

BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON
LC 81

In the Matter of
AVISTA GAS COMPANY
2023 Integrated Resource Plan

COMMENTS BY
CLIMATE SOLUTIONS,
GREEN ENERGY INSTITUTE AT
LEWIS & CLARK LAW SCHOOL, and
SIERRA CLUB

Climate Advocates' Comments on Avista's 2023 Natural Gas IRP

August 29, 2023

II. Introduction

Climate Solutions, Green Energy Institute at Lewis & Clark Law School, and Sierra Club (jointly, “Climate Advocates”) appreciate the opportunity to submit these comments on Avista Gas Company’s (“the Company”) 2023 Integrated Resource Plan (IRP).

First, we want to thank the Company and its staff for making some meaningful improvements to its IRP from previous IRPs. We understand that local, state, and federal policies have significantly changed since the Company’s last IRP, including the passage of the Inflation Reduction Act, the Climate Protection Program (CPP), and the Climate Resilience Package (HB 3409), which includes a 500,000 heat pump deployment goal for the state of Oregon. We also understand that IRP modeling is an imperfect science and that it takes significant effort to make meaningful updates to the process. We appreciate the Company’s attempts to expand the scope and inputs of its IRP since 2021. We also want to note that the Company recently reached a settlement agreement in its 2023 rate case, which included a non-pipeline alternatives analysis commitment for its next IRP.

Despite its efforts, the Company has failed to set forth a plan to satisfy its obligations under Oregon’s climate policies at the least-cost and least-risk to its customers. We have significant concerns about the assumptions and choices the Company made in developing this IRP and its preferred resource strategy (PRS). Sierra Club has also submitted related comments on this IRP to the Washington UTC.¹ We know the Commission is conducting this review of Avista’s IRP after evaluating NW Natural’s 2022 IRP (LC 79) and the Natural Gas Fact-finding Investigation (UM 2178), and many of our concerns are the same as those we shared with Staff and the Commission during those proceedings. Since Avista’s IRP reflects the same lack of rigor in evaluating current and future climate conditions, policy landscapes, and markets as NW Natural’s IRP, the Commission should come to the same result: non-acknowledgement of the Company’s long-term plan.

Ultimately, we are concerned that the Company has not provided a sufficient analysis of least-cost, least-risk compliance pathways to satisfy the CPP’s emissions mandates. Avista’s preferred resource strategy would continue to place significant harm and risks on its customers and the climate.

In addition to discussing these concerns, our comments will provide some context about the climate crisis and methane emissions from our current gas system, as well as the risks of continued methane pollution from the Company’s PRS.

¹ Washington Utilities and Transportation Commission Docket UG-220244, Sierra Club Comments on Avista’s 2023 Gas Integrated Resource Plan (Aug. 1, 2023), <https://www.utc.wa.gov/casedocket/2022/220244/docsets>.

Finally, rather than investing significant Staff and advocate time in an analysis of Avista’s 2023 IRP (when it looks so similar to NW Natural’s), we recommend the Commission direct the Company to refile an IRP that provides a sufficient least-cost, least-risk analysis under the Climate Protection Program – taking electrification paired with other non-pipe alternatives (NPAs) seriously as compliance options. Our comments highlight some especially important recommendations that should inform the re-filed IRP, but we expect to have more specific comments after being able to review Avista's new filing. In particular, we recommend: (1) Avista account for trends toward all-electric new construction and consider a range of climate change impacts (consistent with other utilities’ IRPs) in its re-filed load forecast; (2) Avista better account for the risks of relying on noncommercial alternative fuels, expressly quantifying compliance risk, risks of high technology, commodity, and allowance costs, stranded asset risk, and health and climate risks wherever possible; (3) Avista update its electrification analysis to better account for available incentives and remove the unsupported electrification financing arrangement that Avista assumed in its analysis; and (4) that the Commission take this opportunity to “communicate more direct, near-term expectations for evaluating electrification in non-pipes analysis on the distribution system.”²

I. Climate and Policy Background

While we submit these comments related to this particular IRP, we feel compelled to speak first to the climate crisis we are currently facing and the need to use the best available science when modeling future climate conditions. We know the Commission has heard an iteration of these facts many times before, but we think it is important to capture in writing the most recent suffering endured by Oregonians and others around the country. After all, the reason our gas utilities are required to reduce emissions under the CPP is because of these events.

We are in a methane-fueled climate emergency for which we are collectively unprepared. This summer, we have seen climate change impacts across the country, the extent of which was unanticipated just a handful of years ago. July was the hottest month in recorded global history, killing hundreds in the U.S. A deadly heat wave breaking nearly 2300 records across the country for multiple weeks led to temperatures of 108 degrees in Oregon in mid-August, breaking all but three all-time temperature records in Portland (which were seen in June 2021, when at least 54 died).³ More than half of the state is experiencing moderate to severe drought, leading the

² LC 79, In the Matter of NW Natural Gas Co. 2022 Integrated Resource Plan, Order No. 23-281, at 10 (Aug. 2, 2023).

³ Stillman, D., “Pacific Northwest heat wave: Portland sets August record high of 108” (August 14, 2023), Washington Post, <https://www.washingtonpost.com/weather/2023/08/14/pacific-northwest-heatwave-oregon-washington/>; Cowley, J. “Multnomah County releases information on 54 heat wave deaths” (July 13, 2021), KGW, <https://www.kgw.com/article/weather/severe-weather/multnomah-county-releases-report-on-heat-wave-deaths/283-d6b2019c-9984-4057-bf00-3b8c37ec9541>; Griffin, A. “Multnomah County reports sixth suspected heat death” (August 19, 2023), OPB, [Multnomah County reports sixth suspected heat death - OPB](https://www.opb.org/news/multnomah-county-reports-sixth-suspected-heat-death/).

Governor to declare a drought emergency for nine counties this year.⁴ Communities in Southern Oregon, Avista’s service territory, are still recovering from the 2020 wildfires which destroyed more than 2,600 homes. And wildfire smoke in the summer, severely impacting air quality, is truly the “new normal.”

Of course, the Company recently agreed to some important steps in the right direction in its pending rate case – phasing out its line extension allowance (LEA), pursuing NPA analyses in its next IRP, and expanding its weatherization funding – demonstrating some willingness to adapt to the changing policy and climate landscapes.

Even with these promises, the Company is not on a realistic track to meaningfully change its operations. And it is worth emphasizing: Avista, along with NW Natural, Cascade Natural Gas, and other fossil fuel companies are largely responsible for the climate crisis we now see unfolding. This is especially true for fossil fuel utilities in the United States, a country with one of the highest per capita GHG emissions.

Methane gas, which is over 80 times more potent a climate driver than carbon dioxide, is one of the primary causes of the climate crisis.⁵ Regardless of accounting schemes developed by the gas industry, there is no way to produce, transport, distribute, or combust methane gas that is actually carbon-neutral. In fact, as we learn more about the life cycle of these alternative gases, system leaks, inefficiencies, and harmful source industries, more evidence is revealed that the climate and social harms of these alternatives are comparable to those of fossil gas.⁶

Until our gas utilities significantly scale down, we will continue to have a methane problem and the climate crisis will worsen. And if we wait too long to manage a transition of our gas system in Oregon, we risk digging ourselves into a deeper hole and putting low- and moderate-income customers at risk of stranded assets and higher energy costs overall.

II. Concerns with Avista’s 2023 IRP

The Company’s 2023 Natural Gas IRP includes a preferred portfolio that is not in line with the state’s CPP requirements, puts unacceptable levels of financial risk on the Company’s customers,

⁴ Ehrlich, A. “More than half of Oregon in drought during wildfires, heat waves” (August 14, 2023), OPB, <https://www.opb.org/article/2023/08/14/drought-oregon-weather-heat-pacific-northwest-dry-conditions-summer/>

⁵ Nature Editorial Staff (2021), *Control methane to slow global warming —fast*, Nature 596, 461, at [Control methane to slow global warming — fast \(nature.com\)](https://www.nature.com/articles/47199a).

⁶ Grubert, E. (2020), *At scale, renewable natural gas systems could be climate intensive: the influence of methane feedstock and leakage rates*, <https://iopscience.iop.org/article/10.1088/1748-9326/ab9335>; see also Letter from Union of Concerned Scientists to California Air Resources Board at <https://www.arb.ca.gov/lists/com-attach/24-lcfs-wkshp-dec21-ws-AHVSNI1MhVlpXNQRI.pdf>; See also Fu, J. “Brown gold: the great American manure rush begins” (February 2, 2023), The Guardian, <https://www.theguardian.com/environment/2023/feb/02/manure-renewable-natural-gas-california>

and is out-of-sync not just with recently passed legislation and other policy decisions, but also with the Inflation Reduction Act and Oregon’s “Future of Gas” policy recommendations (UM 2178).

A. Load Forecast Concerns

We have three major concerns with the Company's load forecast, which is a major driver of its resource procurement and CPP compliance strategies. First, Avista assumes new customer additions will continue along historic trends, which fails to account for clear policy and market developments in favor of all-electric construction. Second, Avista has likely significantly understated available state and federal electrification incentives, which makes electrification appear less attractive as a decarbonization resource and NPA. Finally, Avista offers insufficient justification for using only a relatively low estimate of climate impacts, which is inconsistent with the approach taken by other utilities and may overstate future gas system demand.

First, Avista has assumed new customer growth will continue along historic trajectories, despite acknowledging that its planning approach needs to “[r]ecognize historical trends may be fundamentally altered,”⁷ and describing throughout the IRP how several policies are likely to reduce new gas customers.⁸ Indeed, the Company’s new gas customer growth forecast increased from 1.0% in its 2021 IRP to 1.1% in its 2023 IRP—a step in the opposite direction of clear and growing trends.⁹ The Company acknowledges the changing impacts in its response to a Staff data request.¹⁰ They admit that “limited new growth [is] expected in Washington due to building code restrictions,” but fail to take into account policies in Oregon that would have the same effect. The result is that Avista’s “forecasts reflect the ‘status quo’ and do not fully reflect emerging natural gas connection restrictions in Washington and Oregon”—a deficiency that Commission Staff expressly asked Avista to address.¹¹ For example, cities like Ashland and

⁷ IRP at 1-9; *see also* IRP at 7-2 (“As discussed in previous chapters, demand is the greatest risk in this IRP and has fundamentally changed due to building codes and climate programs.”).

⁸ See, e.g., IRP at 2-1 to 2-2 (“A price elasticity was now incorporated into this analysis so there may be additional movement from natural gas customers to electric end uses simply due to increases in price to comply with climate programs.”); IRP at 2-2 (“[I]t is important to understand these forecasts reflect the “status quo” and do not fully reflect emerging natural gas connection restrictions in Washington and Oregon.”); IRP at 2-2 (describing changes to rules and policy in Washington and Oregon as “fundamental changes” impacting natural gas usage); IRP at 3-14 (“State policies in Oregon and Washington may lead customers to electrify their natural gas space and water heating to reduce greenhouse gas emissions.”); IRP at 5-3 (“Over the past few years both Oregon and Washington have added state policies, impacting the overall trajectory of Avista’s resource needs and future rates.”); IRP at 5-14 (assuming a 50% direct credit to homeowners under the IRA for costs to convert from gas to electric end use, but not accounting for the IRA in customer growth forecasts).

⁹ IRP at 1-10.

¹⁰ LC 81, Avista Response to Staff DR 021.

¹¹ Avista 2023 Gas IRP Appendices, at 12, <https://www.myavista.com/-/media/myavista/content-documents/about-us/our-company/irp-documents/natural-gas-irp-documents/2023-gas-irp-appendix.pdf>.

Milwaukie are pursuing electrification policies that would curb new gas connections.¹² Even more cities have ambitious climate action plans in place that include recommendations related to limiting gas use in buildings.¹³

The only justification Avista has offered for ignoring these trends is that “there is uncertainty about the timing and size of those policy decisions.”¹⁴ But making reasonable forecasts in the face of uncertainty is at the heart of resource planning. By not attempting to account for these trends, Avista has failed to adequately consider the risks imposed on ratepayers by over-investment in unnecessary gas resources and neglected to meet its obligations to evaluate strategies that remain reasonable in a variety of different futures. Avista’s claims about uncertainty would be more convincing if it had not made those same claims verbatim in its 2021 IRP,¹⁵ and if it had not received clear requests from PUC Staff to account for climate policies in its load forecasting.¹⁶ While Avista will certainly continue to refine its treatment of decarbonization policies in customer growth forecasts going forward, this is no reason to continue ignoring their effects. These effects will only become clearer in future IRPs. For example, Avista recently agreed in its pending rate case settlement to phase out its line extension allowance by 2027, which will have a clear, direct, and predictable effect on gas customer growth. **With this and other policy developments in mind, we recommend that future IRPs assume zero new customer growth starting no later than 2027.**¹⁷

¹² Battaglia, R. “Ashland moves forward with electrification ordinance,” (June 7, 2023), [Ashland moves forward with electrification ordinance | Jefferson Public Radio \(ijpr.org\)](https://www.bizjournals.com/portland/news/2022/12/08/milwaukie-natural-gas-limits.html); See also Danko, P., “Milwaukie council moves to ban new residential natural gas connections” (December 8, 2022), <https://www.bizjournals.com/portland/news/2022/12/08/milwaukie-natural-gas-limits.html>.

¹³ See, e.g., City of Salem Climate Action Plan, <https://www.cityofsalem.net/home/showpublisheddocument/16429/637931486294300000> at 15; see also City of Portland Climate Emergency Workplan, <https://www.portland.gov/bps/climate-action/documents/climate-emergency-workplan-2022-2025/download> at 6; see also City of Eugene Community Climate Action Plan 2.0, https://www.eugene-or.gov/DocumentCenter/View/55835/CAP-20_Summer_2020_FINAL-w-appendices-compressed, Appendix 7.

¹⁴ IRP at 1-9. Avista claims to address the potential impacts of trends toward electrification in its electrification scenario, *see* IRP at 2-3, but it is hard to see how the scenario accomplishes this task. The IRP contains no discussion of how the building electrification scenario was compared to Avista’s base customer growth forecasts, or used to evaluate their reasonableness. To the extent the scenario is addressed in the IRP, it is largely treated as an alternative resource portfolio that is compared to Avista’s preferred portfolio, rather than a sensitivity analysis or reality check on Avista’s customer growth forecasts.

¹⁵ Avista 2021 Gas IRP, at 22 (claiming that there is “uncertainty about the timing and size” of state policies’ role in shifting Oregon away from reliance on fossil gas), <https://www.myavista.com/-/media/myavista/content-documents/about-us/our-company/irp-documents/natural-gas-irp-documents/2021-natural-gas-irp.pdf>.

¹⁶ Avista 2023 Gas IRP Appendices, at 12 (detailing OPUC Staff’s concerns about Avista’s “reliance on the Status Quo ... without regard to new clean energy policies” and the resulting “compliance obligation and stranded asset risk”), <https://www.myavista.com/-/media/myavista/content-documents/about-us/our-company/irp-documents/natural-gas-irp-documents/2023-gas-irp-appendix.pdf>.

¹⁷ One way Avista could implement this recommendation is by incorporating a zero customer growth assumption, in addition to other expected effects of policy and market developments toward efficiency and electrification, as part of the end-use model it proposes to use in its future IRPs. See IRP at 2-24, 9-5.

Second, in addition to the above, the Company seemingly cherry-picked its policy inputs including Inflation Reduction Act (IRA) factors to paint an artificially rosy picture of alternative fuels' market futures relative to those of electric solutions. The Company considered a variety of IRA inputs for reducing the cost of hydrogen, synthetic methane, and RNG, including considering stacking of credits to find the highest potential incentive available. For example, when discussing “clean hydrogen” production, the Company explained:

“A credit applies to clean hydrogen production after December 31, 2022 for a facility that began construction before 2033. The credit includes a base of 60 cents per kilogram and is multiplied by the lifecycle greenhouse emissions rate percentage with a bonus credit for prevailing wages, domestic materials, and investment. A full credit in the amount of \$3 per kilogram is attainable considering meeting each credit criteria. Avista assumes this \$3 per kilogram in its price forecasts for green hydrogen.”¹⁸

In contrast, when considering IRA inputs for building energy efficiency and electrification, the Company appeared to simply assume a 50% credit for costs of electric conversion.¹⁹ But the IRA and related state policies provide much more financial support for building electrification and related energy efficiency measures. By late this year, customers (including in Avista's territory) could save as much as \$10,000 on a heat pump with just IRA benefits alone (pairing rebates with tax incentives), which would cover the majority or all of the costs of installing a heat pump, especially for lower-income customers. And thanks to the recently-passed “Climate Resilience” package (HB 3409), Oregon now has a goal of installing 500,000 heat pumps by 2030, with a variety of programming expected to help deploy these heat pumps across the state.²⁰ If Avista customers adopt their fair share of this overall state goal, that would be approximately 32,000 customers in Avista territory within the next 7 years – something that could significantly reduce gas throughput in the region. **We recommend that the OPUC direct Avista to use consistent methods for incorporating supply-side and electrification incentives in its planning, and to expressly enumerate the electrification incentives incorporated into its analysis, disaggregated by market segment as appropriate (e.g., new vs. existing construction, income-qualified vs. market rate customers).**

Finally, we are concerned about how the Company chose to model climate impacts in its region, which has an effect on demand projections. Specifically, the Company assumes a Representative Concentration Pathway (RCP) of 4.5 in its modeling. RCPs represent future concentrations of greenhouse gases in the atmosphere. RCP 2.6 is the lowest, representing very low emissions in

¹⁸ IRP at 5-14.

¹⁹ IRP at 5-14.

²⁰ Samayoa, M. “Oregon's latest climate package targets building resilience, and hefty federal dollars” (June 28, 2023), OPB, <https://www.opb.org/article/2023/06/28/oregon-climate-change-environment-portland-politics-heat-dome-resilience-package-extreme-weather/>.

the long-term; RCP 4.5 represents low-to-moderate emissions scenario (in which global emissions peak around 2040); RCP 6.0 represents moderate-to-high emissions in the long term; and RCP 8.5 represents very high emissions, in which emissions continue to rise throughout the century. As climate change increases temperatures, winter heating load is expected to decline,²¹ so scenarios involving greater climatic effects such as RCP 6.0 and RCP 8.5 could be expected to produce lower demand forecasts.

The Company explains that, “Given the RCP 8.5 is at the high end of potential future GHG emissions[,] where there are significant worldwide efforts to mitigate GHG emissions[, we have] remove[d] this future as a realistic option.” Instead, without any justification for its decision to also avoid using RCP 6.0, the Company chose to use RCP 4.5 alone. Although governments and major global polluters *may* rapidly reduce their emissions to be in line with an RCP 4.5 pathway by the end of the century, we are not on track for this to happen in the next 5-20 years. To get a better sense of a range of potential climate conditions in the IRP timeframe, Avista should have at least modeled the RCP 4.5 scenario alongside a higher emissions scenario such as RCP 6.0 or 8.5.²² This is how both Pacificorp and PGE use RCPs in their IRP processes.²³

Instead, the Company modeled future weather conditions in which customer demand for gas for winter heating *increases* over time – which is not in line with generally understood climate projections for the Pacific Northwest region, where winter temperatures are likely to become more mild over time (thus requiring less gas use for heating, on average).²⁴ Notably, it is also not in line with modeling assumptions Pacificorp has used for the same region in its electric IRP.²⁵ It

²¹ See, e.g., IRP at 2-9, Figure 2.6.

²² Schwalm, C.R. et al. (2020), *RCP8.5 tracks cumulative CO2 emissions*, PNAS, 117 (33), <https://www.pnas.org/doi/10.1073/pnas.2007117117> (“Not only are the emissions consistent with RCP 8.5 in close agreement with historical total cumulative CO2 emissions (within 1%), but RCP8.5 is also the best match out to midcentury under current and stated policies with still highly plausible levels of CO2 emissions in 2100.”); See also <https://cal-adapt.org/help/faqs/which-rcp-scenarios-should-i-use-in-my-analysis/> (sharing that California state guidance is to use RCP 8.5 for analyses through mid-century (2050) and then both 4.5 and 8.5 for post-2050 analyses.)

²³ Pacificorp IRP at 125,

https://www.pacificorp.com/content/dam/pcorp/documents/en/pacificorp/energy/integrated-resource-plan/2023-irp/2023_IRP_Volume_I.pdf; See also, PGE IRP at 318, https://downloads.ctfassets.net/416ywc1laqmd/6B6HLox3jBzYlXOBgskor5/63f5c6a615c6f2bc9e5df78ca27472bd/PGE_2023_CEP-IRP_REVISED_2023-06-30.pdf.

²⁴ USDA Northwest Climate Hub, *Climate Change Impacts in the Northwest*,

<https://www.climatehubs.usda.gov/hubs/northwest/topic/climate-change-impacts-northwest>; See also Oregon Department of Energy (2023), *OCCRI's Sixth Climate Assessment Outlines Climate Change Effects in Oregon*, <https://energyinfo.oregon.gov/blog/2023/1/11/occri-sixth-climate-assessment-outlines-climate-change-effects-on-oregon>.

²⁵ Pacificorp 2023 IRP at 125,

https://www.pacificorp.com/content/dam/pcorp/documents/en/pacificorp/energy/integrated-resource-plan/2023-irp/2023_IRP_Volume_I.pdf (stating that in the region “[...] increasing winter temperatures results in less heating load, which drive lower winter peaks. By 2042, winter peaks are projected to be 319 MW (2.4%) lower than the 20-year normal weather scenario.”).

is extremely concerning that the electric and gas companies would have such drastically different, foundational assumptions about future load forecasts for the same region.

Indeed, in DR 083, Staff requested Avista apply an alternative approach to developing weather futures in the IRP – one based on a percentage change in climate periods applied to the models. In its response, the Company shared that “Staff[‘]s recommended alternative approach produces less heating degree days per year in all areas other than Klamath Falls, which is mostly unchanged.”²⁶ Avista’s response reflects the importance of evaluating a variety of outcomes. Certainly, the consequences of getting climate modeling wrong should not be swept under the rug. Underestimating the effects of climate change could lead utilities to over-invest in gas infrastructure which may prove unnecessary, and it can bias utilities’ analysis against electrification by inflating the degree to which heat pumps must rely on electric resistance for backup heat.

We recommend that the OPUC provide guidance to both gas and electric utilities as to how they should incorporate climate data and provide realistic climate-related demand projections in future resource planning.²⁷ This guidance should be based on the best available science and informed by climate experts, not just the utilities themselves.

B. The Company’s IRP analysis and PRS represent an unrealistic and risky overreliance on alternative fuels like RNG and synthetic methane.

Avista’s preferred portfolio relies on a mix of renewable thermal certificate (RTC) and community climate investment (CCI) purchases in the short term, with a heavy reliance on RNG and (perhaps most concerningly) synthetic methane as soon as 2030 (and as early as 2024 during peak times).²⁸ This strategy fundamentally overestimates the likelihood that alternative fuels will become sufficiently available, affordable, and eligible for CPP compliance to play a meaningful role in Avista’s CPP compliance strategy. We have collectively weighed in extensively on the harms and risks of over-reliance on alternative fuels, not just for CPP compliance, but also for ratepayer impacts, in both the UM 2178²⁹ and LC 79³⁰ processes. Avista has had this stakeholder feedback for years yet has doubled down on this pathway in its preferred resource strategy. We will reiterate some of our concerns about alternative fuels as dominant CPP compliance

²⁶ LC 81, Avista IRP, Answer to Staff DR 083.

²⁷ HB 3409 (Section 2(b)),

<https://olis.oregonlegislature.gov/liz/2023R1/Downloads/MeasureDocument/HB3409/Enrolled>.

²⁸ LC 81, Avista IRP, Answer to Staff DR 013.

²⁹ UM 2178, Natural Gas Fact Finding, Climate and Energy Justice Advocates Comments Workshop 3, at 13-18 (Sept. 24, 2021), <https://edocs.puc.state.or.us/efdocs/HAC/um2178hac162937.pdf>.

³⁰ LC 79, In the Matter of NW Natural Gas Co. 2022 Integrated Resource Plan, Opening Comments by Green Energy Institute at Lewis & Clark Law School, Climate Solutions, Columbia Riverkeeper, Community Energy Project, Electrify Now, Metro Climate Action Team, Natural Resources Defense Council, and Sierra Club, Redacted Public Version, 18-34 (Dec. 30, 2022), <https://edocs.puc.state.or.us/efdocs/HAC/lc79hac14421.pdf>.

strategies below, as well as add some additional context for long-term reliance on synthetic methane, which will not count toward CPP compliance under state reporting requirement rules unless the CO₂ feedstock comes from a biogenic source.³¹

First, Avista’s analysis relies on overly optimistic assumptions about the cost and availability of alternative fuels. Climate Advocates and others have detailed the myriad risks associated with alternative fuels throughout the UM 2178 process,³² in NW Natural’s IRP process,³³ and in other forums.³⁴ These risks include unknown and likely very high costs, the potential that necessary technologies will never overcome key barriers to commercial availability, the fuels’ poor suitability for use in buildings compared to harder-to-electrify sectors, and the significant health and safety risks of combusting fuels in homes and buildings. Relying on these unproven technologies in the face of these risks, and despite the current availability of proven solutions like building electrification, has been aptly termed “tech-crastination.”³⁵

While we will not repeat the extensive discussion of these risks in these cited materials, we do wish to highlight two recent developments that are especially relevant to Avista’s IRP. First, recent experience has confirmed that alternative fuel availability lags far behind optimistic targets and projections. Recent analysis from Wood Mackenzie projects that low-carbon hydrogen production will fall well short of Department of Energy goals, especially in the near-

³¹ The Climate Protection Program regulates covered emissions, which include anthropogenic emissions. OAR 340-271-0110(3)(b)(A). Covered emissions do not include emissions from the combustion of biomass-derived fuels. OAR 340-271-0110(3)(b)(B)(i). Under the CPP, biomass-derived fuels include biomethane. OAR 340-271-0020(3). Accordingly, an entity purchasing CO₂ from an anthropogenic source to use as a feedstock for synthetic methane, that is then combusted or oxidized, will generate compliance obligations under the CPP. In its 2023 Climate Rulemaking, DEQ proposes to clarify its regulation by defining of “biomethane” to mean “refined biogas, or another synthetic stream of methane produced from biomass feedstock, that has been upgraded to meet pipeline quality standard or transportation fuel grade requirements, such that it may blend with, or substitute for, natural gas. DEQ, Notice of Proposed Rulemaking for the Office of Greenhouse Gas Program’s Climate 2023 Rulemaking, Proposed OAR 240-215-0020(7) (Aug. 22, 2023).

³² UM 2178, Natural Gas Fact Finding, Climate and Energy Justice Advocates Comments Workshop 3, at 13-18 (Sept. 24, 2021), <https://edocs.puc.state.or.us/efddocs/HAC/um2178hac162937.pdf>; see also UM 2178, Natural Gas Fact Finding, Climate and Energy Justice Advocates Comments on Draft Report, <https://edocs.puc.state.or.us/efddocs/HAC/um2178hac82230.pdf>.

³³ Oregon Public Utility Commission Docket No. LC 79, Opening Comments of Green Energy Institute at Lewis & Clark Law School, Climate Solutions, Columbia Riverkeeper, Community Energy Project, Electrify Now, Metro Climate Action Team, Natural Resources Defense Council and Sierra Club, at 19-34, 39-44 (Dec. 30, 2022), <https://edocs.puc.state.or.us/efddocs/HAC/lc79hac14421.pdf>.

³⁴ See, e.g., Washington UTC Docket U-220244, Sierra Club Comments on Avista’s 2023 Gas IRP (Aug. 1, 2023); Washington UTC Docket U-210553, Sierra Club Comments on Staff Examination of Energy Decarbonization Pathways (July 31, 2023); Washington UTC Docket UE-220242, Staff Comments on Puget Sound Energy’s 2023 Gas Integrated Resource Plan, at 17-20 (June 5, 2023); California PUC Docket A.22-09-006, Sierra Club Protest to Application of Southern California Gas Company, San Diego Gas & Electric Company, and Southwest Gas Corporation to Establish Hydrogen Blending Demonstration Pilots (Oct. 12, 2022), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M497/K621/497621760.PDF>.

³⁵ 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-techcrastination>.

term.³⁶ And BloombergNEF projects that IRA subsidies for hydrogen are unlikely to result in significant uptake.³⁷ Similarly, a recent report revealed that NW Natural met only 0.15% of its Oregon customers' demand with biogas in 2022, none of which was produced in-state.³⁸ This fell dramatically short of NW Natural's target to deliver 20 times that amount of biogas.³⁹ Second, Oregon customers have emphatically rejected alternative fuel projects when they have been proposed. A broad coalition including community-based organizations and environmental justice leaders strongly opposed a hydrogen blending proposal by NW Natural, which led the utility to withdraw the project.⁴⁰ Any future alternative fuel projects must be preceded by robust and transparent outreach to ensure affected communities are fully aware of the risks and have a full opportunity to express concerns and have them addressed.

The Company does at times recognize the challenges facing alternative fuels and the significant uncertainty about their cost and availability.⁴¹ In light of this recognition, it would have made sense for Avista to model the impact of higher costs across resource scenarios, including its preferred resource strategy. Unfortunately, as NW Natural did in its most recent IRP, Avista failed to model these risks in a meaningful way. Indeed, while Avista appears to recognize the prohibitive barriers to incorporating hydrogen—which is not included in its Oregon PRS⁴²—it paradoxically selects synthetic methane in the PRS, despite acknowledging that the availability and price of green hydrogen is a limiting factor in its ability to use synthetic methane.⁴³ This wishful thinking is refuted by Avista's own analysis, and by the additional analyses cited above. **We urge the Commission to adopt the same approach it took in evaluating NW Natural's IRP—it cannot acknowledge an IRP that does not adequately assess cost and risk, without**

³⁶ David Iaconangelo, *U.S. to Miss DOE's Hydrogen Goals by Wide Margin – Report*, E&E News (June 28, 2023), <https://subscriber.politicopro.com/article/eenews/2023/06/28/u-s-to-miss-does-hydrogen-goals-by-wide-margin-report-00103826>.

³⁷ BloombergNEF, *New Energy Outlook 2022: US* (Aug. 2, 2023), <https://about.bnef.com/new-energy-outlook-series/>.

³⁸ Monica Samayoa, *NW Natural on Slow Start Toward Climate Goals Using Renewable Natural Gas*, *New Report Shows*, Oregon Public Broadcasting (July 14, 2023), <https://www.opb.org/article/2023/07/14/new-report-nw-natural-slow-start-climate-goals-using-renewable-natural-gas/>.

³⁹ *Id.*

⁴⁰ Sierra Club, *NW Natural Withdraws Application for Controversial Hydrogen Blending Experiment following Community Uproar* (Nov. 2, 2022), <https://www.sierraclub.org/press-releases/2022/11/nw-natural-withdraws-application-controversial-hydrogen-blending-experiment>.

⁴¹ See, e.g., IRP at 4-23 to 4-24 (acknowledging several “drawbacks to hydrogen” including “needing 3 times the volume to provide the same energy as natural gas,” a “maximum blend rate in pipelines assumed at 20%,” which “can reduce current pipeline capacity,” the potential to “impact functionality of appliances and end uses,” and hydrogen’s “high cost”); *id.* at 4-25 (acknowledging that “[t]he potential size of [the synthetic methane] resource is limited to the quantity of hydrogen available, a carbon source, and cost”).

⁴² Because Avista acknowledges these drawbacks and sees no role for hydrogen blending in its resource portfolios or decarbonization strategies, any future proposals to develop hydrogen blending demonstration or pilot projects should be viewed with extreme skepticism. Moreover, although Avista does not select any hydrogen in its PRS for this IRP, it is critically important that future IRPs accurately account for the risks associated with all alternative fuels, including hydrogen.

⁴³ IRP at 4-25.

providing “accurate assessments of all relevant aspects, including the uncertainty surrounding them.”⁴⁴

Even if alternative fuels can overcome these serious barriers to commercial viability, safety, affordability, and overall availability, there is serious doubt about whether they will qualify as CPP compliance options. This doubt ultimately stems from alternative fuels’ dubious ability to advance Oregon’s decarbonization goals, especially if they are used in the ways Avista proposes in Chapter 5 of its IRP. Purchasing RTCs from other parts of the country does not help Avista decarbonize its actual energy system, and whether RTCs purchased from outside of Oregon count for CPP compliance is an open legal issue that presents additional compliance risk. Further, the Company has not thoroughly explored the possibility that these credits may not be an acceptable compliance mechanism under future Oregon laws. The Oregon Environmental Quality Commission or legislature could properly conclude that RNG emissions should be calculated on a lifecycle basis, require RNG projects to reduce GHG emissions *in Oregon* or establish other regional limitations on projects, or cap the number of RTCs allowed to be used for compliance. If the Company cannot purchase a high number of RTCs for compliance, it risks non-compliance with the CPP.

In fact, the Oregon Department of Environmental Quality (DEQ) has undertaken a 2023 Climate Rulemaking to discuss whether specificity or clarifications are necessary for reporting RNG, as well as clarifying verification requirements.⁴⁵ Ultimately, the more Avista 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, or face penalties for failing to comply with the cap.

Further, GHG emissions from synthetic methane made from non-biogenic feedstock will generate compliance obligations under the CPP. Avista’s modeling assumes that synthetic methane, using CO₂ from direct air capture,⁴⁶ in its long-term portfolio will assist it in complying with the CPP cap. If Avista wishes to treat emissions from synthetic methane as a “cleaner supply side resource”⁴⁷ that assists it in meeting its CPP obligations, it will have to rely on CO₂ from a biogenic resource paired with green hydrogen – both expensive and low-availability fuels on their own – to then make synthetic methane that is compliant under the CPP. Avista failed to model the cost, availability and competition for these feedstocks. Further, using these resources in such a manner would be wasteful and expensive and, frankly, laughably unrealistic as a CPP compliance strategy. Ultimately, Avista’s reliance on synthetic methane in its long-term plan all

⁴⁴ LC 79, In the Matter of NW Natural Gas Co. 2022 Integrated Resource Plan, Order No. 23-281, at 8 (Aug. 2, 2023).

⁴⁵ Oregon Dep’t of Env’tl. Quality, Rulemaking Overview, 2023 Climate Rulemaking (Mar. 2, 2023), available at <https://www.oregon.gov/deq/rulemaking/Documents/C2023ruleBrief.pdf>.

⁴⁶ LC 81, Avista IRP, Answer to Staff DR 014.

⁴⁷ IRP at 4-25.

but ensures the Company will not meet CPP requirements. **We recommend that the OPUC direct Avista to reflect these compliance risks by excluding out-of-state RNG, RTCs, and synthetic methane that does not explicitly account for the costs of CPP-compliant (i.e., biogenic) feedstocks from the PRS in its re-filed IRP.**⁴⁸

In addition to the compliance concerns listed above, Avista's PRS creates significant stranded asset risk for customers. Its plan to continue business-as-usual growth while purchasing RTCs and investing in alternative fuels can be expected to result in investments in traditional gas infrastructure that can and should be avoided by instead pursuing electrification and other non-pipeline alternatives in the near term. Sooner or later, widespread electrification in Oregon is inevitable, especially with the influence of the Inflation Reduction Act incentives. When this happens, any new gas infrastructure investments will become stranded assets that are no longer used and useful well before they are fully amortized. Avista can minimize this risk by focusing its CPP compliance strategy on electrification and avoiding new gas infrastructure investments wherever possible.

C. The Company overstated the cost of building electrification and did not adequately consider non-pipeline alternatives.

Avista's preferred portfolio does not select any building electrification, despite multiple reports' findings that electrification may be the lowest-cost, lowest-risk approach to decarbonizing buildings in the Pacific Northwest.⁴⁹ In fact, electrification is meaningfully considered in only one alternative scenario, and cost estimates for electrification in all scenarios are unsupported and likely inaccurate.

As electrification achieves greater penetration and costs decline, an increasing number of expert analyses are finding it to be the least-cost, least-risk (or similarly framed) strategy for building decarbonization, often by a wide margin. For example, a recent report found that it would cost one utility's ratepayers more than 5 times as much per ton of avoided emissions to decarbonize using alternative fuels than to decarbonize by investing in electrification.⁵⁰ These findings

⁴⁸ Synthetic methane should not be considered for CPP compliance in any scenario. RNG and RTCs should be excluded in at least one scenario.

⁴⁹ See, e.g., Clean Energy Transition Institute (2023), *Net-Zero Northwest: Technical and Economic Pathways to 2050*, <https://www.nznw.org/>; Billimora, S. and M. Henchen (2020), *Regulatory Solutions for Building Decarbonization*, RMI, [https://rmi.org/insight/regulatory-solutions-for-building-decarbonization/#:~:text=In%20this%20study%2C%20E3%20evaluated,emissions%20from%20buildings%20in%20California](https://rmi.org/insight/regulatory-solutions-for-building-decarbonization/#:~:text=In%20this%20study%2C%20E3%20evaluated,emissions%20from%20buildings%20in%20California;); see also Takahashi, K. et al. (2022), *Toward Net Zero Emissions from Oregon Buildings: Emissions and Cost Analysis of Efficient Electrification Scenarios*, RMI, <https://www.synapse-energy.com/sites/default/files/Net-Zero-Emissions-from-Oregon-Buildings-21-127.pdf>.

⁵⁰ Meera Fickling et al., *A Path to Pollution-Free Buildings: Meeting Xcel's 2030 Gas Decarbonization Goals*, at 12, Western Resource Advocates, Southwest Energy Efficiency Project, and Natural Resources Defense Council

strongly suggest that the Company’s failure to select any electrification in its PRS arises from unreasonable modeling approaches or unreasonable assumptions about the costs of electrification.

While we are pleased to see a gas utility attempting to evaluate electrification costs, the IRP contains an unclear and disjointed explanation of how Avista estimated electrification costs and how it incorporated electrification into resource selection.⁵¹ This explanation lacks a basic overview of the resources, costs, or scenarios the company analyzed,⁵² fails to define key terms or identify key assumptions, features several charts with inadequate explanations and labels, and includes a summary of the five steps in the analysis after describing four out of those five steps.⁵³ From what we glean, Avista includes the total costs of electrification retrofits, or “conversion costs” in its leveled cost estimates.⁵⁴ It summarizes these conversion costs in a table that appears to include the costs of installing gas-fired equipment, rather than electric equipment, which is labeled “Retrofit cost of Gas Equipment and Appliances for an Existing Gas Baseline House.”⁵⁵ Avista assumes these costs are amortized over 5 years at the Company’s rate of return, rather than paid upfront by building owners (or by Avista, to the extent it would be offering electrification incentives).⁵⁶ There does not appear to be any discussion of the reasoning behind this amortized retrofit cost arrangement. The Company also appears to assume all electrification projects are retrofits, rather than all-electric new construction. Finally, the Company appears to include the cost of meeting electrified customers’ incremental electric load in its leveled electrification cost estimates.⁵⁷ We are seriously concerned that Avista’s unsupported assumptions bias its analysis against electrification, and that its failure to clearly and transparently explain this analysis makes it difficult or impossible for stakeholders and the Commission to engage with its findings.

We also question the Company’s assumption that electric rates will continue to increase. The Company’s conclusion appears to include the costs of decarbonizing electricity production and the costs of new transmission and distribution projects, but it does not appear to account for downward rate pressure from additional load resulting from electrification. Although it is

(with cost analysis from Synapse Energy Economics, Inc.) (July 2023),
<https://westernresourceadvocates.org/publications/a-path-to-pollution-free-building/>.

⁵¹ IRP at 3-14 to 3-21.

⁵² IRP at 3-14 to 3-15. The section gives some background on electrification policies in Washington and Oregon and the difficulties of estimating electrification costs, before launching right in with “[t]o begin the analysis the customer type, class and major end use must be separated.” It then describes three categories of end use that do not appear to be used in the subsequent analysis.

⁵³ IRP at 3-19.

⁵⁴ IRP at 3-16 to 3-17, 3-19.

⁵⁵ IRP at 3-17 (emphasis added). The table includes costs associated with a “96 AFUE GF [presumably gas furnace],” a “16 SEER AC,” a “Tankless condensing 0.93 UEF WH [presumably water heater],” a “Gas Range,” and a “Gas Dryer.”

⁵⁶ IRP at 3-17.

⁵⁷ IRP at 3-18.

difficult to discern much of the reasoning behind Avista’s analysis of electrification costs, it appears to unreasonably inflate those costs in several places. First, Avista bases its estimates on total costs, rather than the incremental costs that would be borne by ratepayers.⁵⁸ Avista’s assumed conversion costs include the full cost of an electrification retrofit, but the maximum cost borne by ratepayers would typically be only any incremental costs of electrification above the costs of replacing existing gas equipment upon burnout (less any electrification incentives available through programs like the Inflation Reduction Act). This is because Avista-provided electrification incentives would likely only cover these incremental costs. Second, by using the same retrofit-based cost estimate for all electrification projects, Avista effectively assumes that homes will be built mixed-fuel and later retrofitted, when it would be significantly more cost-effective to incentivize building all-electric, and as cities such as Ashland in its distribution area are already pursuing policies to encourage or require all-electric new construction.⁵⁹ Third, and perhaps most egregious, Avista has given no justification for amortizing behind-the-meter investments in customer-owned equipment and retrofit costs. This significantly increases total costs compared to expensing any Avista-provided incentives (which is the normal cost recovery mechanism for incentives).

We recommend that the OPUC direct Avista to perform a new analysis of electrification costs in its re-filed IRP that clearly documents the assumptions and methods applied, details the Company’s justification for those assumptions, and compares electrification to gas system investments on a level playing field.

The Company must also significantly improve and expand its analysis of opportunities to avoid gas system investments through NPAs, including electrification, in order to meet its 2023 GRC settlement commitment to conduct robust NPA analysis in its next IRP. The current IRP’s NPA analysis consists of a single paragraph that generally describes potential NPA measures and the conditions under which they are considered.⁶⁰ It does not address any specific capacity expansion projects for which NPA analysis was conducted or the outcome of any such analysis. Appendices to the IRP describe questions about NPA analysis raised by Oregon PUC and Washington UTC Staff, with Avista’s responses generally revealing a lack of interest in seriously considering NPAs (especially before capacity shortfalls are identified and expansion projects are planned, when it may be too late for a realistic NPA analysis), and no history of selecting NPAs to meet resource needs.⁶¹

⁵⁸ IRP at 3-16 (“Avista considered the generic cost ‘total to a remodeler.’”).

⁵⁹ See Battaglia, R. “Ashland moves forward with electrification ordinance,” (June 7, 2023), [Ashland moves forward with electrification ordinance | Jefferson Public Radio \(ijpr.org\)](#).

⁶⁰ IRP at 8-9.

⁶¹ Avista 2023 Gas IRP Appendices, at 24, 34-35, <https://www.myavista.com/-/media/myavista/content-documents/about-us/our-company/irp-documents/natural-gas-irp-documents/2023-gas-irp-appendix.pdf>.

We expect a significantly more robust NPA analysis in Avista’s next IRP, consistent with its GRC settlement commitments. Specifically, **we recommend that the Commission direct Avista to include project-specific NPA analysis that accounts for non-energy benefits in its future IRPs for all capacity expansion projects and groups of geographically-related projects over \$500,000 (the threshold used in this IRP).** The analysis should explain which measures were considered, and if the NPA is not selected, why not. If the reason is that the NPA could not be implemented in time to meet the resource need, the analysis should explain the steps Avista will take to perform its NPA analysis in time to meet resource needs for future projects.

Ultimately, targeted electrification can provide a number of benefits to gas customers by obviating the need for new gas system investments that could become stranded. Gas system capital investments are durable, such that new spending may not be recovered for another 40 or 50 years. The Company must understand that the energy landscape has evolved, and electrification will be a critical resource for cost-efficiently achieving emissions reductions and resolving distribution challenges. We also believe the Company is missing potential opportunities to use electrification as a way to continue providing space and water heating services to its existing customers, which could help it maintain a healthier business in the years to come.

III. Conclusion and Recommendations

As a topline, we think that the Commission should **not acknowledge** Avista’s 2023 IRP at this time. Instead, by capitalizing on the lessons learned during its review of NW Natural’s IRP, the Commission should instruct the Company to develop a plan that actually optimizes benefits for its customers.

For any revised IRP, we recommend: (1) Avista account for trends toward all-electric new construction and consider a range of climate change impacts (consistent with other utilities’ IRPs) in its re-filed load forecast; (2) Avista better account for the risks of relying on noncommercial alternative fuels, expressly quantifying compliance risk, risks of high technology, commodity, and allowance costs, stranded asset risk, and health and climate risks wherever possible; (3) Avista update its electrification analysis to better account for available incentives and remove the unsupported electrification financing arrangement that Avista assumed in its analysis; and (4) that the Commission take this opportunity to “communicate more direct, near-term expectations for evaluating electrification in non-pipes analysis on the distribution system.”⁶²

⁶² LC 79, In the Matter of NW Natural Gas Co. 2022 Integrated Resource Plan, Order No. 23-281, at 10 (Aug. 2, 2023).

Sincerely,

/s/ Greer Ryan

Greer Ryan

Clean Buildings Policy Manager

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/s/ Carra Sahler

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