September 24, 2021
Submitted via email to PUC.PUBLICCOMMENTS@puc.oregon.gov

Oregon Public Utility Commission
201 High Street SE, Suite 100
Salem, OR 97301-3398

Re: Docket UM 2178 – RNG Coalition Comments on Modeling and Alternative Scenarios Workshop #3

Dear Commission Staff,

The Coalition for Renewable Natural Gas (RNG Coalition)[1] offers the following comments in response to the modelling of Oregon's natural gas utilities presented at the September 14, 2021, workshop[2] as part of the Oregon Public Utility Commission's (PUC or Commission) natural gas fact finding process.[3] Oregon is ahead of many other jurisdictions in exploring Renewable Natural Gas (RNG's) role in reducing greenhouse gas (GHG) and the dialogue at the Workshop continues to expand Oregon's leadership position in this area.

We are pleased to see the utility modelling shows that RNG will be a main tool used by the gas utilities to comply with the state's Climate Protection Program (CPP) and RNG producers stand ready to develop the necessary supply of low- to negative-GHG RNG to meet Oregon's needs.

About the RNG Coalition and the RNG Industry

The RNG Coalition is the trade association for the RNG industry in the United States and Canada. Our diverse membership is comprised of leading companies across the RNG supply chain, including recycling and waste management companies, renewable energy project developers, engineers, financiers, investors, organized labor, manufacturers, technology and service providers, gas and power marketers, gas and power transporters, transportation fleets, fueling stations, law firms, environmental advocates, research organizations, municipalities, universities, and utilities. Together we advocate for the sustainable development, deployment, and utilization of RNG, so that present and future generations have access to domestic, renewable, clean fuel and energy in Oregon and across North America.

[1] http://www.rngcoalition.com/

[2] Presentations made at Workshop 3 "Utilities Compliance Model presentations and Alternative Scenarios discussion" on September 14, 2021. Materials available here: https://opucteams-my.sharepoint.com/personal/qliu_opucteams_onmicrosoft_com1/_layouts/15/onedrive.aspx?id=%2Fpersonal%2Fqliu%5Fopucteams%5Fonmicrosoft%5Fcom1%2FDocuments%2FPUC%20Modeling%20Data%20Sharing&originalPath=aHR0cHM6Ly9vcHVjdGVhbXMtbXkuc2hhcmVwb2ludC5jb20vOmY6L2cvcGVyc29uYWwvcWxpdV9vcHVjdGVhbXNfb25taWNyb3NvZnRfY29tMS9FaVlnS21pMUhhUkVpSHBySEVzckhtUUJNTTlGSjQ2TEhqMTNVVmM1Mzc4ZEtnP3J0aW1lPVR4bW1uWkJfMlVn

[3] Docket UM 2178: https://apps.puc.state.or.us/edockets/DocketNoLayout.asp?DocketID=22869

Growth in RNG and Progress of Utility Procurement Programs in Other Jurisdictions

Over the last decade, policies focused on GHG emissions reduction have driven extraordinary growth within the RNG industry. There are now 198 operational RNG production facilities in North America with 248 under construction or in substantial development[4] compared to only 30 developed between 1982 and 2011. This recent development has been incentivized largely by transportation decarbonization programs, including the Unites States Environmental Protection Agency's Renewable Fuel Standard and state-level clean fuel standards (CFS) such as the Oregon Clean Fuels Program.[5]

RNG is also increasingly being used to decarbonize natural gas end-use applications in non-transportation sectors, marked by the emergence of new gas utility procurement programs for RNG. Oregon's example on this issue is inspiring others to act—especially in other Western jurisdictions. For example, the California Public Utilities Commission is currently considering requiring all gas utilities to procure RNG at levels up to ~12% of current core consumption by 2030, per the authority granted in California Senate Bill 1440.[6] Washington has adopted a policy statement that allows voluntary RNG procurement.[7] Nevada has authorized procurement and rate recovery.[8] British Columbia recently upped its ambition on RNG and now is targeting 15% renewable gas content in the natural gas system by 2030.[9] Voluntary corporate buyers also now have a framework for certification of RNG fuel production, sales, and consumption, under the recently-finalized Green-e Renewable Fuels Standard.[10]

Response to Specific Questions Posed by the Commission

What are your initial thoughts on the modeling results?

We are pleased to see the utility modelling shows that RNG will be one of the primary tools used Oregon's natural gas utilities to comply with the CPP and are committed to do whatever we can to support this success of this important GHG abatement strategy for Oregon. In their presentations, Northwest Natural, Avista, and Cascade all included RNG as a significant portion of their portfolios of solutions to comply with the CPP and their modeling shows that RNG is a cost-effective climate solution that will allow gas utilities to bring down their GHG emissions significantly.

However, with respect to total bill impacts, we were surprised to see such a wide range of projected impacts across the utilities, given that RNG is the leading compliance strategy and the RNG supply

[4] Based on RNG Coalition's production facility data as of September 7, 2021: https://www.rngcoalition.com/rng-production-facilities

[5] https://www.oregon.gov/deq/ghgp/cfp/Pages/default.aspx

[6] Such as the framework under consideration by the CPUC under Senate Bill 1440 (Hueso). See the CPUC staff's recent whitepaper on this topic in CPUC Docket R.13-02-008: https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M386/K579/386579735.PDF

[7] http://lawfilesext.leg.wa.gov/biennium/2019-20/Pdf/Bills/Session Laws/House/1257-S3.SL.pdf

[8] https://www.leg.state.nv.us/App/NELIS/REL/80th2019/Bill/6199/Text

[9] https://news.gov.bc.ca/releases/2021EMLI0046-001286

[10] https://www.green-e.org/docs/rf/Green-e%20Renewable%20Fuels%20Standard.pdf

potential and costs were derived from a similar source across all three utilities.[11] For example, for residential customers, Northwest Natural projects an average bill increase on the order of 17% by 2040 in their base case relative to pre-CPP expectations,[12] Avista believes the increase will be approximately 40% in the same time period[13] and Cascade projects at least a 60% increase.[14] Given that Northwest Natural has most fully explored the availability of low carbon gases, we believe their analysis is likely the best informed of the three, but additional explanation of the primary drivers in these differences from the utilities would be beneficial.

Similarly, additional clarity on how much these results might be impacted by potential future shifts in conventional gas prices might also be helpful. The utilities' slides did not highlight the assumed range (or stochastic tools/methods) used to assess future trends in such prices. With the recent increase[15] in conventional gas commodity prices, scenarios exploring an expanded range of conventional prices (and thus lower bill impacts from use of RNG) may be warranted.

How do these results inform your thoughts about the upcoming webinars on regulatory tools?

These initial results lay a strong analytical groundwork for consideration of adjustments to regulatory tools to allow the utilities to prepare for CPP compliance. Because the utility scenarios generally project a use of RNG beyond the provisions of SB 98, the Commission has undoubtedly already begun to consider how to adjust cost recovery requirements for utility RNG procurement beyond the volumes of RNG considered under SB 98.

The Commission should also continue to develop regulatory tools that will correctly recognize and incentivize cross-sector benefits (and discourage practices that produce disbenefits) associated with RNG production. As part of those cross-sector considerations, it will be crucially important to demonstrate the intersection between RNG's benefits in the waste, agricultural, and energy sectors. Organic waste is a serious and growing issue, and climate and other environmental impacts from these wastes require an immediate and ongoing solution. Globally, municipal solid waste is expected to grow 69% from 2.01 billion metric tons (BT) in 2018 to 3.4 BT in 2050 (around 50% of which is organic waste).[16] Moreover, these trends are underpinned by an expected 25% population increase of 2 billion people between now and 2050.[17] Oregon needs to help pioneer the development and deployment of commercially viable technologies to address this waste challenge, and this primary benefit of RNG deployment should not be ignored in gas system decarbonization discussions.

All commercially available methods of producing RNG from organic waste feedstocks have excellent lifecycle greenhouse gas performance, exemplified by carbon intensity (CI) modeling employed by

---

[11] The 2019 ICF study for the American Gas Foundation. https://gasfoundation.org/2019/12/18/renewable-sources-of-natural-gas/

[12] NW Natural, OPUC Natural Gas Fact-Finding Workshop #3- Modeling, slide 52.

[13] Avista, Natural Gas Fact Finding: Initial Model Results, slide 25.

[14] Cascade, UM 2178 Fact Finding Results, slide 44.

[15] https://www.wsj.com/articles/natural-gas-prices-surge-and-winter-is-still-months-away-11631986861

[16] https://datatopics.worldbank.org/what-a-waste/trends_in_solid_waste_management.html

[17] https://www.un.org/development/desa/en/news/population/world-population-prospects-2019.html

Oregon and California's[18] clean fuel programs. Moreover, some RNG projects capture and destroy a greater amount of GHG (as measured on a tons of carbon dioxide equivalency basis) than are emitted during the fuel's combustion, making it one of the few fuels available commercially today with a carbon-negative impact (i.e., better than carbon-neutral).

Because of the breadth of technological options to make renewable gases (both biomethane and hydrogen),[19] the RNG industry has long advocated for employing metrics to assess the full GHG emissions from each RNG production pathway. In prior comments during SB 98 implementation, we pointed out that a lifecycle analysis (LCA) is the most appropriate method of accounting for all greenhouse gas emissions benefits and disbenefits.[20] These various emissions steps are then combined to produce a CI score for each production pathway. Such information is already collected under SB 98 and included (with generic values by feedstock type) in the AGF report cited by all utilities. Such information should be used by the utilities in a sensitivity of the modeling to inform social cost-effectiveness of RNG against other CPP compliance pathways. An LCA-based look should be included in future regulatory tools either as a required (societal) cost test or as an additional supplemental analysis to help shape procurement decisions conducted under the CPP.

What is one other alternative scenario you think would be important to model to inform the regulatory tools discussion?

In their primary scenarios, all the utilities employ the use of Community Climate Investment (CCI) credits to achieve compliance with the CPP.[21] CCI credits are a new tool created for the CPP. Therefore, a lot of uncertainty exists regarding the role they will play as a compliance tool. One potential area of uncertainty is the actual cost that will eventually be adopted for those credits over the long run.

In the current rulemaking, Oregon's Department of Environmental Quality (DEQ) provided a rationale for setting the price of CCI credits.[22] In the draft rule, CCI credit prices are based on DEQ's best current estimate of the social cost of carbon (SCC) as calculated by the Interagency Working Group on Social Cost of Greenhouse Gases.[23] The IWG's work to update the SCC is still ongoing. However, it is reasonable

---

[18] For example, see the lifecycle analyses conducted by California's Air Resources Board: https://ww3.arb.ca.gov/fuels/lcfs/fuelpathways/pathwaytable.htm

[19] Hydrogen suffers from the same challenges as biomethane in that the production method significantly impacts the total GHG benefit/disbenefit of the gaseous fuel. Cascade's slides (see slide 30) allude to this issue in discussing the "Hydrogen Rainbow". Full LCA is a better method for ensuring strong environmental outcomes and can be used in conjunction with such color-based designations. For example, see: https://www.certifhy.eu/images/media/files/CertifHy_-_definition_outcome_and_scope_LCA_analysis.pdf

[20] For example, benefits may include avoidance of upstream emissions while disbenefits may include methane leakage, energy usage, and non-CO_2 combustion emissions associated with RNG production and transport.

[21] Alternative scenarios also examined compliance without the use of any such credits.

[22] State of Oregon Department of Environmental Quality, *Notice of Proposed Rulemaking - Greenhouse Gas Emissions Program 2021 Rulemaking Climate Protection Program* (Aug. 5, 2021), page 20. https://www.oregon.gov/deq/Regulations/rulemaking/RuleDocuments/GHGCR2021Notice.pdf

23 *Technical Support Document (TSD): Social Cost of Carbon, Methane, and Nitrous Oxide, Interim Estimates Under Executive Order 13990* (Feb. 26, 2021), issued by the Interagency Working Group (IWG) on Social Cost of Greenhouse Gases (GHG). Available from: https://www.whitehouse.gov/wp-

to expect that the upcoming estimates of SCC will be significantly higher than the interim estimates used in the draft CPP rule. On September 2, 2021, the British government published a revised estimate of the SCC used in their policy impact assessments at £241, which is well above $300 per metric ton.[24] An additional alternative scenario featuring CCI credits starting at above $300 should be considered (perhaps initiating this shift in the mid-2020s to model a future DEQ update to the value).

If electrification is determined to be a scenario to be modeled, by either the utility or staff, what suggestions do you have for inputs and/or methodology?

The RNG industry does not claim to be able to solve the daunting challenge of fully decarbonizing all gas consuming sectors alone, but we know that RNG can—and should—be a significant contributor to this effort. In understanding RNG's role, it is important to consider both the well proven technology readiness of technologies that produce RNG (such as anaerobic digestion), and the flexibility provided by RNG's full fungibility with all conventional gas applications. Together these two factors make RNG an important GHG abatement option in the near-term. In the long run, RNG can be directed to the end-uses where it is most needed, serving in tandem with technologies that require time to scale and achieve production cost reductions (e.g., renewable power storage in batteries and electric hydrogen) and/or that involve the turnover of long-lived capital stock (e.g., electrification of appliances and vehicles).

End-use electrification is likely also an important solution in achieving carbon neutrality, based on its ability to serve a wide variety of applications using 100% carbon neutral electric supply in the long term. Given this fact, we recognize that Oregon will likely continue to explore increased electrification of natural gas and diesel end uses. However, these electrification goals do not preclude the use of RNG and renewable hydrogen as significant complementary long-run energy carriers, used in tandem with a decarbonized electric system. In fact, studies conducted by many jurisdictions—including California,[25] Minnesota,[26] and New York[27]— show RNG to be a necessary decarbonization strategy, even in high-electrification scenarios.

---

content/uploads/2021/02/TechnicalSupportDocument_SocialCostofCarbonMethaneNitrousOxide.pdf?source=email

[24] Department of Business, Energy, and Industrial Strategy, *Valuation of Greenhouse Gas Emissions: For Policy Appraisal and Evaluation* (2021). https://www.gov.uk/government/publications/valuing-greenhouse-gas-emissions-in-policy-appraisal/valuation-of-greenhouse-gas-emissions-for-policy-appraisal-and-evaluation

[25] E3, *Achieving Carbon Neutrality in California.*

https://ww2.arb.ca.gov/sites/default/files/2020-10/e3_cn_final_report_oct2020_0.pdf

[26] Great Plains Institute (GPI) and Center for Energy and Environment, D*ecarbonizing Minnesota's Natural Gas End Uses.*
https://e21initiative.org/wp-content/uploads/2021/07/Decarbonizing-NG-End-Uses-Stakeholder-Process-Summary.pdf

[27] E3, *Pathways to Deep Decarbonization in New York State.*

https://climate.ny.gov/-/media/CLCPA/Files/2020-06-24-NYS-Decarbonization-Pathways-Report.pdf

We support DEQ, the Commission and the Utilities working collectively to explore the best mix of RNG, efficiency, electrification, and other technologies to maximize energy system reliability and the most efficient and responsible management of RNG resources in achieving carbon neutrality.

Conclusion

After correctly accounting for the social cost of GHGs, RNG is a cost-effective tool for natural gas utilities to comply with the CPP. Increasing the use of RNG at rates beyond the targets set by SB 98 is feasible and will help achieve CPP's objectives. While the future price and availability of other long-term compliance options remain uncertain, the societal benefits of RNG are well known today. Quantifying the lifecycle carbon intensity of RNG projects is common industry practice and should be done as an alternative look at the cost-effectiveness of various CPP compliance pathways.

RNG Coalition looks forward to working with PUC and other stakeholders in this examination of the future of Oregon's gas system. Our industry is poised for continued growth in Oregon, and globally, as leading jurisdictions look to address climate change and increase the resiliency of our energy systems.

Sincerely,

/S/

Sam Wade
Director of State Regulatory Affairs
Coalition for Renewable Natural Gas
1017 L Street #513
Sacramento, CA 95814
(916) 588-3033
sam@rngcoalition.com