohibit fossil fuel combustion appliances, including appliances burning methane gas, in HVAC heating equipment for new construction, with the exception of gas fired heat pumps which are not commercially available yet. The rule applies to multifamily residences greater than four stories, as well as commercial, retail, institutional, and industrial buildings.

Additionally, the Company's load forecast anticipates a growth rate in commercial customers of around 1.14%. We are not confident that such a forecast is aligned with rising natural gas prices, electrification trends, and climate policy that directs reductions in carbon emissions on the local, state, and federal level. Considering that policies such as the IRA heavily incentivize electrification, Washington's building code revisions, and Oregon's introduced legislation (discussed below), that will severely limit new customer growth, it seems more likely that there will be a continual decline in demand as existing customers transition to electric alternatives.

Cascade does not discuss the Oregon Public Utility Commission's (OPUC) recent rate case Order requiring NW Natural to reduce its line extension allowances.[8] The OPUC ordered that NW Natural set its line extension allowance to $2,300 starting November 1, 2022, and decrease it each year after November 1, 2024. The Commission expressed concern with the higher LEA citing the unrecovered rate base investment from new plant even after 30 years.[9] Additionally, the OPUC noted the impact of Oregon's Climate Protection Plan and local policy changes in its Order stating, "These changes point to a reasonable possibility that the company will encounter a trend of decreasing gas usage, potentially driven by economic signals toward fuel switching." While the OPUC does not stipulate how line extension allowances should

[8] Oregon Public Utility Commission, Docket No. UG 435, Order No. 22-388, First Partial Stipulation Adopted Subject to Modification; Second and Third Partial Stipulations Adopted; Application for General Rate Revision Approved as Revised (Oct. 24, 2022).
[9] Oregon Public Utility Commission, Docket No. UG 435, Order No. 22-388 at 49, First Partial Stipulation Adopted Subject to Modification; Second and Third Partial Stipulations Adopted; Application for General Rate Revision Approved as Revised (Oct. 24, 2022).

decrease, it anticipates gas customer exits and a risk that gas line investments will be stranded. A similar LEA change is a risk Cascade faces that will affect its growth prospects.

Pending legislation in Oregon, called the Resilient Buildings Package (SBs 868-871 and HB 3166), would help improve the energy efficiency of both new and existing buildings across the state. First, SB 868 ("Healthy Heating and Cooling for All") sets a statewide "500,000 heat pumps by 2030" deployment goal and directs the Oregon Department of Energy to do a variety of things, including: 1) to work with other relevant agencies to align state energy efficiency programs with state climate pollution reduction goals and 2) to reduce both financial and non-financial barriers to heat pump deployment through efforts such as creating a Energy Efficient Technologies Information and Training Fund. Paired with HB 3166, which would set up a "one stop shop" for information and resources related to heat pump incentive programs, this policy could help Oregonians and businesses across the state take advantage of hundreds of millions of dollars of incoming federal incentives for heat pumps, heat pump water heaters, and related energy efficiency measures. Second, SB 869 ("Build Smart from the Start") requires the Building Codes Division to do a variety of things to reduce climate pollution from the buildings sector, including setting efficiency goals for new residential and commercial construction to aim to achieve a 60 percent reduction in energy consumption from a 2006 baseline by 2030. Third, SB 870 ("Building Performance Standard") requires large commercial buildings over 35,000 square feet to achieve specific energy use intensity targets over time, reducing pollution from our state's largest buildings. And finally, SB 871 ("Smart State Buildings") removes barriers and creates a more streamlined and coordinated approach to ensuring Oregon state buildings achieve energy conservation and reduce greenhouse gas emissions.

Cascade also fails to grapple with the most consequential provisions of the Inflation Reduction Act (IRA) that incentivize electric appliances. Under the IRA, the Federal government has expanded residential tax credits for the purchase of heat pumps and provided additional rebates on electric appliances such as heat pumps, electric ranges, and electric clothes dryers.[10] Additionally, many states have instituted residential energy efficiency and electrification programs, such as California, which will provide $84.7 million in incentives for heat pump water heaters in 2023.[11] Oregon and Washington may each develop new energy efficiency programs, or expand programs, that would further reduce the incremental costs of electric appliance adoption, thus making electrification more cost-competitive for customers.

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[10] Text - H.R.5376 - 117th Congress (2021-2022): Inflation Reduction Act of 2022, Congress.gov, Library of Congress (Aug. 16 2022), https://www.congress.gov/bill/117th-congress/house-bill/5376/text.

[11] *CPUC provides additional incentives and framework for Electric Heat Pump Water Heater Program*, California Public Utilities Commission, April 7, 2022, https://www.cpuc.ca.gov/news-and-updates/all-news/cpuc-provides-additional-incentives-and-framework-for-electric-heat-pump-water-heater-program.

Finally, although the recent Ninth Circuit decision of *California Restaurant Association v. City of Berkeley*[12] has eliminated the "Berkeley-style" gas ban as a means for local governments to stop the expansion of natural gas infrastructure in their communities, the decision is directed at only one avenue. For cities interested in taking climate action, other pathways remain. **Cities such as Bend, Oregon, have repeatedly recognized the need to address the climate crisis, and ambition on that front will only grow.**

Accordingly, although the company points to communities in Washington and Oregon that are forecasted to enjoy high growth rates, the company fails to explain how it concludes that development in these places translates to demand for natural gas. Whether due to the cost to install gas lines, tax incentives for electrical appliances, building codes, or health, safety, or climate concerns, the only realistic conclusion is that customer growth in the gas industry will decline over time.

V. Cascade's RNG expectations are unrealistic

Cascade does not grapple with the volume of RNG available to it despite competition from other entities faced with the same decarbonization challenges. The incremental cost for each RNG site will escalate as the available supply dwindles, forcing Cascade to source increasingly costly RNG to meet its decarbonization targets. The transportation sector is the predominant customer of RNG due to policies such as the California and Oregon Low Carbon Fuel Standards. The U.S. Department of Energy estimates that there are 500 landfills, 120 dairies, 70 wastewater treatment systems, and 10 other livestock RNG projects in the United States.[13] The transportation sector uses an estimated 75 percent of the RNG produced, suggesting that this sector will continue to compete aggressively for RNG supply, ultimately resulting in price increases.[14] The Plan's rapid adoption forecast and procurement challenges will increase customer costs. Cascade must provide reasonable rates for customers and thus must bear the burden of proving that it can supply affordable RNG.

Cascade's solution, at least for Oregon, is to purchase Renewable Thermal Credits (RTCs), which the company believes will comply with the Oregon Climate Protection Program. Purchasing RTCs from other parts of the country does not help Cascade decarbonize *its* energy system, despite the RTCs purportedly counting for compliance. Additionally, **Cascade has not properly explored the possibility that RTCs may not be an acceptable compliance**

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[12] *California Restaurant Ass'n v. City of Berkeley*, Slip Op. No. 21-16278 (April 17, 2023).
[13] *Advancing Technology For America's Transportation Future - Chapter Fourteen*, U.S. Dep't of Energy, https://www.energy.gov/sites/default/files/2022-10/Chapter_14-Natural_Gas.pdf.
[14] Paulos, Bentham. *Analysis: Why Utilities Aren't Doing More with Renewable Natural Gas. Energy News Network* (Feb. 14, 2019), https://energynews.us/2019/02/14/analysis-why-utilities-arent-doing-more-with-renewable-natural-gas/.

mechanism under future Oregon laws. The Oregon Environmental Quality Commission or legislature could more properly conclude that RNG emissions should be calculated on a lifecycle basis, require RNG projects to reduce GHG emissions *in Oregon*, or cap the number of RTCs that might be used for compliance. If the Company cannot purchase an unlimited number of RTCs for compliance, it risks non-compliance. In fact, the Oregon Department of Environmental Quality has undertaken a 2023 Climate Rulemaking to discuss whether specificity is necessary for reporting RNG, as well as clarifying verification requirements.[15] Ultimately, the more Cascade relies on RTCs to meet compliance goals, the greater the risk that it will need to resort to uneconomical methods to meet compliance targets and pass those costs to ratepayers.

Relatedly, we note that any project that Cascade calls a Transport or Transportation Project, which does not provide Cascade with the RTCs, *is not relevant*, other than as a way to allow Cascade to keep natural gas piping in place and look climate conscious. In Chapter Four, Cascade does not explain why Transportation Projects without RTCs are relevant to this planning exercise.

VI. Cascade should prioritize reducing emissions over investigating hydrogen investments

Cascade indicates it will continue to investigate the cost and feasibility of a hydrogen plant in its Action Plan. **Given the serious concerns with hydrogen in pipelines, including an increase in pipeline capacity (pressure-associated or volumetric), additional leaks and safety concerns, and costs, we urge the Commission to discourage Cascade from spending ratepayer dollars on any hydrogen-related efforts**. A recent California Public Utilities Commission study shows that the greater the hydrogen concentration in the gas network, the more significant the leaks become.[16] Research also shows these risks increase significantly in service lines when hydrogen blends exceed 20 percent, with smaller distribution networks most vulnerable.[17] These hazards increase operational costs, since additional leak detection technology and more frequent maintenance inspections are necessary.

Additionally, while hydrogen blends can erode some gas distribution pipes, the greater concern is their impact on appliances. Studies suggest that some appliances cannot tolerate even the slightest blends.[18] Even if most appliances are compatible with hydrogen, it could only account

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[15] Oregon Dep't of Envtl. Quality, Rulemaking Overview, 2023 Climate Rulemaking (Mar. 2, 2023), available at https://www.oregon.gov/deq/rulemaking/Documents/C2023ruleBrief.pdf.
[16] Cal. Pub. Util. Comm'n, *Hydrogen Blending Impacts Study* (July 1, 2022), https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M493/K760/493760600.PDF
[17] Melaina, M. W., et al. "Blending Hydrogen into Natural Gas Pipeline Networks: A Review of Key Issues." *National Renewable Energy Laboratory*, U.S. Department of Energy, Mar. 2013, https://www.nrel.gov/docs/fy13osti/51995.pdf.
[18] Melaina, M. W., et al. "Blending Hydrogen into Natural Gas Pipeline Networks: A Review of Key Issues." *National Renewable Energy Laboratory*, U.S. Department of Energy, Mar. 2013, https://www.nrel.gov/docs/fy13osti/51995.pdf.

for a small percentage of fuel until modifications to end use appliances are required.[19] The widespread blending of hydrogen in gas lines could thus require the abrupt retrofit of home appliances as soon as blending reaches the requisite level, likely well before the end of many installed appliances' useful lives. Given gas utilities' service mandates, hydrogen's incompatibility with appliances poses a genuine risk to Cascade's decarbonization strategy.

Hydrogen production is also dependent on substantial water availability. Electrolysis studies estimate that one kg of hydrogen requires between 18 and 24 liters of water.[20] And since 1 kg of hydrogen has an energy density equal to 33.6kWh,[21] each liter of water results in only 1.4 to 1.867 kWh. Replacing piped natural gas with locally produced hydrogen will thus substantially increase water consumption. Climate change has significantly altered weather patterns across Oregon over the last two decades, leading to the driest conditions in over a thousand years in some parts of the state.[22] Long-term reductions in precipitation threaten to eliminate the Oregonian wet season, affecting water supply. High-volume production of hydrogen will exacerbate the effects of drought conditions in the region and competition for water resources will intensify. Water scarcity may pose challenges to hydrogen production in Cascade's service territory.

Hydrogen blending also exposes customers to unknown and potentially severe air pollution and health risks. Hydrogen blending is likely to increase NOx pollution because hydrogen burns hotter than methane, and NOx is formed under high temperature conditions during combustion. A 2022 meta-analysis of NOx emissions from equipment analogous to domestic burners operating on hydrogen/natural gas blends found "a huge range of possible changes in NOx emissions from H2-[natural gas] fuel blends."[23] In a mean case that reflects the results across the relevant literature, hydrogen blends of over 5%–20% led to NOx emission increases of 7%–30%. Pollution, health, and safety risks were among the concerns that led community members and climate, health, and environmental organizations to oppose a recent hydrogen blending proposal

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[19] Melaina, M. W., et al. "Blending Hydrogen into Natural Gas Pipeline Networks: A Review of Key Issues." *National Renewable Energy Laboratory*, U.S. Department of Energy, Mar. 2013, https://www.nrel.gov/docs/fy13osti/51995.pdf.

[20] Blanco, Herib, *Hydrogen Production in 2050: How Much Water Will 74EJ Need?*, Energypost.eu, (July 22 2021), https://energypost.eu/hydrogen-production-in-2050-how-much-water-will-74ej-need/.

[21] Molloy, Patrick. Run on Less with Hydrogen Fuel Cells. RMI (Oct. 2 2019), https://rmi.org/run-on-less-with-hydrogen-fuel-cells/.

[22] *Oregon Drought*, Oregon.gov, https://www.oregon.gov/owrd/programs/climate/droughtwatch/pages/default.aspx.

[23] Madeleine L. Wright & Alastair C. Lewis, Emissions of NOx from blending of hydrogen and natural gas in space heating boilers, at 7, 11, Elementa: Science of the Anthropocene (May 31, 2022), https://doi.org/10.1525/elementa.2021.00114.

by NW Natural, ultimately resulting in withdrawal of the proposal.[24] NOx emissions from existing gas appliances are already a health concern and a threat to indoor and outdoor air quality.[25] Rather than exacerbating this threat by introducing hydrogen blends, Cascade should pursue opportunities to eliminate these emissions through electrification.

Hydrogen has limited potential to reduce gas distribution emissions. Since safety, infrastructure, and end customer appliance issues may limit hydrogen blending to between 5 and 20 percent by volume, fossil fuels will continue to account for a significant majority of the gas network energy. Even if green hydrogen blends can reach the 20 percent upper bound, this will only result in about a 7 percent reduction in emissions. To accommodate the same load with a 20 percent blend would require a substantial increase in pressure and capacity, while exacerbating potential leakage issues. It is unclear if Cascade can accommodate such a capacity increase without significant capital upgrades. Moreover, for hydrogen blending to play a role in decarbonization of the natural gas system, green hydrogen will have to overcome significant barriers to becoming cost-competitive, which we will not discuss here. In short, Cascade should not invest ratepayer dollars in continuing to study this risky and costly option.

VII. Conclusion

It is the Commission's duty to ensure that utilities comply with state policies and support the public interest; it is in the optimal position to shift its regulatory approach so that it approves plans that achieve equitable decarbonization. In considering Cascade's 2023 IRP, we ask the Commission to reject Cascade's approach that is heavily skewed toward pipeline solutions, that continues to grow and expand gas infrastructure, and that relies on future technology developments that are risky and costly.

Thank you for the opportunity to comment on Cascade's 2023 IRP .

Sincerely,

Carra Sahler
Interim Director and Staff Attorney
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[24] NW Natural Withdraws Application for Controversial Hydrogen Blending Experiment Following Community Uproar. Sierra Club (Nov. 2, 2022), https://www.sierraclub.org/press-releases/2022/11/nw-natural-withdraws-application-controversial-hydrogen-blending-experiment.; UM 2251, Oregon Pub. Util. Comm'n, NW Natural's Application for Approval of Eugene Hydrogen Project (Nov. 1, 2022).

[25] Multnomah Cnty, *A Review of the Evidence Public Health and Gas Stoves* (Nov. 2022), https://multco-web7-psh-files-usw2.s3-us-west-2.amazonaws.com/s3fs-public/gas-stoves-health-risk-report-2022-FINAL.pdf.

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