



December 3, 2021

Kim Herb
JP Batmale
Oregon Public Utility Commission
Via email to kim.herb@puc.oregon.gov; jp.batmale@puc.oregon.gov

RE: Sierra Club Comments on Natural Gas Scenario Analysis (UM 2178)

Dear Ms. Herb and Mr. Batmale:

Please accept these comments¹ submitted by Sierra Club in response to Oregon Staff's request for public comments on the modeling analysis prepared by Oregon's gas utilities in the above referenced docket. Sierra Club appreciates the opportunity to submit these comments and to provide feedback on future modeling in order to fully evaluate the future of gas in Oregon in compliance with EO 20-04 and the Department of Environmental Quality's ("DEQ") anticipated Climate Protection Program ("CPP").

Sierra Club generally appreciates the addition of the alternative scenario model results since they start to address what an all-electric transition may look like as opposed to one that has significant investments in RNG and other gas-based technologies. Although there are some details and assumptions in these new scenarios that demand further explanation or refinement, an all-electric future is needed to meet Oregon's climate goals.

Based on Sierra Club's analysis of the gas utilities' models submitted in this docket, the models still make various unsupported and untransparent assumptions in an apparent effort to support the continuing use of gas in Oregon, which will result in Oregon failing to achieve its greenhouse gas emissions reductions targets and therefore meaningfully address the climate crisis. As Sierra Club has stated in past comments, the most effective means of compliance with the CPP is likely a future without gas, and certain assumptions in these scenarios still assume a fairly large amount of gas. In addition, there is no real summary document to translate the models into easily readable and accessible documents for proceeding participants. Despite these flaws, NW Natural's alternative scenarios modeling results demonstrate that with aggressive electrification, emissions fall dramatically. Sierra Club's specific comments are discussed below. We focus primarily on NW Natural as they are the largest of Oregon's utilities.

¹ Sierra Club's comments were prepared with the assistance of Pace Energy and Climate Center at Pace University, Elizabeth Haub School of Law.

A. Gas-Reliant Electrification Scenarios Omit Less GHG-Intensive Alternatives

All three utilities still retain gas-focused approaches, which rely on RNG, biofuels, hydrogen, and/or synthetic gas. For example, NW Natural's scenario assumes these gases will continue to serve up to 30 percent of load in its Alt-1 Assumed Electrification scenario and half that amount in its Alt-2 Assumed Electrification scenario. While NW Natural did not provide anticipated peak load under the alternative electrification models, the peak loads would undoubtedly be significantly lower. It is questionable that meeting the new, lower peak loads with high cost RNG, biofuels, hydrogen, and/or synthetic gas would be an economically viable business model.

Other alternatives are available to Oregon that would be demonstrably superior in achieving the greenhouse gas emissions reductions goals of the CPP, as well as potentially cost saving. We recommend that these alternative scenarios utilize less gas and look to technologies like geothermal technology and electric air source heat pumps that are not currently proposed or evaluated as alternative approaches.

B. Justifications for NW Natural's Modeling Assumptions Omitted

The utilities' spreadsheets generally omit an explanation for the assumptions adopted in the models. For example, in NW Natural's spreadsheet tab "Alt-1 Assumed Electrification," scenario electrification adoption rates are assumed without any explanation for the timing or choice of technology.

As such, the spreadsheet analysis assumptions are only known to the utilities. Other stakeholders in the proceeding outside the utility require an explanation of assumptions and an accompanying narrative to interpret the spreadsheet analysis. Additional information is therefore required for other parties to interpret the spreadsheets.

Assumptions regarding adoption rates should be explained and justified based on current practices or programs, and the specific technologies and their efficiency rates are not disclosed (see NW Natural, "Smart Energy Scenario" tab). Improvements in efficiency are also not explained or justified.

The most significant defects in the spreadsheets in terms of assumptions and lack of justification remain those involving RNG, hydrogen, and synthetic gases. These are addressed in the following section.

C. RNG, Hydrogen, and Synthetic Gas Emissions, Availability and Price Assumptions

The assumptions concerning emissions, availability and pricing of RNG, hydrogen, and synthetic gases are purely speculative. Of greatest concern, these gases will leak into the atmosphere just as natural gas leaks during all stages from production through consumption, yet they are assumed to be renewable and compliant with Oregon's CPP. Assuming zero emissions when these gases are substituted for natural gas will defeat Oregon's emissions mandates. While Sierra Club recognizes that emission assumptions for RNG and hydrogen will be established by the CPP,

understanding that these energy sources are not truly emission-free should give the Commission all the more reason to closely scrutinize planned reliance on these fuels.

Further detail regarding pricing and availability is necessary to fully evaluate the use of RNG, hydrogen, and synthetic gas as a compliance approach and the impact on rate payers. For example, NW Natural's modeled scenario under the tabs "Renewable Supply Costs" and "Alt-1 Assumed Electrification" shows rapid declines in the costs of both hydrogen and synthetic methane. The effect of these assumptions is to make continued use of gas scenarios attractive relative to electrification options. Yet, as indicated above, the cost projections are not explained or justified, and remain speculative.

Similarly, NW Natural's modeled scenario assumes availability of RNG, hydrogen, and synthetic gas to supply a large share of load. Given that the market for RNG, hydrogen, and synthetic gas is presently small or non-existent, the utility's projections appear unrealistically high. Given that the burden is on the utilities to demonstrate these assumptions, the availability projections should be explained and justified as reasonable in order for the Commission to rely on them.

D. Cost of Decarbonization

NW Natural's electrification scenarios estimate the total incremental cost of decarbonization, which are important analyses, but again without explanation for why they calculate these figures and how they should be understood (they are derived from the cost of renewable gas supply).

An explanation of the cost of decarbonization, alternatives such as geothermal and energy efficiency, and other options could inform the overall cost of decarbonizing the gas system.

E. Conclusion

In conclusion, the electrification scenarios provide important initial analysis that should help to inform Oregon's high-electrification future as a means to rapidly reduce greenhouse gas emissions while minimizing rate impacts for customers. In the future, the utilities' modeling submissions should be transparent and accessible to docket participants, as the utilities bear the burden of proving their assumptions to the Commission. Accordingly, the Commission should ensure that the utilities provide narrative descriptions and supporting justification for their assumptions. These assumptions should be realistic and, in the case of carbon emissions for RNG, hydrogen, and synthetic gas, informed by knowledge of systemic fugitive emissions of the gas system and science.

Respectfully submitted,

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