EARTHJUSTICE

September 29, 2022

VIA ELECTRONIC FILING

Oregon Public Utility Commission
Attn: Filing Center
P.O. Box 1088
Salem, OR 97308-1088

RE: UG 435 – REVISED ERRATA to Nora Apter Direct Testimony by Coalition of Communities of Color, Climate Solutions, Verde, Columbia Riverkeeper, Oregon Environmental Council, Community Energy Project, and Sierra Club ("Coalition")

Dear Filing Center:

Enclosed for filing in the above-referenced docket is a REVISED ERRATA to the Direct Testimony of Nora Apter, filed as Exhibit Coalition/100 on April 22, 2022. The Errata filed on September 23, 2022, should be disregarded.

The Coalition amends this errata filing to ensure conformance with the statement in Ms. Apter's Rebuttal and Cross-Answering Testimony at Coalition/600, Apter/2, filed on June 30, 2022.

The Coalition moves for admission of all Ms. Apter's testimony that was not withdrawn, as noted in the Coalition's Motion to Admit Pre-Filed Testimony and Exhibits

A revised version of Ms. Apter's errata is enclosed for filing. Please let me know if you have any questions.

Sincerely,

Jaimini Parekh
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BEFORE THE PUBLIC UTILITY COMMISSION

OF OREGON

UG 435

In the Matter of	)	DIRECT TESTIMONY OF
	)	NORA APTER
NORTHWEST NATURAL GAS COMPANY, dba NW NATURAL,	)	
Request for a General Rate Revision.	)	

I. INTRODUCTION AND SUMMARY

Q. Please state your name and position.

A. My name is Nora Apter. I am the Climate Program Director for the Oregon Environmental Council (OEC). My responsibilities include directing OEC on policy analysis and development of legislative proposals and administrative rules to advance greenhouse gas emissions reductions and public health benefits for Oregon communities, and managing a broad coalition of labor, business, youth, climate, public health, and environmental justice partners with the mission of advancing emissions reductions and equitable outcomes in Oregon. As part of my role, I maintain collaborative working relationships with Oregon state legislators, congressional representatives, and state agency officials, and serve as a formal member of various state agency Rulemaking Advisory Committees.

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I also serve as a Commissioner on the Oregon Global Warming Commission. In this role, I help develop recommendations for statutory and administrative changes to be carried out by state and local governments, businesses, and nonprofit organizations to achieve the State's emissions reduction goals.

Q. Please describe your education and employment background.

A. Please see my witness statement attached as Exhibit Coalition/101.

Q. What is the purpose of your testimony?

A. I will address six main topics in my testimony: (1) the climate context, (2) trends opposing fossil gas and moving toward building electrification, (3) background about Renewable Natural Gas ("RNG") and the risks of meeting the SB 98 targets with environmental credits associated with RNG, (4) the requirements of the Climate Protection Program ("CPP"), and (5) NW Natural's imprudent investments in Lexington and other offtake agreements that will not assist the company in complying with the law; and (6) provide concluding recommendations.

Each of these topics relates to a broader conversation regarding the future of the gas system during our current climate emergency. In short, expansion of the gas system (which cannot be offset by investing in RNG outside of Oregon) runs counter to Oregon's goals to reduce greenhouse gas (GHG) emissions, and raises important questions about gas usage into the future, the risk of stranded assets, and the impact of costly investments in RNG that will not assist the company in reducing its GHG emissions or in complying with state regulations, all to the detriment of its ratepayers.

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While I acknowledge it is difficult to comprehensively discuss policy issues in rate cases, it is similarly difficult to address utility spending proposals in broad policy dockets. Accordingly, I provide policy recommendations for the Oregon Public Utility Commission ("Commission") to consider here because the future of the fossil gas system will be shaped by these incremental decisions. I also recommend that the Commission reject NW Natural's proposal to recover the costs of the Lexington RNG project as set forth in Schedule 198.

Q. Have you previously testified before the Oregon Public Utility Commission or other utility commissions?

A. Yes. I have participated in and provided testimony on a number of PUC proceedings, including those involving the PUC's proposed plans to implement Executive Order 20-04, "Natural Gas Fact Finding" proceeding (UM 2178), and Community Solar Program (UM 1930). I have also provided testimony in the legislature on several PUC-related laws, including HB 2475, HB 2021 and HB 3141, all adopted last year.

Q. To implement the state's climate policies, what rulemakings have you participated in?

A. In my role as Climate Program Director, I have represented OEC in a variety of state rulemaking and other decision-making processes related to climate policy, including Department of Environmental Quality rulemakings to expand the Clean Fuels Program (CFP) to accelerate transportation electrification and strengthen the program's overall carbon intensity reduction targets, and to cap and reduce pollution from fossil fuel suppliers and large stationary sources in Oregon through the Climate Protection Program (CPP).

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I served as a formal member of DEQ's CPP Rulemaking Advisory Committee (RAC). I participated in each stage of DEQ's extensive CPP rulemaking process, including attending and providing comment at six technical workshops, three "Town Hall" meetings, and seven day-long RAC meetings. Over 80-plus hours of rulemaking-related meetings, I provided extensive technical comments and feedback related to specific program design elements, options, and implications to inform the CPP rules. In addition, between October 2020 and October 2021, I met weekly with key DEQ staff to discuss CPP program design considerations. In addition to weighing in orally at meetings, I led and/or contributed to drafting and submitting at least 18 written comments to DEQ during the rulemaking process.

I also serve on the RAC for DEQ's current CFP rulemaking, which seeks to expand the CFP's carbon intensity reduction targets to help achieve our state's science-based climate pollution reduction targets. Through this rulemaking process, I have attended every DEQ-hosted scoping meeting, technical workshop, and formal RAC meeting, and provided input on the proposed carbon intensity targets, fuel pathway considerations to achieving expanded targets, and the public health, economic, and climate benefits of an ambitious Clean Fuels Program.

Q. What materials did you review in preparing this testimony?

A. I have reviewed NW Natural's general rate application, the Climate Protection Rules and related materials, the April 2022 report from the United Nations' Intergovernmental Panel on Climate Change, Oregon Public Utility Commission Natural Gas Fact Finding

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(UM 2178) workshop submissions, SB 98 and the implementing rules, local government climate action plans, as well as several reports cited below.

Q. Are you sponsoring any exhibits?

A.. Yes. [See FN 37 and 53]

Q. How is your testimony organized?

A. In Section II, I provide context for our concern with NW Natural's decarbonization strategy in light of the climate emergency and the State of Oregon's climate policies. Section III focuses on trends against fossil gas and for building electrification and why these trends are relevant to NW Natural's request for a general rate revision. Section IV provides a background about RNG to offer a more complete picture of its risks to ratepayers. In Section V, I explain my concern that NW Natural's strategy to meet its SB 98 targets by buying environmental attributes associated with RNG is not consistent with the language of SB 98. I also describe the CPP mandates and why the Lexington facility will not assist NW Natural in complying with the CPP's enforceable and declining cap on GHG emissions. Finally, in Section VI, I recommend the Commission reject NW Natural's proposal to recover the costs of the Lexington RNG project as set forth in Schedule 198 as it is not a prudent investment.

II. CLIMATE CONTEXT

Q. Do you have any concerns about NW Natural's decarbonization strategy that includes continuing to encourage customer growth, in light of the warnings from the United Nations' Intergovernmental Panel on Climate Change, the world's leading authority on climate research?

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A. Yes. The newest IPCC report underscores the urgency and importance of the issues presented in this rate case. The April 2022 report from the IPCC is clear: the planet has already warmed by more than 1 degree C, and GHG emissions are still rising. To meet the 1.5 degree C threshold, global emissions must fall by nearly half by the year 2030, and reach net zero by 2050 or so.[1] The report further states that "rapid and deep and in most cases immediate GHG emission reductions in all sectors" are necessary to limit warming to between 1.5 and 2 degrees C.[2] Further, the IPCC report concludes that global *methane* emissions must be reduced by at least 34% by 2030 to have any hope of limiting warming to 1.5 degrees C.[3] Importantly, investment decisions, like those faced by the Commission in this rate case, "are significant for mitigation because they lock in high- or low- emissions trajectories over long periods."[4]

The IPCC report includes a number of important recommendations for mitigation strategies related to fossil gas in buildings. Because methane has a shorter lifetime, it has an outsized impact on temperatures in the near-term. For that reason, methane reductions are "particularly important in relation to near-and medium-term temperatures[.]"[5] The

[1] IPCC, 2022*:* Summary for Policymakers. In: *Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [P.R. Shukla, J. Skea, R. Slade, A. Al Khourdajie, R. van Diemen, D. McCollum, M. Pathak, S. Some, P. Vyas, R. Fradera, M. Belkacemi, A. Hasija, G. Lisboa, S. Luz, J. Malley, (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA. doi: 10.1017/9781009157926.001, SPM 4, available at https://www.ipcc.ch/report/ar6/wg3/.
[2] *Id.* at SPM-32.
[3] *Id.* at SPM-22.
[4] *Id.* at TS-112 (Draft Technical Summary Subject to Final Edits).
[5] IPCC, 2022*: Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [P.R. Shukla, J. Skea, R. Slade, A. Al Khourdajie, R. van Diemen, D. McCollum, M. Pathak, S. Some, P. Vyas, R. Fradera, M. Belkacemi, A. Hasija, G. Lisboa, S. Luz, J. Malley, (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA. doi: 10.1017/9781009157926, at 221 (Draft Subject to Final Edits).

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report noted that to achieve "stringent emissions reductions at the level required" for 1.5 to 2 degrees C, "increased electrification of buildings, transport, and industry" will be required.[6]

Q. How is this relevant to NW Natural's requested rate increase?

A. Institutional and market responses to the climate emergency cannot be ignored in evaluating least risk and least cost options. The Commission must realistically assess NW Natural's forecasted five-year capital expenditures of $1.1 billion, which it anticipates from customer growth, increasing investments in RNG, as well as safety and reliability investments.[7] Each additional customer added to NW Natural's system brings outsized costs that harm existing customers. NW Natural's plans to purchase only the environmental attributes associated with RNG without actually decarbonizing Oregon's fossil gas is imprudent given the risks to the gas system from market forces and outside regulatory pressures. The IPCC's report underscores, yet again, that we can no longer continue with business as usual expenditures.

Q. What are the State of Oregon's climate policies?

A. EO 20-04 established targets for the State of Oregon to reduce greenhouse gas emissions at least 45 percent below 1990 emissions levels by 2035 and at least 80 percent below 1990 emissions levels by 2050. The EO directs state agencies to "exercise any and all authority and discretion vested in them by law to help facilitate Oregon's achievement of the GHG emissions reduction goals" set forth in the EO, including by prioritizing and expediting any processes and or agency dockets that could accelerate GHG emission reductions and integrating climate change and emissions reduction goals into agency

[6] *Id.* At TS-46 (Draft Technical Summary Subject to Final Edits).
[7] NW Natural/300/Villadsen-Figueroa/Page 73.

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planning and policymaking decisions. Section 5(A) of the EO directs the PUC to consider the following Statement of Public Interest: "It is in the interest of utility customers and the public generally for the utility sector to take actions that result in rapid reductions of GHG emissions . . . ."[8] Section 5(A)(1) directs the PUC to "Determine whether utility portfolios and customer programs reduce risks and costs to utility customers by making rapid progress towards reducing GHG emissions consistent with Oregon's reduction goals." [9]

The Department of Environmental Quality's Climate Protection Program (CPP) establishes mandatory requirements for Oregon's gas utilities and other fossil fuel suppliers to reduce regulated greenhouse gas emissions 50% below averaged 2017-2019 emissions by 2035, and 90% below averaged 2017-2019 emissions by 2050. The CPP also includes an alternative compliance option for regulated fossil fuel suppliers that will generate investments to help reduce emissions from transportation and buildings, and support environmental justice communities in the transition. Through this Community Climate Investment (CCI) program, a fuel supplier or fossil gas utility is allowed to invest in projects to reduce emissions in Oregon communities–for example, replacing fossil gas appliances with electric heat pumps in an apartment complex–instead of directly reducing some of their own climate pollution.[10]

[8] Office of the Governor, State of Oregon, Exec. Order 20-04, available at https://www.oregon.gov/gov/Documents/executive_orders/eo_20-04.pdf.
[9] *Id.*
[10] OAR 240-271-0900.

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Finally, SB 98, now codified at ORS 757.390 to 757.398, encourages natural gas utilities, both large and small, to reduce emissions by procuring RNG for use in Oregon and investing in related infrastructure. The legislature declared that "the development of renewable natural gas resources should be encouraged to support a smooth transition to **a low carbon energy economy in Oregon.**"[11] Renewable natural gas infrastructure means "all equipment and facilities for the production, processing, pipeline interconnection and distribution of renewable natural gas to be furnished **to Oregon customers.**"[12] Large utilities may make investments and procure RNG from third parties to meet targets—5% by 2024 and 30% by 2050—for the percentage of gas purchased for distribution to Oregon customers.[13] Regulations implementing the law require documentation to demonstrate that the RNG purchased pursuant to SB 98 was delivered to an injection point on a common carrier pipeline.[14] Note that it is not sufficient that the gas be merely processed *to meet standards* for injection into a common carrier pipeline. It must actually be delivered to an injection point on a common carrier pipeline.

Q. Do you have any general concerns about NW Natural's strategy to decarbonize its gas distribution system that includes continuing to encourage customer growth, in light of state policy?

A. Yes. Every new customer NW Natural adds merely increases fossil fuel sales, expands our reliance on fossil gas, and delays the transition to cost-effective, zero-carbon

[11] ORS 757.390(1)(b)(emphasis added).
[12] ORS 757.392(8)(emphasis added).
[13] ORS 757.396(1).
[14] OAR 860-150-0050(7) ("Upon the Commission's request, each large natural gas utility . . . that participates in the RNG program must provide documentation to demonstrate that, for each RTC the natural gas utility purchased or otherwise acquired, one dekatherm of RNG was delivered to an injection point on a natural gas common carrier pipeline.").

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alternatives. Every new gas hookup digs us deeper into a climate catastrophe hole. Further, continuing to increase our reliance on fossil gas comes with an outsized decarbonization cost and risk for ratepayers compared to lower-cost electrification and deep energy efficiency solutions.

If the state hopes to achieve its GHG emissions reduction goals and mitigate the climate emergency, the use of fossil gas must significantly decline. After transportation, residential and commercial buildings are Oregon's second largest source of greenhouse gas emissions.[15] Methane used to heat homes and power appliances results in 86 times the atmospheric warming effects of carbon dioxide over 20 years—the period during which global emissions must be substantially decreased to keep warming to between 1.5 and 2 degrees C. In addition to CO2 emissions from the gas when it is combusted, fugitive methane emissions from wells and pipelines (1% to 9% of throughput per Union of Concerned Scientists)[16] also contribute to warming. At the same time, electric utilities are rapidly phasing out coal power plants, and, in Oregon, are required to reduce GHG emissions 100% by 2040.[17] New fossil fuel power plants, including fossil gas, can no longer be permitted, nor are existing fossil fuel power plants allowed to substantially expand in the state of Oregon.[18]

[15] Department of Environmental Quality, Oregon Greenhouse Gas Sector-Based Inventory Data, available at https://www.oregon.gov/deq/aq/programs/Pages/GHG-Inventory.aspx.
[16] See UNION OF CONCERNED SCIENTISTS, ENVIRONMENTAL IMPACTS OF NATURAL GAS (June 2014), https://www.ucsusa.org/resources/environmental-impacts-natural-gas.
[17] 100% Clean Energy for All, HB 2021 (Sept. 25, 2021).
[18] *Id.*

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Even if we assume the state achieves 100% emissions reductions in other sectors, the state cannot meet its GHG emissions reduction goals without also reducing fossil gas combustion from the direct use of fossil gas.

I will address specific concerns with NW Natural's assertions that its strategy to decarbonize complies with Oregon law below.

III. TRENDS AGAINST FOSSIL GAS AND TOWARD BUILDING ELECTRIFICATION

Q. What is your knowledge about public opposition to fossil gas in Oregon?

A. Increased public awareness of the harms of fossil gas has led to more robust public opposition to its use, and stronger support for transitioning to zero-carbon alternatives. For instance, a recent study from Oregon State University (OSU) found that, when presented with proposed natural gas export operations in the state, Oregonians are more likely to perceive the environmental and public health risks than the potential financial gains.[19] A corresponding OSU press release notes further that "To date, six natural gas export projects have been proposed along the Oregon coast but none have been built, most recently the Jordan Cove LNG project slated for Coos Bay, which was first proposed in 2004 and ultimately defeated last year."[20]

[19] Rachel Mooney, Hillary Schaffer Boudet & Shawn Olson Hazboun (2022) Risk-benefit perceptions of natural gas export in Oregon, Local Environment, 27:3, 342-356, available at https://www.tandfonline.com/doi/abs/10.1080/13549839.2022.2040470?journalCode=cloe20.

[20] Molly Rosbach, *Oregonians perceive greater risk than benefit from natural gas export in state, OSU study finds* (Apr. 7, 2022), available at https://today.oregonstate.edu/news/oregonians-perceive-greater-risk-benefit-natural-gas-export-state-osu-study-finds.

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Public opposition to fossil gas was also made abundantly clear during DEQ's CPP rulemaking process. Throughout the rulemaking process, including via public comments provided at and following each of the seven RAC meetings, members of the public consistently expressed strong support for regulating fossil gas power plants in Oregon in addition to fossil gas utilities. Of the 7,620 comments that DEQ received during the formal public comment period on the CPP rules, 75 percent expressed concern over climate change impacts for current and future Oregonians and strong support for reducing greenhouse gas emissions.[21] In addition, many commenters provided input expressing concern with DEQ's proposal to exclude emissions from fossil gas power plants and fossil gas utilities in Oregon.[22]

Q. What is happening locally to encourage or require building electrification?

A. At least 14 cities in Oregon[23] have climate action plans, 12 of which are served by NW Natural.[24] Many of these cities are beginning to seriously consider phasing out or restricting direct use of fossil gas in their communities. The cities of Portland, Milwaukie, and Eugene have all initiated public processes to explore various approaches to building decarbonization.[25] Additionally, Multnomah County passed a resolution in April 2021 to prohibit constructing new county buildings with gas and other fossil fuels. This new

[21] EQC Staff Report, Attachment C: Response to Comments, Dec. 16, 2021, EQC special meeting at 6, available at https://www.oregon.gov/deq/EQCdocs/121621_ItemA.pdf.
[22] *Id.*, p. 322 - 325.
[23] *See* https://zeroenergyproject.org/all-cities-with-climate-action-plans/.
[24] Albany, Beaverton, Corvallis, Eugene, Gladstone, Hood River, Milwaukie, Portland, Rockaway Beach, Salem, Tualatin, and West Linn.
[25] *See* City of Portland Climate and Health Standards for Existing Buildings, available at https://www.portland.gov/bps/climate-action/building-standards; City of Eugene Council Agenda, Meeting of Apr. 13, 2022, available at https://ompnetwork.s3-us-west-2.amazonaws.com/sites/134/documents/agenda_packet_04-13-22_post.pdf?DfrqjppwgOySwqiI.hJ4wrBk5kmas4mc; Pamplin Media Group, *Milwaukie natural gas ban proposal regroups after 'scare tactics'* (Feb. 23, 2022), available at https://pamplinmedia.com/pt/9-news/536840-429978-milwaukie-natural-gas-ban-proposal-regroups-after-scare-tactics.

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county policy also replaces existing gas and other fossil fuels in existing county buildings during retrofits.[26] Several months later, Portland Public Schools adopted goals to prohibit the installation of fossil gas infrastructure in new construction of PPS buildings and to phase out fossil gas in existing PPS buildings by 2050.[27] And Lane County just passed a greenhouse gas reduction plan that should lead to increased efficiency and electrification of buildings. In short, electrification of buildings, particularly for space and water heating, is on the rise and is all but inevitable. With the adoption of 100% Clean Electricity for All (HB 2021), local governments, businesses, and residents will be looking for ways to move away from direct use of fossil gas.

Q. What is happening nationally/globally to reduce emissions from methane?

A. At the November 2021 United Nations climate conference, President Biden unveiled the U.S. Methane Emissions Reduction Plan, outlining how his administration will leverage all available tools to tackle methane emissions. Leaders of the world's 20 wealthiest nations, the G20 Communique, met during the same U.N. climate conference and emphasized methane reductions as a critical tool to slow the pace of global warming. The leaders identified methane reductions as "one of the quickest, most feasible and most cost-effective ways to limit climate change and its impacts," and called for greater transparency in measurement, data collection, and verification of methane emissions.[28] The United States joined the European Union and about 100 nations in pledging to cut emissions of methane by 30 percent by 2030 and committing $100 billion annually to

[26] Mult. Co. Resolution No. 2021-021 (Apr. 15, 2021), available at https://multco-web7-psh-files-usw2.s3-us-west-2.amazonaws.com/s3fs-public/2021-021.pdf.
[27] Portland Public School Board Policy, PPS Climate Crisis Response, Climate Justice and Sustainable Practices Policy, 3.30.079-P (Mar. 1, 2022), available at https://www.pps.net/cms/lib/OR01913224/Centricity/Domain/4814/3.30.079-P.pdf.
[28] https://www.politico.eu/wp-content/uploads/2021/10/31/G20-leaders-declaration.pdf.

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finance the pledge. Just days after joining the agreement, the Environmental Protection Agency (EPA) announced a new proposed rule to cut methane pollution. The Biden administration has taken additional actions since then to tackle methane emissions and support a clean energy economy, including the Bipartisan Infrastructure Law, which includes significant funding to support a Methane Reduction Infrastructure Initiative as well as federal funding to support healthier buildings through energy efficiency, weatherization, and electrification.

I also note increasing awareness about the health hazards associated with gas stoves. Combusting gas from stoves and ovens produces nitrogen oxides, carbon monoxide, formaldehyde, and particulate matter, all of which are harmful to health.[29] Even when not operating, gas stoves emit methane.[30] Such research has received extensive media attention on the dangers of fossil gas.[31]

Q. How are these trends related to NW Natural's requested rate increase?

A. The trend toward building electrification, combined with the climate concerns, the research on the health impacts of fossil gas, and policies I described above and discuss further below, means that expanding the fossil gas system is no longer the lowest cost and

[29] B. Seals and A. Krasner, "Health Effects from Gas Stove Pollution," Rocky Mountain Institute, Mothers Out Front, Physicians for Social Responsibility, Sierra Club (2020), available at https://rmi.org/insight/gas-stoves-pollution-health/; Y. Zhu, et al., "Effects of Residential Gas Appliances on Indoor and Outdoor Air Quality and Public Health in California," UCLA Fielding School of Public Health Dep't of Env. Health Sciences (2020), available at https://coeh.ph.ucla.edu/effects-of-residential-gas-appliances-on-indoor-and-outdoor-air-quality-and-public-health-in-california/.

[30] Eric Lebel, Colin Finnegan, et al., "Methane and NOx Emissions from Natural Gas Stoves, Cooktops, and Ovens in Residential Homes," Environ. Sci. Technol. 2002, 64, 4, 2529-2539 (January 27, 2002), https://pubs.acs.org/doi/10.1021/acs.est.1c04707.

[31] *See, e.g.*, Corryn Wetzel, *Gas Stoves are Worse for Climate and Health than Previously Thought*, Smithsonian Magazine (Feb. 1, 2022), available at https://www.smithsonianmag.com/smart-news/gas-stoves-are-worse-for-climate-and-health-than-previously-thought-180979494/; Jeff Brady, *We need to talk about your gas stove, your health and climate change*, NPR (Oct. 7, 2021), available at https://www.npr.org/2021/10/07/1015460605/gas-stove-emissions-climate-change-health-effects.

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lowest risk option. Simply put, there is an inherent tension between making new and additional investments in gas infrastructure and having a climate-safe, decarbonized future that meets our necessary climate goals as a state, country and world. If the Commission does not manage the energy transition well in Oregon, vulnerable and lower-income customers are at risk of being stranded on an increasingly unaffordable gas system.

IV. BACKGROUND ON RNG

Q. Please describe RNG.

A. RNG is chemically indistinguishable from fossil gas. Both are primarily methane (CH4). RNG emits as much CO2 and other pollutants when burned, and it leaks as much methane when transported as gas produced from non-biological sources.

Q. What are your concerns about NW Natural's reliance on RNG to decarbonize its energy system?

A. I have many concerns about NW Natural's strategy to supply its customers with RNG as a means of meeting its own climate goals and those of the State of Oregon. My concerns arise from the lack of supply, unintended consequences from accepting this strategy, the cost of RNG, and NW Natural's overly optimistic timeline.

As an initial matter, there is not enough RNG to decarbonize NW Natural's gas network– not even close. ICF reports that RNG sources could produce 4,667 billion cubic feet per year, reflecting only about 15 percent of current gas usage in the country.[32] Given the

[32] ICF, Energy Design Principles for Renewable Natural Gas, at 10, Ex. 5 (2017), available at https://www.icf.com/-/media/files/icf/white-paper/2017/icf_whitepaper_design_principles.pdf (relying on National Petroleum Council's high estimate of 4,667 billion cubic feet per year total potential national RNG).

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competition for this resource, I question NW Natural's ability to meet the targets in SB 98, and incentivizing this strategy will only prolong reliance on its GHG-emitting gas network.

Related to competition for this resource, I am concerned NW Natural will not secure affordable RNG, resulting in the company deciding to intentionally produce a powerful GHG that would not otherwise have existed but for its actions. For example, NW Natural might invest in thermal gasification of energy crops and forest and agriculture residues, and use methane from sources that would be better eliminated through alternative resource and waste management processes. Incentivizing the generation of, and then ultimately burning, RNG from such sources is not carbon neutral. In addition, methane leakage from production negates any potential climate benefit.[33]

Purchasing RNG, and investing in infrastructure to produce RNG, is expensive. In the modeling exercise conducted during the 2021 Natural Gas Fact Finding workshops, RNG costs ranged from at least double to more than double fossil gas in the early years, with prices decreasing at different rates after 2025.[34] Other investigations have revealed similar conclusions. An E3 report commissioned by the California Energy Commission in 2019 concluded that electrification of buildings using electric heat pumps for space and water heating "leads to lower energy bills for customers over the long-term than the use

[33] Emily Grubert, "At scale, renewable natural gas systems could be climate intensive: the influence of methane feedstock and leakage rates," 2020 Env. Res. Lett. 15 084041 (Aug. 11, 2020), available at https://iopscience.iop.org/article/10.1088/1748-9326/ab9335.

[34] Oregon Public Utility Commission, Natural Gas Fact Finding, UM 2178, NW Natural presentation, slide 34, available at https://edocs.puc.state.or.us/efdocs/HAC/um2178hac10454.pdf; *see also* Draft Staff Report at 13, available at https://edocs.puc.state.or.us/efdocs/HAH/um2178hah155046.pdf.

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of renewable natural gas."[35] Similarly, Washington found electricity is the lowest cost option to decarbonize its buildings.[36]

Finally, as I describe below, as someone who participated in the CPP rulemaking, I do not believe NW Natural's investments in the environmental attributes of RNG alone is a legal method of complying with Oregon's climate policies.

Q. What will NW Natural's decarbonization strategy accomplish?

A. NW Natural's purported strategy to invest in RNG will accomplish three things. First, it will help to preserve a gas system funded by ratepayers, allowing it to continue operating in a business-as-usual manner for as long as possible. Second, it will help to polish its image for credit agencies, customers, regulatory agencies, and the wider public about its ability to deliver "renewable" energy that will, in fact, never offset the gas demand or result in the necessary GHG emissions reductions commensurate with what is demanded by the climate emergency and the state's climate policies. Finally, the strategy will enable the company to continue to invest billions of dollars to build and repair infrastructure– $1.1 billion in the next five years alone–that will lock in decades of profits while leaving fewer and fewer ratepayers holding the bag.

As I explain below, NW Natural's actual strategy to invest in the *environmental attributes* of RNG alone means that the company is merely engaging in greenwashing

[35] Energy Research and Dev. Div. Final Project Report, "The Challenge of Retail Gas in California's Low-Carbon Future," at 4 (Apr. 2020), available at https://www.energy.ca.gov/publications/2019/challenge-retail-gas-californias-low-carbon-future-technology-options-customer.

[36] Washington State 2021 Energy Strategy, First Draft, at 63 (Nov. 2020), available at https://www.commerce.wa.gov/wp-content/uploads/2020/11/WA-2021-State-Energy-Strategy-FIRST-DRAFT-2.pdf.

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and misleading the public. No environmental benefits are flowing to Oregon ratepayers, Oregon businesses, or Oregon residents, other than platitudes that "climate change is a global issue and greenhouse gas reductions that occur outside of Oregon still benefit Oregonians."[37]

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[37] Exhibit Coalition/103/Apter/1

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VI. CONCLUSION

Q. What are your recommendations to the Commission?

A. I recommend the Commission reject NW Natural's proposal to recover the costs of the Lexington RNG project as set forth in Schedule 198 as it is not a prudent investment. The way the investment is structured will not assist NW Natural in complying with the CPP. I recommend that the Commission carefully consider what I have presented regarding the climate emergency, Oregon's climate policies, trends against fossil gas in Oregon, and the risks of RNG investments in considering

Q. Does this conclude your direct testimony?

A. Yes, it does. Thank you.

[redacted]

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