



State of Oregon Department of Environmental Quality

Written Comments

Office of Greenhouse Gas Programs
Climate 2023 Rulemaking Advisory Committee Meeting 2

This document is a compilation of written comments received related to the second meeting of the advisory committee for the Office of Greenhouse Gas Programs' Climate 2023 Rulemaking held May 16, 2023.

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Avista Comments on RAC Proposed Oregon Climate Protection Program Rulemaking

May 30, 2023

ATTN: Nicole Singh and Elizabeth Elbel
Oregon Department of Environmental Quality
Climate.2023@deq.oregon.gov

Avista Corp. (“Avista”) appreciates the opportunity to comment on the 2023 RAC proposed rulemaking. Avista supports the use of book and claim accounting for both renewable natural gas (“RNG”) and hydrogen in Oregon’s Greenhouse Gas Reporting Program and the Climate Protection Program (“CPP”) to incentivize renewable energy across North America. Such accounting provides climate benefits across the country, including in the State of Oregon.

1. DEQ should allow book and claim accounting for RNG across North America.

Proposed requirements as they pertain to book and claim include the addition of production facility and vendor information in the reporting protocol for natural gas suppliers. Any quality requirements related to production of biomass-derived fuels, should lie with the producing vendor to remove unnecessary risk absorbed by the consumer, or in this case the Natural Gas Suppliers. As defined in OAR 340-215-0010(42), Natural Gas Supplier refers to the importing, selling or distributing natural gas. It does not refer to the production of biomethane or any related natural gas and should therefore be exempt to any vendor requirements.

2. DEQ should allow book and claim accounting for RNG delivered directly to an end-user outside of Oregon.

Due to limited availability of biomethane producers, Avista disagrees with DEQ’s proposed geographic constraints for book and claim. Restricting the location of source injection feeds would put undue stress on producers in range and underutilize other viable sources outside the allowable network. Therefore, Option (d) is most appropriate in allowing biomethane to be injected in any pipeline connected to Oregon to be eligible for book and claim status. Additionally, Avista has already procured RNG on the premise that displacement is an acceptable action within the book and claim regulations.

3. DEQ should require RNG to be claimed within the same or subsequent calendar year.

As it pertains to DEQ requiring biomethane to be injected into a natural gas pipeline or allowing it to be delivered to an end-user outside of Oregon, DEQ should go with Option (b) as most RNG resources are located in the Eastern part of the United States due to limited opportunities in the west.

4. DEQ should allow for book and claim reporting of hydrogen in the Greenhouse Gas Reporting program and for CPP compliance.

Although book and claim may limit biomethane in other regards, Avista agrees with Option (d) to require biomethane to be claimed within “X” calendar years after being injected into the pipeline. In addition, we propose a range of minimum three to five calendar years for a trading and claim window.

In addition to the comments mentioned above, Avista would also like to propose the following remarks below as they relate to rule amendments on reporting and verification.

Proposed rule changes for reporting hydrogen (OAR 340-215)

Avista has no comment regarding DEQ collecting additional data from hydrogen suppliers and stationary sources using hydrogen. Separately, we agree that DEQ should allow for book and claim reporting of hydrogen in the GHG reporting program as well as for CPP compliance and should be treated similarly to the reporting and compliance of biomethane.

Draft Rules: Third Party Verification Program Rule Amendments

Under 340-272-0120(1)(E), we propose new draft language pertaining to electric companies be revised to reflect that emissions must equal or exceed 25,000 MT CO₂e in order to be subject to verification requirements. This would maintain consistency with OAR 340-215-0044 and remove unnecessary obligations for sources that are considered de minimus or inconsequential.

Draft Rules: Greenhouse Gas Reporting Program Rule Amendments

As it pertains to 340-215-0042(6)(g), we propose striking “or its derivatives” from the rules language as earlier language in the previous sentences specifically calls out volumes of biomethane under OAR 340-253 and 271.

Avista appreciates the opportunity to engage with DEQ under Oregon’s Greenhouse Gas Reporting Program and the Climate Protection Program. If you would like to further discuss this letter or have any questions, please reach out via phone or email at (509) 495-8809 or janna.loepky@avistacorp.com.

Sincerely,



Janna Loepky
Greenhouse Gas Program Lead
Avista Corp.



From: [Helena Birecki 2023](#)
To: [Climate * DEQ](#)
Subject: Re: Climate 2023 Rulemaking Advisory Committee (RAC) meeting #2
Date: Tuesday, May 30, 2023 8:57:26 AM

Dear DEQ Office of Greenhouse Gas Program staff,

For the record my name is Helena Birecki and i'm a resident of Tillamook County, OR and member of Climate Reality Project. Thank you for the opportunity to testify and I want to re-emphasize comments made by Tim Miller and Climate Solutions about the CPP being intended to protect environmental justice in Oregon.

I live in Oregon, but I'm from the San Francisco Bay Area, and I have friends in Richmond and Rodeo who have suffered for years from the regular flaring from high temperature hydrogen production there.

I don't want to see those dangers added to Oregon. To avoid that, only green electrolytic hydrogen— ideally sourced from solar and wind in excess of grid needs— can be made safely at low temperatures. Any other method of producing hydrogen risks putting Oregonians in the same danger of health harming flaring as my friends who live near facilities in the Bay Area face.

I strongly urge you to make rules that hold current and future industrial polluters accountable for their climate and health harming pollution, and Strengthen reporting requirements for hydrogen as Joshua Basin said, and make sure that new or expanded sources of pollution aren't allowed. Increases in pollution would fly in the face of the Climate Protection Program's stated climate and equity goals.

Also, regarding gas: whether from fossil gas, biogas, or RNG, leaks are potent climate warmers, and combustion of methane harms health. The prospect of increasing demand for RNG or biomethane beyond the amount that is being used or wasted today, would increase emissions. That would be disastrous for climate and health.

I join Climate Solutions, Climate Reality Portland Chapter and others in their asks including that book and claim be only allowed for what is produced and used in Oregon, and Alan Journet's comment that all types and sources of methane need to be reduced; don't allow an increase under the guise of "bio" or "renewable." Out of state RTCs should not be allowed to compete with CCIs.

The CPP already provides significant flexibility for gas utilities to comply cost effectively. Please don't make rules that hinder the transition to non-polluting alternatives. We need solutions that give the intended benefits in the real world. Our lives are not just numbers on the page.

Thank you again for DEQ's leadership and opportunity to provide input on these proposed rules. Please advance health and equity in your 2023 climate rule-making.
Helena Birecki



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Submitted electronically via email to Climate.2023@deq.oregon.gov

May 30, 2023

Nicole Singh
Elizabeth Elbel
Oregon Department of Environmental Quality
700 NE Multnomah, Suite 600
Portland, OR 97301

Dear Ms. Singh and Ms. Elbel:

Cascade Natural Gas Corporation (“Cascade”) strongly supports the use of book and claim accounting for both biomethane (also referred to as renewable natural gas (“RNG”) throughout) and hydrogen in Oregon’s Greenhouse Gas Reporting (“GHG”) Program and the Climate Protection Program (“CPP”) to incentivize renewable energy and low carbon fuel supply at affordable prices across North America. Such accounting provides climate benefits to Cascade ratepayers and to broader goals for reducing GHG emissions across the country, and including in the State of Oregon.

Cascade is a natural gas supplier, delivering energy to more than 80,000 customers in eastern and central Oregon. Cascade is committed to ensuring that safe, reliable, and affordable energy is supplied to the rural communities that the company serves, while also being committed to achieving emission reduction goals. Cascade appreciates the opportunity to provide public comment on this rulemaking, as the biomethane reporting clarifications relate directly to our reporting of biomethane and environmental attribute procurement for customers, the subsequent use of biomethane and environmental attributes for compliance with the CPP, and to the future procurement and deployment of low emission hydrogen to customers.

Cascade submits the following recommendations to the Oregon Department of Environmental Quality (“DEQ”) regarding book and claim accounting:

- DEQ should allow book and claim accounting for RNG injected into pipelines across North America to count toward CPP compliance.
- DEQ should allow book and claim accounting for RNG directly delivered to an end-user.
- To allow RNG credits to be appropriately verified, DEQ should allow flexibility for RNG to be claimed in one year within a multi-year range from when it was injected into a pipeline.

- For consistency, DEQ should adopt similar requirements for hydrogen, as hydrogen or as provided via a non-GHG emitting carrier such as ammonia, as it does for RNG.

Adopting these recommendations will help ensure the CPP maximizes GHG reductions to the fullest extent possible.

1. DEQ should allow book and claim accounting for RNG across North America.

DEQ should allow for RNG injection into any pipeline in North America to be eligible CPP compliance via book and claim accounting. To geographically restrict where RNG must be injected would arbitrarily limit the GHG emissions reductions that could otherwise occur. It would also ensure that Cascade customers benefit from the lowest RNG-related costs possible.

GHG Emissions Reductions Anywhere Create Climate Benefits Everywhere

The effects of GHG emissions are global. As such, reducing such emissions anywhere, within Oregon or otherwise, creates a climate benefit everywhere; Oregonians would benefit from GHG reductions, regardless of where they occur. Thus, a geographic restraint on RNG book and claim accounting, such as the one currently drafted, is unnecessarily restrictive.

A Geographic Restriction on RNG Harms Oregon Customers

RNG is interchangeable with traditionally produced natural gas.¹ In light of this fact, imposing geographic constraints on where RNG must be injected into the pipeline system to be eligible for CPP compliance does nothing to benefit end-use customers in Oregon. Furthermore, the individual molecules of the gas at issue, whether RNG or traditional natural gas, are not physically tracked (or even trackable) to the end-user.

Not only would a geographic restriction not benefit Oregon customers—it would harm them by driving up the costs for utilities to comply with the CPP. Cascade has already executed several long-term agreements for procurement of RNG, with a number of those contracts for environmental attribute purchases from RNG produced across the United States.

A limited scope of environmental attribute applicability can create situations that do not align with developing cost-effective, beneficial RNG projects for Oregonians. One real world example is a contracted RNG project which Cascade is constructing with a national food waste management company building an aggregated food waste facility in Longview, Washington. This project aggregates food waste from roughly 100 grocery stores from Northern Oregon to Olympia,

¹ Unlike traditionally produced natural gas, however, RNG can have a significantly lower or even negative carbon intensity value. See California Air Resources Board, *LCFS Pathway Certified Carbon Intensities*, <https://ww2.arb.ca.gov/resources/documents/lcfs-pathway-certified-carbon-intensities> (last visited May 26, 2023).

Washington. The facility literally processes food waste removed from Oregon, directly benefitting Oregon, and is effectively aggregated with Washington food waste to create more cost-effective RNG through aggregation. Geographical restrictions in reporting biomethane would eliminate Oregonian’s access to the environmental attributes from this project to be eligible for CPP compliance in Oregon, even though such attributes would be derived from Oregon food waste in a facility literally across the river. Aggregation of waste can be a key component of cost-effective, large-scale RNG processing and creating useful energy from waste that is otherwise harmful to the Northwest and broader world. Cascade has other aggregation projects of this nature in development. It is a key piece in developing RNG projects that enable lower cost environmental attributes to our customers in Oregon. Should CPP compliance costs rise, energy prices for Oregonian families and businesses will inevitably rise as well.

Recommended RNG Geography Rule Language

For the above reasons, we encourage DEQ to make the following changes in the draft language in OAR 340-215-0105(7)(b)(A), 340-215-0044(5)(c), and 340-215-0042(5) respectively:

“Gas injected into a natural gas pipeline ~~connected to Oregon~~ anywhere in North America may be reported under this division using book and claim accounting if the reporting entity meets all reporting and recordkeeping requirements of this division.”

“In addition to the requirements in this division, when reporting gas injected into a natural gas pipeline ~~connected to Oregon~~ anywhere in North America using book and claim accounting the regulated entity must also . . .”

“When reporting contractual deliveries of fuel injected into a natural gas pipeline ~~connected to Oregon~~ anywhere in North America using book and claim accounting the regulated entity must retain and make available . . . Records demonstrating the specific quantity of fuel claimed was injected into a natural gas pipeline system directly ~~connected to Oregon~~ anywhere in North America in the current data year and link those environmental attributes to a corresponding quantity of natural gas withdrawn for use in Oregon.”

Additionally, we encourage DEQ to make the following deletion in the draft language in OAR 340-215-0020(X):

“Book and Claim” refers to the accounting methodology where the environmental attributes of an energy source are detached from the physical molecules when they are commingled into a common transportation and distribution system for that form of energy. The detached attributes are then assigned by the owner to the same form and amount of energy when it is used. ~~For the purposes of this division, the common transportation and distribution system must be connected to Oregon.”~~

Alternative Geographic Restriction Standard

In the event that DEQ commits to imposing a geographic restriction, it should allow RNG injected in any pipeline connected to Oregon to be eligible for CPP compliance via book and claim accounting. This approach would mirror that taken by Washington in its Climate Commitment Act cap-and-invest program.²

If DEQ chooses to adopt this alternative, we would encourage DEQ to keep the current draft language in the sections and subsections listed above, with “**directly or indirectly**” added before “connected to Oregon” in each instance.

2. DEQ should allow book and claim accounting for RNG delivered directly to an end-user outside of Oregon.

As stated above, DEQ should allow RNG injected in any pipeline in North America to be eligible for book and claim.

For CPP compliance purposes, DEQ should also recognize book and claim accounting for RNG supplied directly to an end-user anywhere in North America (rather than injected into a natural gas pipeline network).

We encourage DEQ to make the following addition as a subsection in the draft rule at OAR 340-215-0105(7)(b)(B):

“Gas supplied directly to an end-user anywhere in North America may be reported under this division using book and claim accounting if the reporting entity meets all reporting and recordkeeping requirements of this division.”

3. DEQ should allow RNG to be claimed in one year within a multi-year range.

Under book and claim reporting, DEQ should allow RNG to be claimed in one year within a multi-year range from when it was injected into a pipeline. A longer vintage timeline will allow the necessary flexibility for entities who are waiting on the U.S. Environmental Protection Agency or other regulatory entities to approve credits. Administrative delays in crediting should not be a reason a regulated entity’s RNG eligibility expires. Also, any vintage restriction would reduce

² See Washington Department of Ecology, Concise Explanatory Statement: Chapter 173-446 WAC Climate Commitment Act Program, 218 (Sept. 2022) (“Current reporting guidance establishes that tracking actual molecules of gas is not required, but a physical connection between the origin of the gas and the end user in Washington with physical flow within or towards Washington as well as a reasonable distance between pipeline injection and the end user in Washington is required. This means a system like M-RETS may be used to support a reporting claim, but the additional geographic standard would also need to be met.”).

supply of RNG or attributes, resulting in higher compliance costs and costs to Cascade’s ratepayers.

Over the past two years, Cascade began purchasing RNG and/or environmental attributes based on guidance and trainings made available by DEQ and designed for compliance with the CPP. If DEQ would amend the reporting requirements in a way that would conflict with Cascade’s current RNG agreements executed under DEQ guidance and trainings/instruction on biomethane reporting, DEQ should recognize past RNG purchases to be acceptable for CPP compliance.

By allowing the environmental attributes of RNG to be claimed in a multi-year timeframe from when the RNG was injected, DEQ can balance the alignment of the actual RNG use and the associated claimed reduction, while providing the time necessary for regulated entities to procure the environmental attributes in the first place.

4. DEQ should allow for book and claim reporting of hydrogen in the Greenhouse Gas Reporting program and for CPP compliance.

Book and Claim Rules for Hydrogen Should be Consistent with Those for RNG

Like RNG, hydrogen can effectively reduce emissions by displacing natural gas that would otherwise exist in the pipeline system. By allowing book and claim for hydrogen in the same manner as allowed for RNG, DEQ would be promoting regulatory consistency in addition to maximizing GHG emissions reductions. All the benefits of allowing book and claim for RNG apply to hydrogen as well: in each case, renewable fuel displaces traditional natural gas; the more DEQ can incentivize this replacement, the greater the climate benefit for Oregonians.

Cascade is starting to explore hydrogen potential while actively evaluating two hydrogen injection projects. While we see some project potential within Cascade’s service areas in Oregon and Washington, we expect hydrogen projects to be developed in the most cost-effective locations, which could be within other parts of North America. The environmental attributes from projects across North America would be most cost-effective for compliance using a book and claim methodology similar to RNG environmental attributes.

Particularly for smaller utilities, access to onboard hydrogen attributes to interstate pipeline systems is key for broader hydrogen-based decarbonization. Any geographical restriction on attributes from hydrogen onboarding is a restriction on hydrogen itself and will penalize the utilities affected, their customers, and the broader national hydrogen system development efforts. Access to broader national hydrogen development and pipeline systems would increase access to more cost-effective hydrogen in larger quantities and in turn pass along those savings to reduce the cost of decarbonized energy to Oregon residents. These are the same national open energy market principles that have created the cost-effective energy delivery systems we have today.

The Federal Government is Making Massive Investments in Hydrogen

Through the Inflation Reduction Act and the Infrastructure Investment and Jobs Act, Congress has allocated billions of dollars to support hydrogen development nationwide.³ Furthermore, the Biden Administration has identified wide-scale development and deployment of hydrogen as critical to the decarbonization of the American economy. As just one example of the Administration’s prioritization of this technology, the U.S. Department of Energy’s first Energy Earthshots Initiative, Hydrogen Shot, seeks to reduce the cost of clean hydrogen by 80% to \$1 per 1 kilogram in 1 decade.⁴

To maximize the benefits available to Oregonians under these federal programs, the CPP should be designed to incentivize the use of hydrogen through allowing book and claim reporting. Leaving hydrogen off the table as a viable compliance option risks stifling future Oregon innovation in this area and increasing costs to Oregonians as emissions are reduced towards “net zero”.

In closing, Cascade appreciates the opportunity to engage with DEQ and share their support for the use of book and claim accounting under Oregon’s Greenhouse Gas Reporting Program and the Climate Protection Program. If you would like to further discuss this letter or have any questions, please reach out to me at (701) 222-7844 or abbie.krebsbach@mdu.com.

Sincerely,



Abbie Krebsbach
Director of Environmental

- cc: Kevin Connell – Director, Gas Supply
Chanda Marek – Director, Business Development
Scott Madison – Executive VP, Business Development & Gas Supply
Lori Blattner – Director, Regulatory Affairs

³ See The White House, *The Inflation Reduction Act Delivers Affordable Clean Energy for Oregon*, <https://www.whitehouse.gov/wp-content/uploads/2022/08/Oregon.pdf> (last visited May 25, 2023); The White House, *Updated Fact Sheet: Bipartisan Infrastructure Investment and Jobs Act*, <https://www.whitehouse.gov/briefing-room/statements-releases/2021/08/02/updated-fact-sheet-bipartisan-infrastructure-investment-and-jobs-act/> (last visited May 25, 2023).

⁴ U.S. Department of Energy, *Hydrogen Shot*, <https://www.energy.gov/eere/fuelcells/hydrogen-shot> (last visited May 26, 2023).

May 30, 2023

Nicole Singh and Elizabeth Elbel
Oregon Department of Environmental Quality
811 SW Sixth Ave.
Portland, OR 97204-1390



Feedback on Climate 2023 Rulemaking: GHG Accounting and Renewable Gas Procurement for Renewable Gases

Dear Nicole and Elizabeth,

The Coalition for Renewable Natural Gas (RNG Coalition)¹ offers the following initial comments in response to the material provided by the Oregon Department of Environmental Quality's (DEQ) staff at the May 16, 2023 Rulemaking Advisory Committee (RAC) meeting for the Climate 2023 Rulemaking. The RAC Meeting discussed a variety of topics related to renewable gases in the context of broader topics such as Third Party Verification (TPV),² the Greenhouse Gas Reporting Program (GGRP),³ and the Climate Protection Program (CPP).⁴

Our comments herewithin address two primary concepts: First, that renewable natural gas (RNG) and renewable hydrogen (collectively, renewable gases) are important cross-cutting decarbonization strategies in the waste and energy sectors. This concept is substantiated by leading authorities on decarbonization and is already reflected in Oregon's existing GHG policy framework. Oregon should not deviate from simultaneously pursuing reduction in gas demand and increased supply of renewable gases.

Second, given the need to increase renewable gas production and use, "book-and-claim" accounting for renewable gases is the most proven method of ensuring renewable gas buildout and motivating rapid GHG benefits. We believe that the draft changes proposed by DEQ to the TPV and GGRP regulations would create an effective book-and-claim accounting system in alignment with other Oregon policies and a wide set of analogous programs across North America and Europe.

About the RNG Coalition and the RNG Industry

RNG Coalition is the trade association for the renewable gas industry in the United States and Canada. Our diverse membership is comprised of leading organizations across the RNG supply chain. Together we advocate for the sustainable development, deployment, and utilization of renewable gas, 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 <https://www.oregon.gov/deq/rulemaking/Documents/c2023m2TPVrules.pdf>

³ <https://www.oregon.gov/deq/rulemaking/Documents/c2023m2GHGRules.pdf>

⁴ <https://www.oregon.gov/deq/rulemaking/Documents/c2023m2BAERrules.pdf>

RNG Coalition is primarily focused on renewable gas derived from organic waste feedstocks which can achieve compound benefits through (1) the displacement of carbon dioxide (CO₂) emissions from the combustion of fossil fuels, (2) the critical near-term GHG impact of methane capture and destruction, and (3) additional benefits that result from the improved management of organic waste. Recycling organic material in this manner is a key component of a circular economy.

The Role of Renewable Gases in Decarbonization

Renewable gases are an important near-term decarbonization strategy for all applications which currently utilize conventional fossil-derived gas and, in the long-term, will be necessary in energy applications which are not well-suited to electrification and as platform molecules for other fuels and products.⁵

Adopting policies that allow for rapid growth in renewable gases need not delay efforts to reduce demand for gas (including through electrification) if policymakers recognize that these two decarbonization strategies can, and must, work in synergy to achieve the rate of decarbonization dictated by science. An important real-world example of this synergy can be observed in Denmark, the European leader in renewable gas development. As shown in Figure 1,⁶ Danish consumption of gas has fallen significantly even as the supply of renewable gases has grown rapidly.

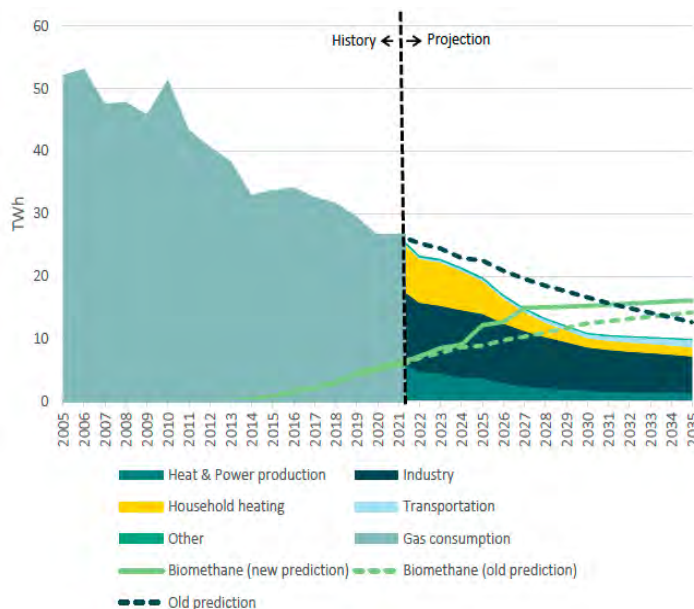


Figure 1. History and Projection of Danish Consumption of Gas and Production of Biomethane

⁵ For example, RNG Coalition observes a growing interest in other jurisdictions to incentivize the use of RNG in the production of sustainable aviation fuels (SAF). The State of Washington recently passed Senate Bill 5447. The Bill, which RNG Coalition supported, and which was signed by Governor Inslee on May 3, allows the Washington clean fuel program to include sustainable aviation fuels and explicitly requires biomethane/RNG (tracked through book-and-claim) to be eligible to be claimed as a feedstock for SAF. We recommend Oregon coordinate with its neighbor on these issues.

⁶ <https://en.energinet.dk/media/bsjjjbgd/danish-biomethane-experiences.pdf>

This progress in renewable gas uptake and its long-term projected role is underpinned by the Danish Green Gas Strategy,⁷ under which the Danish system is expected to move toward dedicated pipeline systems for biomethane, hydrogen, and CO₂ in the 2035-2050 timeframe. As illustrated in Figure 1, hard-to-electrify sectors are expected to make up a larger percentage of overall gas demand in the long run. While the Danish have articulated their long-term strategy more extensively than any U.S. jurisdiction, we believe that this model is directionally similar to Oregon and its west coast neighbors which have policies in place that are designed to simultaneously promote both electrification and renewable gas.⁸ Many examples of long-term energy system modeling at the state level show similar conclusions for other key U.S. jurisdictions.⁹

The fragmented nature of state- and provincial-level policy in North America means that, in a manner similar to the European Union, governments must seek to align renewable gas procurement frameworks in order to achieve this goal.

Oregon is Correct to Employ Book-and-Claim Systems to Incent RNG and Track Ownership of Environmental Attributes

RNG Coalition supports the book-and-claim framework described by DEQ in the RAC Meeting materials. The concepts in these materials are well aligned with other existing, successful clean energy deployment programs. The DEQ rulemaking topic briefs on reporting biomethane¹⁰ and reporting hydrogen¹¹ are well written plain language explanations of fairly complex topics. Both briefs correctly explain the book-and-claim concept and the benefits of such a framework.

It is important to consider that both RNG and renewable hydrogen are in a nascent stage compared to their production potential and compared the projected long-term need for gaseous clean fuels. The International Energy Agency's *Net Zero by 2050 A Roadmap for the Global Energy Sector* predicts that the supply of low-emissions gases, such as hydrogen, synthetic methane, biogas and biomethane must rise globally from 2 exajoules (EJ) in 2020 to 17 EJ in 2030 and 50 EJ in 2050.¹² The California Air Resources Board's *2022 Scoping Plan for Achieving Carbon Neutrality* predicts that low carbon hydrogen use must scale by 1,700x by 2045.¹³

Robust and efficient accounting systems are necessary to facilitate rapid growth in renewable gas supplies. Renewable gases produced and used within an integrated gas system¹⁴ will rely on matching low carbon supply to the end-users who pay an environmental premium for the development of these

⁷ Danish Ministry of Climate, Energy and Utilities, "Green Gas Strategy: The Role of Gas in the Green Transition." https://ens.dk/sites/ens.dk/files/Naturgas/groen_gasstrategi_en.pdf

⁸ For example, California's Renewable Gas Standard and Washington's Cap & Invest program both promote the use of RNG in the thermal sector.

⁹ For example, modeling conducted by Energy & Environmental Economics for California, Minnesota, Oregon and Washington, Colorado, and Maryland, among others show a long-term role for renewable gas, even in high electrification scenarios.

¹⁰ <https://www.oregon.gov/deq/rulemaking/Documents/c2023m2briefBioM.pdf>

¹¹ <https://www.oregon.gov/deq/rulemaking/Documents/c2023m2brief.pdf>

¹² <https://www.iea.org/reports/net-zero-by-2050>

¹³ <https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf>

¹⁴ A connected gas pipeline system that was initially designed to move conventional (fossil) gas and continues to do so in large quantities, at least in the near term.

fuels in recognition of their GHG benefits. If entities are not able to claim ownership of pipeline-injected renewable gases from the integrated system, there will not be enough incentive to drive development of renewable gas to the point where it reaches a meaningful share of the gas pipeline system, as envisioned by GHG reduction policies in Oregon and other leading jurisdictions. Simply put, book-and-claim accounting is the most proven method to allow fair ownership claims of the environmental benefits associated with renewable gas.

Further, in Oregon’s case, employing a broad book-and-claim framework under TPV and the GGRP will avoid any ownership claim contradictions between those programs and Oregon’s Clean Fuel Standard and SB 98, which both already allow an analogous framework for renewable gases. The best policy decision is to align all programs which incent similar actions (in this case, renewable gas procurement) under a common book-and-claim methodology.

Existing Precedent Shows that Book-and-Claim Works to Incent RNG Buildout

It is important to understand that the buildout of North American RNG supply to-date can largely be attributed to the value of tradeable credits in transportation decarbonization compliance markets that employ book-and-claim accounting. As shown in Figure 2, the number of RNG production facilities in North America has grown rapidly in recent years. The overwhelming majority of this growth can be directly traced to the U.S. EPA’s Renewable Fuel Standard and California’s Low Carbon Fuel Standard, both of which rely on book-and-claim to provide value to project developers. Based on this and other similarly successful frameworks, many additional renewable gas procurement programs have been implemented which are based on similar accounting to track renewable gas claims.

The same concepts are employed under other Clean Fuel programs in Oregon, Washington, British Columbia, and Canada on the federal level. Some form of similar book-and-claim accounting also underlies Renewable Gas Standard and Clean Heat Standard policies in California, Colorado, Minnesota, New Hampshire, Oregon, British Columbia, and Quebec. Furthermore, voluntary renewable energy procurement frameworks that employ similar concepts include the Climate Disclosure Project, The Climate Registry, RE100, and Airport Carbon Accreditation.

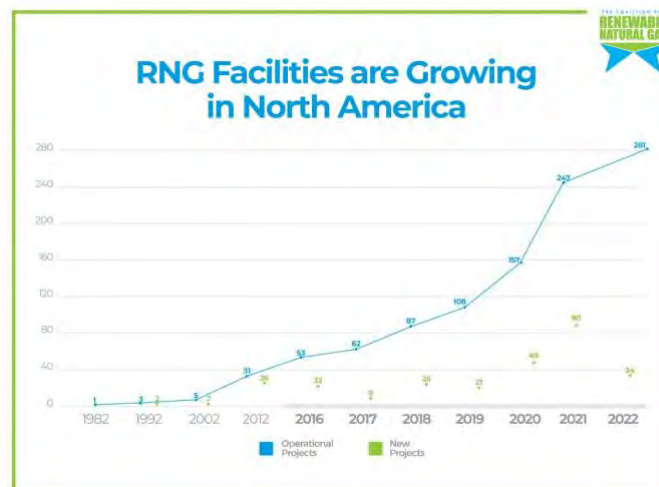


Figure 2. North American RNG Growth

Perhaps the most well-developed systems for tracking renewable gas environmental attributes exist in Europe, where book-and-claim (or the slightly more nuanced “mass balance” approach) has long been the norm. Biomethane plants are exponentially growing across Europe, reaching a total of 1,023 facilities as of October of 2021.¹⁵ Certificate-based guarantee of origin systems (e.g., book-and-claim) have proven success stories in multiple countries, none more striking than Denmark. As shown in Figure 3, today almost 40% of Denmark’s gas consumption is already met by RNG.¹⁶ The Danish Government is aiming to grow that share to 100% by 2030¹⁷ in line with their Green Gas Strategy, which prioritizes free trade of green gases across borders and states that:

When a biogas plant feeds biogas into the gas system, it is mixed with other gas. In the gas system, both biogas and natural gas are mixed to form a uniform gas. In order for the gas supplier to prove the origin of the gas supplied to the final customer, guarantees of origin are used. Energinet issues guarantees of origin, thereby ensuring that it can be documented that a consumed volume of gas is matched by an equivalent production of green gas. This system prevents double counting of renewable energy, allowing companies and other consumers to pay for green gas.

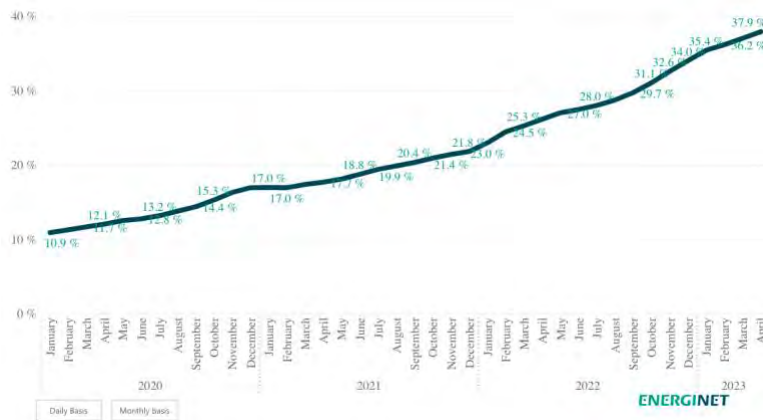


Figure 3. Danish Biomethane Consumption Share is Approaching 40%

Adopt the M-RETS System as a Registry for Tracking RNG Volumes

The digital infrastructure designed to support RNG book-and-claim tracking across North America already exists and is ready to be paired with all of Oregon’s programs. These tracking systems issue a unique, traceable, digital certificate (often known as a Renewable Thermal Certificate, or CFC) guaranteeing the origin of biomethane and tracking ownership of associated environmental attributes. M-RETS¹⁸ is a renewable energy credit and renewable thermal credit platform which is currently tracking

¹⁵ https://www.europeanbiogas.eu/wp-content/uploads/2022/01/GIE_EBA_BIO_2021_A0_FULL_3D_253_online.pdf

¹⁶ Energinet, “Biomethane” (see Share of Biomethane chart from January 2023 onward). <https://en.energinet.dk/Gas/Biomethane/>

¹⁷ Energinet, “Danish Biomethane Experience.” <https://en.energinet.dk/gas/biomethane/danish-biomethane-experience/>

¹⁸ Formerly known as the Midwestern Renewable Energy Tracking System. <https://www.mrets.org/>

production of RNG volumes and ownership of associated environmental attributes for various markets, including Oregon’s Clean Fuel Program,¹⁹ utility procurement of RNG in Oregon,²⁰ California’s renewable gas standard,²¹ Washington’s Clean Fuel Standard,²² and for those who voluntarily purchase renewable gas to meet sustainability goals outside of compliance programs.

M-RETS already provides the software that underlies REC tracking in Oregon through the WREGIS system.²³ We strongly suggest that Oregon employ the M-RETS system for tracking RNG volumes in all programs (including GRP and CPP). This should eliminate concerns related to double counting, ensuring transparency in volume origination, and allowing integration with other regional programs and markets.

It is better to start with one uniform tracking system in North America than to attempt to merge state-level systems at some future date. For example, the European Renewable Gas Registry (ERGaR) was established as an independent, transparent and trustworthy documentation scheme for tracking RNG and other renewable gases distributed along the European gas network.²⁴ The European Union’s Renewable Energy Directive (RED II), Article 28 also calls upon Member States to work in tandem with the Commission to strengthen tracking systems on the national and voluntary level for renewable fuels, including through the creation of an EU-run database, but this is proving to be a complex exercise.^{25,26} Recently there was also a €3 million EU-funded project known as REGATRACE²⁷ to develop an efficient trading system based on the issuance and trading of Guarantees of Origin (GO) for RNG.²⁸ The final report²⁹ from this process contains the following statements:

The European Renewable Gas Registry (ERGaR) was started by and continues to be composed of long-established registries and stakeholders of the biomethane and renewable gas industry. A growing imbalance between biomethane production and consumption in several countries necessitated crossborder transfers. Individual bilateral solutions were established, but in most cases member states refused to grant any benefits to imported biomethane. As such, it has been

¹⁹ Oregon Department of Environmental Quality, Clean Fuels Program Expansion 2022 - Filing 2 (Permanent Administrative Order), Pages 35 and 55. <https://www.oregon.gov/deq/rulemaking/Documents/DEQ17-2022.pdf>

²⁰ Oregon Public Utility Commission, AR632. See OAR §860-150-0050: <https://apps.puc.state.or.us/orders/2020ords/20-227.pdf>

²¹ California Public Utilities (CPUC), Decision Implementing Senate Bill 1440 Biomethane Procurement Program, Page 50. <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M454/K335/454335009.PDF>

²² Washington Clean Fuel Program Rule, page 35. <https://ecology.wa.gov/DOE/files/e9/e97a5150-9ed2-4512-a4fd-6b0317f907dc.pdf>

²³ <https://www.mrets.org/wecc-signs-multi-year-agreement-with-m-rets-for-software-services/>

²⁴ <https://www.ergar.org/about-us/>

²⁵ <https://www.regatrace.eu/wp-content/uploads/2019/11/REGATRACE-D2.1.pdf>

²⁶ https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2018.328.01.0082.01.ENG&toc=OJ:L:2018:328:TOC

²⁷ <https://www.regatrace.eu/>

²⁸ Given the recent gas crisis in Europe, the EU now plans to increase biomethane deployment to displace 17 bcm of gas imports in the short-term (approximately equivalent to all natural gas demand for power production in California). https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/repower-eu-affordable-secure-and-sustainable-energy-europe_en

²⁹ https://www.europeanbiogas.eu/wp-content/uploads/2022/11/EN_Renewable-GAs-TRAdE-Center-in-Europe_WEB.pdf

in its best interest to create a system in which the cross-border transfer of gas certificates could be both technically facilitated and recognised in the target country.

GOs serve only for consumer disclosure, which means that the “green gas” attribute is separated from the gas physical volume. This model is called “book and claim” and is useful for setting the path to the European biomethane market because the GOs help document the volumes being produced, distributed and consumed.

Geographic Limitations Will Not Increase the Pace of Project Development in Oregon and Do Not Demonstrate Climate Leadership

We oppose any geographic restrictions on renewable gases that are not also imposed on the use of conventional gas. It is not possible to physically segregate delivery of renewable gas once it is intermingled with fossil gas in the pipeline system and geographic limitations are therefore unnecessary and arbitrary. Until RNG volumes achieve more of a critical mass, with broad adoption displacing a significant share of fossil gas, renewable gas producers cannot change physical flow of the gas system significantly. Therefore, full book and claim for all North American RNG should remain the preferred option throughout all of Oregon’s GHG programs.

This will allow diverse downstream customers to create an aggregate demand that can be served by all RNG suppliers, regardless of geographic location, and thereby send a stronger market signal across the supply chain to all potential project developers to build the RNG resource in a rational way—starting with the most cost-effective projects. As discussed at the RAC meeting, the supply of conventional gas that currently serves Oregon is quite geographically broad (and primarily originates out of state). There is an existing robust and liquid market for physical gas delivery, that optimizes moving gas from supply to demand in a least cost (and generally lowest GHG)³⁰ fashion.

Full book and claim for all North American RNG allows an RNG overlay the existing gas system in the most efficient way possible, rather than trying to fight against the current system to get to a limited subset of gas demand to the areas that demand renewable gases and potentially backflowing conventional gas to the areas that do not. Any geographic constraints—including a constraint focused on requiring only in-Oregon supply—would require RNG developers to try to change the dispatch of the gas system to match physical supply to the subset of gas load that is currently willing to procure RNG. This is not optimal if, in the long run, all demand will eventually be sourcing renewable gases.

In summary, as described above, the vast majority of the RNG supplied in North America under existing programs is transacted via full book-and-claim accounting. This tried-and-true approach’s flexibility has resulted in overwhelmingly positive greenhouse gas emissions reduction. For example, in 2022, through that approach, the U.S. transportation sector used 457 million gasoline gallon equivalents of RNG, resulting in GHG emissions reduction of 5.6 million metric tons of carbon dioxide equivalent on a

³⁰ Moving gas unnecessarily requires additional energy and emissions from compression stations and potential methane leakage.

lifecycle basis.³¹ Creating consistency and fungibility between all North American RNG markets through the aligned use of book and claim would increase competitiveness, improve investment certainty, and lead to the sustainable growth of the renewable gaseous fuel industry.

Details of the Proposed Oregon Framework

What Environmental Attributes are Being Claimed by a Renewable Gas User in CPP?

We believe the primary renewable gas environmental attribute of interest in the GGRP and CPP program is the fact that biomethane is biogenic in nature and, therefore, use of biomethane displaces fossil CO₂ emissions from conventional gas use (because biogenic CO₂ nets out with recent CO₂ removals from the atmosphere as plants are grown). As stated in the Biomethane Rulemaking Brief:³²

Biomethane is a biomass derived fuel since it is produced from non-fossilized and biodegradable organic material. Since biomethane is derived from organic matter the carbon contained within the biomethane is already part of the natural carbon cycle.

This is an important benefit of biomethane that is appropriately rewarded through favorable treatment in the CPP. Similarly, hydrogen use in place of conventional gas displaces fossil CO₂ at the point of use.

Because the other potential GHG benefits associated with biomethane production (e.g., upstream methane reductions due to capture during gas collection) and disbenefits (e.g., methane leaks after capture) are not captured in the GGRP/ CPP program we recommend that these environmental attributes not be required to be retired as part of GGRP/ CPP compliance. These benefits/impacts should not be ignored and should be more fully recognized using lifecycle accounting in supporting programs, such as utility procurement under SB 98³³ and the Clean Fuel Program (where retirement of such attributes should be required). Similarly, upstream environmental benefits or disbenefits associated with hydrogen production and transport are not accounted for at the point of use in the GGRP/ CPP framework but could, and should, be accounted for in supporting programs.

Third Party Verification

DEQ proposes to add new verification requirements for renewable gas procurement in the draft amendments to its Third Party Verification regulations.³⁴ We note that items A-F (all requirements for renewable gas) constitute a robust framework which is similar to what we have seen in other

³¹ Natural Gas Vehicles for America and Coalition for Renewable Natural Gas, “Renewable Natural Gas Motor Fuel Interest Continues Growth,” press release, May 3, 2022.
<https://static1.squarespace.com/static/53a09c47e4b050b5ad5bf4f5/t/62712c86aaa7fe639c81c34f/16515841349>

³² <https://www.oregon.gov/deq/rulemaking/Documents/c2023m2briefBioM.pdf>

³³ RNG Coalition has been recommending the use of full lifecycle accounting in SB 98 utility procurement since the early days of that program. See our January 13, 2020 comment in OPUC Docket No. AR 632 which stated, in part, that, “The benefits of using lifecycle accounting is that it will be able to capture the upstream methane reduction benefits of many RNG projects and that it will correctly assess a penalty to each project proportionate to the distance the gas has to travel to reach Oregon consumers (due to transport emissions, including pipeline leakage). Neglecting these important effects is unwise when selecting RNG projects, if the goal is truly to maximize GHG emission reductions.”

³⁴ See draft TPV amendments on pg. 44-45.

jurisdictions. The requirements include that verifiers must review all relevant documentation, including contracts and attestations; that the gas was physically injected within the year and met pipeline quality standards; and any relevant documentation from an associated electronic tracking system. Requiring that the gas be injected into a connected pipeline system and that book-and-claim accounting is used are both appropriate provisions.

Annual vintaging may be unnecessary given existing market conditions. Unlike renewable power or carbon offsets, renewable gas can be stored indefinitely physically. Also, there are no large current surpluses of uncommitted RNG that currently exist in North America.

The purpose of vintaging in environmental credit programs is primarily to ensure that legacy supply cannot accumulate and lead to oversupply (and thus low prices which would diminish the incentive for continued project development). Unlike in some voluntary REC or offset markets, there is no legacy supply in the RNG space to be concerned about. Therefore, while we do not oppose a one calendar year balancing/vintaging period, it likely adds unnecessary complexity and may increase regulatory risk (and thus development costs) slightly.

Greenhouse Gas Reporting Program

DEQ proposes multiple amendments which would establish renewable gas procurement methodologies in its draft amendments to the GGRP.³⁵

RNG Coalition supports altering the definition of “Biomethane” to clarify that this gas must be produced from biomass feedstocks instead of renewable energy more generally, and that the gas must meet pipeline or transportation quality standards in a manner that allows it to substitute for fossil natural gas. We also recommend that this definition be inclusive of power-to-methane pathways (if the carbon to create the methane is derived from biogas, or other recent biogenic carbon) and the lifecycle greenhouse gas performance of the technology is known to be favorable.³⁶

Furthermore, DEQ should add a definition for “Renewable natural gas” which would signal that methane produced using non-biogenic waste carbon dioxide should also be covered under the GGRP, in line with SB 98, per the following:

“Renewable natural gas” means any of the following products processed to meet pipeline quality standards or transportation fuel grade requirements:

- a. Biogas that is upgraded to meet natural gas pipeline quality standards such that it may blend with, or substitute for, geologic natural gas;*
- b. Hydrogen gas derived from renewable energy sources; or*
- c. Methane gas derived from any combination of:*
 - A. Biogas;*
 - B. Hydrogen gas or carbon oxides derived from renewable energy sources; or*
 - C. Waste carbon dioxide*

³⁵ See draft GGRP amendments on pg. 3-6.

³⁶ For an example of such an analysis see:

<https://www.sciencedirect.com/science/article/abs/pii/S0959652622046066>

Importantly, Oregon defines “natural gas” as a “naturally occurring mixture of gaseous hydrocarbons... consisting primarily of methane”. Given the stated differences in reporting for biogenic versus anthropogenic carbon, and given that “Renewable natural gas” is a common term for biomethane, we request that DEQ clarify this definition to encompass only methane derived from anthropogenic (e.g., geologic or “fossil”) sources so as to prevent confusion around reporting.

RNG Coalition also supports DEQ’s added definition for “Book-and-Claim” which establishes that RNG supply must be injected into a pipeline which is connected to Oregon, providing that this language is not intended to require a test on the physical flows of gas. We take no position on DEQ designating the owner of biomethane when it enters the state (physically or contractually) as the “importer”, and any company that produces biomethane in the state as an “in-state producer”. Likewise, we find DEQ’s proposed definition for “environmental attribute” to be sufficient, but perhaps overly broad, as discussed above.

DEQ’s proposed amendments to the recordkeeping requirements section³⁷ are aligned with similar amendments in the TVP section, and will likewise support a robust verification framework for renewable gas, including similar requirements for both physical delivery and book-and-claim accounting. Clarifying that RNG procured under the federal RFS or other state programs can be recorded under the GGRP is an important amendment which RNG Coalition supports. As long as the claimed end use is aligned, multiple benefits should be able to accrue to any given quantity of RNG. For example, a unit of RNG used in a natural gas vehicle in Oregon likely generates an RFS benefit, a CFS benefit, and avoids a CPP obligation for the relevant compliance entity in the CPP.

Finally, we support amendments to the Emissions Data Reports³⁸ and Requirements for Air Contamination Sources,³⁹ and Requirements for Natural Gas Suppliers and In-State Producers⁴⁰ sections which would similarly align reporting for both biomethane and hydrogen in line with the other requirements.

Conclusion

RNG Coalition believes that the proposed changes will support a strong renewable gas industry in Oregon in line with the role of renewable gases discussed above. Our goal is to create a uniform market across North America so that renewable gas injected into the gas system can be moved freely between jurisdictions that provide the highest value.

The existing gas system was constructed to move gas from conventional sources to load. In the future, directional flows and pipeline paths will adjust (and likely constrict in size) when the system is driven by renewable supply, but we are very far from that point today. Balkanization of the renewable gas market in the early stages of development will simply increase costs for all parties, slow development, and reduce RNG’s ability to contribute to Oregon’s decarbonization goals.

³⁷ See draft GGRP amendments on pg. 15-16

³⁸ See draft GGRP amendments on pg. 20-21.

³⁹ See draft GGRP amendments on pg. 24-25.

⁴⁰ See draft GGRP amendments on pg. 27-29.

Given the primary objective of the programs discussed at the RAC Meeting is to drive down global GHG emissions, we recommend the adoption of a full book-and-claim mechanism for tracking all use of renewable gases and the use of M-RETS as the electronic registry underlying such accounting. This would support the optimized growth of North American RNG market and allow RNG to contribute most fully to Oregon's GHG emissions reduction targets.

Sincerely,

/S/

Sam Wade

Director of Public Policy

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May 19, 2023

Office of Greenhouse Gas Programs
Oregon Department of Environmental Quality

The Douglas County Global Warming Coalition, representing approximately 500 rural residents in our community, offers the following comments with respect to the discussion on RNG and hydrogen.

In regards to RNG, we feel the use of RNG jeopardizes the targets set forth in the Climate Protection Program. This is so because DEQ is limited in its ability to conduct a lifecycle analysis which would more accurately reflect its impact on the climate. Since the use of RNG has been incorporated into the CPP, accepting it from sources outside of Oregon becomes more problematic since the ability to measure emissions that are generated from its production is less certain. We, therefore, urge the DEQ to limit RNG production within the borders of Oregon.

In regards to hydrogen, the intent of the CPP is best served by generating hydrogen with the cleanest energy source available. If natural gas cannot be excluded under this program, we strongly urge that the cleanest renewable energy, wind and solar, be prioritized.

Thank you for your continued dedication to ensuring the CPP can do its share to address the climate crisis.

Sincerely,

Stuart Liebowitz on behalf of the Board of the Douglas County Global Warming Coalition.

Stuart Liebowitz
Scott McKain

Polly Stirling
Diana Bailey

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May 30, 2023

Submitted via email to Climate.2023@DEQ.oregon.gov

Rulemaking Advisory Committee
Office of Greenhouse Gas Programs
Department of Environmental Quality
State of Oregon

Re: Request for Comments on Climate 2023 Rulemaking

Electrochaea Corporation appreciates the opportunity to comment on the Discussion Draft Rules—Division 215 of the Oregon Greenhouse Gas Reporting Program. Electrochaea is a provider of a power-to-gas biomethanation solution for the industrial-scale production of a type of renewable natural gas, renewable synthetic methane, which is a replacement for fossil natural gas. All forms of low-carbon intensity (CI) renewable natural gas (RNG) can play a significant role in decarbonizing the gas grid and reducing greenhouse gas emissions in Oregon. Biomass-derived fuels, such as biomethane, are not the only gases that are low-CI. Renewable hydrogen and renewable synthetic methane are also examples of renewable natural gas that prevent the extraction of geologic gases and reduce greenhouse gas emissions.

Our comments address the book-and-claim process and the proposed definition of biomethane. Electrochaea supports the broad application of book-and-claim accounting as it will provide the best value to the Oregon ratepayers, accelerate the decarbonization of the gas grid in Oregon, and promote the displacement of fossil natural gas for all uses.

Electrochaea is also commenting on the proposed change to the definition of biomethane or renewable natural gas. The proposed change could create uncertainty in the use of these renewable resources because it strays from the established definition of the terms in Senate Bill 98. As such, the proposed change will narrow the availability of low-carbon intensity substitutes for fossil natural gas and potentially delay the decarbonization of Oregon's gas grid. For Oregon to meet its climate goals, the state should take an inclusive approach and allow the full spectrum of renewable gas products and methods that reduce GHG emissions and displace fossil fuel usage to participate in the fight against climate change.

Introduction to biomethanation technology. Electrochaea has developed an industrial-scale power-to-gas biomethanation technology to produce grid-quality renewable synthetic methane. The methane synthesized using biomethanation is a replacement for all uses of fossil natural gas. Electrochaea’s biomethanation process uses a biological catalyst, a methanogenic archaea, to combine carbon dioxide and hydrogen into synthetic methane. This technology can also perform the function of a traditional biogas upgrading system as it cleans and conditions the biogas into a product ready for injection into the natural gas grid.

Biomethanation uses raw biogas or purified carbon dioxide (CO₂) as one of its main feedstocks. Any process that produces biogas or carbon dioxide can be used as feedstock for the synthesis of synthetic methane. Since biogas is only ~60% methane, the remaining ~40%, which is mainly CO₂, is typically separated and emitted directly into the environment. Using biomethanation, the CO₂ is instead captured and used to produce additional renewable methane. The biomethanation process can also use other sources of CO₂, such as from direct air capture processes or from carbon capture from industrial sources. The resulting synthetic methane has a low CI similar to that of biomethane purified from biogas and prevents the further extraction of fossil fuels.

Pilot plants in Copenhagen, Denmark¹ and Solothurn, Switzerland² have demonstrated the feasibility and robustness of this technology. At the power-to-gas biomethanation plant in Switzerland, 11,165 kg of synthetic methane were produced during 1299 hours of operation. The gas was injected into the Swiss gas grid for more than 1000 h.

Electrochaea’s comments on book and claim accounting. Electrochaea supports a wide application of book-and-claim accounting to enable Oregon to effectively decarbonize the gas grid by displacing fossil natural gas extraction and use.

Book-and-claim accounting helps manage the costs and increase the availability of renewable gas for Oregon. By supporting a wide allowance of book and claim accounting, Oregon ratepayers can actively support the development of renewable energy projects while effectively managing present and future costs. Oregon is at the forefront of decarbonizing the gas grid and expanding the use of RNG beyond transportation. Embracing book and claim accounting enables the state to continue its leadership position by facilitating the procurement of RNG from out-of-state sources as well as stimulating investments for renewable fuels in the state. Restricting the ability of utilities to procure renewable resources from out-of-state sources has the potential to inflate prices for ratepayers and harm the public perception of the benefits of RNG. For example, the LCFS program in the Canadian province of British Columbia only allows gas produced in the province to qualify, and that credit market has seen credits trade at a

¹ https://energiforskning.dk/sites/energiforskning.dk/files/slutrappporter/12164_final_report_p2g_biocat.pdf

² Schlautmann, R., Böhm, H., Zauner, A., Mörs, F., Tichler, R., Graf, F., & Kolb, T. (2021). Renewable Power-to-Gas: A Technical and Economic Evaluation of Three Demo Sites Within the STORE&GO Project. *Chemie Ingenieur Technik*, 93, 1–13. <https://doi.org/10.1002/cite.202000187>

multiple of California's LCFS program, which allows out-of-state gas to qualify, keeping supplies up and the price of credits down.

Book-and-claim accounting also promotes the development of emerging technologies, like biomethanation, that have the potential to significantly expand the availability of RNG. Like how solar PV has taken decades to decrease costs and commercially scale, emerging technologies have the potential to reduce costs and deliver large amounts of RNG. Notably, a biomethanation system can nearly double the quantity of RNG produced compared to a traditional biogas upgrading system because the CO₂ is converted instead of vented. Therefore, this technology has the potential to provide the increasing volumes of RNG that the state of Oregon needs using current feedstocks. Allowing out-of-state procurement of RNG produced in this way helps provide an offtake for the first biomethanation facilities while allowing flexibility to optimize site location. Giving these projects flexibility now will help manage costs in the future as technology advances.

1. Should DEQ apply any additional geographic constraints for book and claim reporting of biomethane? The DEQ should allow biomethane injected in any pipeline connected to Oregon to be eligible for book and claim.

2. Should DEQ require biomethane to be injected into a natural gas pipeline, or should DEQ allow book and claim accounting for biomethane delivered directly to an end-user outside of Oregon? The Oregon DEQ should permit book-and-claim accounting for biomethane delivered directly to end users outside of Oregon. This approach recognizes the displacement of fossil natural gas from a pipeline connected to Oregon. It also offers the benefit of a lower administrative burden for tracking, enabling effective cost management. Implementing a common tracking system such as M-RETs helps prevent double counting and ensures the transparent application of environmental attributes.

3. Should DEQ restrict the vintage of biomethane eligible for use in greenhouse gas reporting? Electrochaea recommends the most flexible requirement such that biomethane may be claimed within multiple calendar years after being injected into a pipeline. Given that there is not a current surplus of RNG, the vintage of biomethane should have a broad scope to provide operational stability for projects. Allowing the trading of environmental attributes for future years creates a consistent demand and increased financial visibility for these attributes as targets grow.

In summary, continuing to embrace the book-and-claim accounting method for out-of-state RNG procurement in Oregon brings numerous benefits. It enables ratepayers to support renewable energy projects while managing costs, facilitates the growth of emerging technologies, and offers operational stability and consistent demand for environmental attributes. By adopting these measures, Oregon can continue its commitment to and leadership in the decarbonization and the expansion of RNG production.

Likewise, book-and-claim accounting, similar to that as discussed above, should be allowed for hydrogen production and use.

Electrochaea’s comments on the proposed definition of biomethane. Electrochaea strongly urges use of definitions in Division 215 that are identical to, or consistent with, Senate Bill 98’s definition for renewable natural gas. This alignment of definitions will enable utilities, industry, citizens, and the state to communicate clearly about renewable gases used in Oregon and their attributes. Using common taxonomy and definitions will also simplify commercial transactions and assessment of compliance with the rule (Division 215), the law (SB 98) and with EPA guidance. In addition to potential confusion from using similar terms with different meanings for the law and the rule, the conflicting definitions may inadvertently preclude access to low-CI synthetic methane from many sources that could otherwise contribute to the decarbonization of the state’s gas grid.

However, the proposed definition of “biomethane or renewable natural gas”³ is at odds with the SB98 definition. In this definition biomethane and renewable natural gas are defined together in the same definition when they are not interchangeable in SB98. SB98 defines⁴ three types of gases as renewable natural gases: upgraded biogas, renewable hydrogen, and methane produced from any combination of biogas, hydrogen, or waste CO₂.

The proposed definition also removes the ability to use waste CO₂ from any source. It eliminates the use of waste anthropogenic CO₂ sources to produce renewable methane that displaces the extraction and use of fossil natural gas. It is an unnecessary limitation because capturing and recycling waste CO₂ from both biogenic and anthropogenic sources combined with clean hydrogen results in real emissions reductions as fossil natural gas is displaced from the Oregon gas grid. Waste anthropogenic sources of CO₂ have been shown to have similar emissions reductions to biogenic sources when used in synthetic methane production⁵. As traditional biogas feedstocks become scarcer and more costly to convert into renewable natural

³ “Biomethane” or “Renewable Natural Gas” means refined biogas, or another synthetic stream of methane produced from biomass feedstock renewable resources, that has been upgraded to meet pipeline quality standards or transportation fuel grade requirements, such that it may blend with, or substitute for, natural gas. ~~a near pure methane content product. Biomethane can be directly injected into natural gas pipelines or combusted in natural gas-fueled vehicles.~~

⁴ SB98’s definition of renewable natural gas is:

“Renewable natural gas” means any of the following products processed to meet pipeline quality standards or transportation fuel grade requirements:

- a. Biogas that is upgraded to meet natural gas pipeline quality standards such that it may blend with, or substitute for, geologic natural gas;
- b. Hydrogen gas derived from renewable energy sources; or
- c. Methane gas derived from any combination of:
 - A. Biogas;
 - B. Hydrogen gas or carbon oxides derived from renewable energy sources; or
 - C. Waste carbon dioxide

⁵ A discussion on the method used to evaluate the emissions reduction is included in the following Appendix A.

gas, the ability to transform all forms of waste CO₂ into synthetic methane has the potential to give utilities another option to deliver increasing volumes of low-CI gas.

Electrochaea agrees that power-to-gas biomethanation production falls under the term “biomethane” when biogenic CO₂ derived from biomass is used as a feedstock. Including the wording “synthetic stream of methane” is a welcome step in acknowledging that synthetic methane can aid in decarbonization across the state.

We propose for consideration a modification of the proposed definition provided in the proposed Division 215:

“Biomethane or “Renewable Natural Gas” means renewable natural gas as defined in SB98 and including any other synthetic methane produced from biomass or waste CO₂ feedstock, that has been upgraded to meet pipeline quality standards or transportation fuel grade requirements, such that it may blend with, or substitute for, natural gas.”

This definition of renewable natural gas for this ruling will enable utilities to make the highest impact choices for lowering their greenhouse gas emissions and will allow utilities to source synthetic methane made from biogas or from waste anthropogenic CO₂. Aligning the definition of renewable natural gas with that of SB98 will aid the development of new technologies producing renewable gas, including biomethanation, because it will give regulatory certainty to projects to move ahead with investment and construction. Project flexibility and certainty around different sources of CO₂ will enable investment and a successful scale-up of the technology to help utilities meet their ambitious decarbonization goals for the future.

Electrochaea appreciates the opportunity to participate in this discussion on changes to Division 215 of the Oregon Greenhouse Gas Reporting Program. Oregon can lead the way in supporting a variety of renewable fuels in its own energy transition. The broad application of book-and-claim alongside the promotion of all low-CI natural gas alternatives are two important steps to supporting renewable energy projects that cause genuine emissions reductions.

Sincerely,



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Appendix A

This appendix provides a description of the Life Cycle Assessment (LCA) procedures that are used to evaluate the global warming potential and the carbon intensity of synthetic methane produced from different sources of waste CO₂. Further resources include a research paper⁶ with carbon intensity (CI) data for biomethanation, as well as a research paper⁷ on the importance of the system expansion LCA scope for evaluating emissions reductions for synthetic methane processes from a variety of CO₂ sources.

Anthropogenic sources of CO₂ have similar emissions reductions to biogenic sources when used in synthetic methane production. When assessing the CI of synthetic fuels, a LCA with a system expansion scope is commonly employed to evaluate emissions reductions. This approach aligns with the ISO 14040 and 14044 standards and is prescribed by the National Energy Technology Laboratory (NETL) for calculating emissions reductions in the context of carbon capture and utilization (CCU) for the 45Q tax credit program. Figure 1 illustrates a schematic representation of such an LCA scope, using waste CO₂ from electrical generation as an example.

The assessment compares two systems that generate the same amount of electricity, while one includes natural gas production and the other includes synthetic methane production, which is a drop-in replacement for natural gas. By comparing these two systems, the absolute differences in greenhouse gas (GHG) emissions can be evaluated. The reference production system consists of two separate processes: power generation with waste CO₂ and fossil natural gas production. On the other hand, the CCU production system combines power generation and synthetic methane production, yielding equivalent quantities of electricity and synthetic methane, which avoids the release of CO₂. This leads to significant emissions reductions.

⁶ Goffart De Roeck, F., Buchmayr, A., Gripekoven, J., Mertens, J., & Dewulf, J. (2022). Comparative life cycle assessment of power-to-methane pathways: Process simulation of biological and catalytic biogas methanation. *Journal of Cleaner Production*, 380, 135033. <https://doi.org/10.1016/j.jclepro.2022.135033>

⁷ Zhang, X., Bauer, C., Mutel, C. L., & Volkart, K. (2017). Life Cycle Assessment of Power-to-Gas: Approaches, system variations and their environmental implications. *Applied Energy*, 190, 326–338. <https://doi.org/10.1016/j.apenergy.2016.12.098>

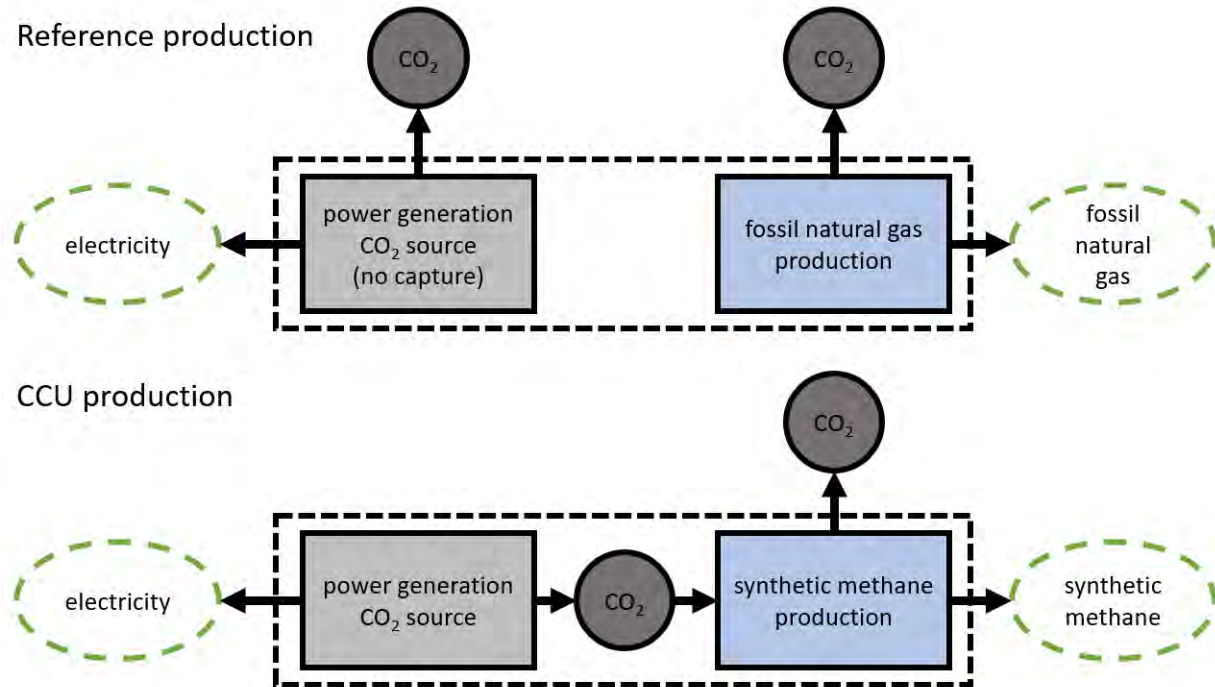


Figure 1: System expansion LCA boundary schematic, adopted from the University of Michigan's Global CO₂ Initiative

The power generation process in this assessment can be substituted with any other process that generates waste CO₂, such as cement production, liquefied natural gas (LNG) production, ethanol production, or upgraded biogas production, among various others. It is crucial for regulatory bodies like Oregon's DEQ not to categorically exclude specific types of waste CO₂, as there is a genuine potential for achieving real emissions reductions using these sources of CO₂ that would otherwise be vented adding to the pollution of our gaseous environment.

It is essential to acknowledge that different sources of CO₂ will have varying emissions impacts when it comes to capturing them. For instance, capturing CO₂ from a dilute gas stream requires more energy compared to capturing CO₂ from a concentrated stream. It is crucial to evaluate these processes in a feedstock-neutral manner, using objective LCA data. For example, when assessing the capture of anthropogenic CO₂ from a concentrated stream during liquefied natural gas (LNG) processing, the LCA emissions burden is significantly lower compared to the capture of biogenic CO₂ from a more dilute stream derived from a biomass combined heat and power (CHP) plant. These capture-specific burdens play a role in determining the feasibility of decarbonizing the gas grid. Therefore, it is important to consider the emissions implications associated with capturing CO₂ from different sources. A comprehensive analysis using objective LCA data should guide decision-making processes, enabling a technologically neutral assessment of the varying emissions impacts. This approach will help ensure a balanced evaluation of different CO₂ capture methods and support informed strategies for decarbonizing the gas grid.



Sent via email to: climate.2023@deq.oregon.gov

June 6, 2023

Ms. Nicole Singh
Ms. Elizabeth Elbel
Colin McConnaha
Oregon Department of Environmental Quality
700 NE Multnomah Street, Suite 600
Portland, OR 97232-4100

RE: 2023 Rulemaking - Climate Protection Program

Dear Mr. McConnaha, Ms. Singh and Ms. Elbel:

Following up on the discussions with the covered fuel supplier RAC members, and in light of the consensus on the proposed amendments to the Climate Protection Program (CPP), HF Sinclair wanted to provide for DEQ's convenience an initial redline of proposed CPP rule changes.

We appreciate DEQ's willingness to consider revisions to the CPP through the RAC process. This has been a positive experience for the covered fuel supplier RAC members and demonstrates how government, industry and community interest groups can work together to develop a workable program. We appreciate your review and consideration of the following, which I would be glad to discuss in greater detail.

Evaluation Period for Distribution of Compliance Instruments (OAR 340-271-9000)

- Replace the 3-year "evaluation period" with a one-year (immediate prior year) lookback.
- PROPOSED DRAFT RULE LANGUAGE:

OAR 340-271-0020

~~(19) "Evaluation period" means a period of multiple consecutive calendar years, as described in Table 5 in OAR 340-271-9000, that DEQ uses to evaluate the number of compliance instruments to distribute to each covered fuel supplier that is not a local distribution company.~~



With a one-year look back period, the term “Evaluation period” is not necessary. Table 5 in OAR 340-271-9000 can also be deleted. The other table references will need to be updated.

OAR 340-271-0420(4)(b)

(b) Except for compliance instruments identified in Table 4 in OAR 340-271-9000 for distribution according to section (2) and the compliance instruments held in the reserve according to section (3) and subsection (4)(a), DEQ will calculate the number of compliance instruments to distribute to each covered fuel supplier that is not a local distribution company or new covered fuel supplier as described in this subsection, based on available emissions data information (derived in accordance with OAR 340-271-0110) from the prior year evaluation period described in Table 5 in OAR 340-271-9000 as follows: If a covered fuel supplier or its related entities do not have available information for one or more of the years of the evaluation period, DEQ may exclude the covered fuel supplier and its emissions from this calculation. If the covered fuel supplier is excluded, then the distribution for the covered fuel supplier will be addressed using the methodology described in section (5).

A) DEQ will use the following formula to calculate the number of compliance instruments to distribute to each covered fuel supplier:

Number of Compliance Instruments = Total compliance instruments to distribute *
([Covered fuel supplier covered emissions + covered fuel supplier biofuel emissions] /
Total emissions)

(B) As used in the formula in paragraph (A):

(i) “Total compliance instruments to distribute” means the cap for the calendar year, according to Table 2 in OAR 340-271-9000, minus the number of compliance instruments identified in Table 4 in OAR 340-271-9000; and minus the number of compliance instruments held in the compliance instrument reserve;

(ii) “Covered fuel supplier covered emissions” means the sum of a covered fuel supplier’s covered emissions during the prior year evaluation period;

(iii) “Covered fuel supplier biofuel emissions” means emissions described in OAR 340-271-0110(3)(b)(B)(i) that result from the complete combustion or oxidation of the annual quantity of biomass-derived fuels that the covered fuel supplier imported, sold, or distributed for use in the state during the prior year evaluation period; and



(iv) “Total emissions” means the sum of “covered fuel supplier covered emissions” and “covered fuel supplier biofuel emissions” during the prior year evaluation period for all covered fuel suppliers whose compliance instrument distribution is calculated according to this section.

(C) DEQ will distribute a number of compliance instruments to each covered fuel supplier using the formula in paragraph (A) and rounded down to the nearest whole number.

(D) Any remaining compliance instruments not distributed due to rounding will be held in the compliance instrument reserve.

Timing of Compliance Instrument Distribution (OAR 340-271-0420)

- Shift the non-reserve compliance instrument distribution date to allow utilization of prior year GHG emissions data reports submitted under OAR 340-215-0046 and verification reports submitted under OAR 340-272-0100.
- PROPOSED DRAFT RULE LANGUAGE:

OAR 340-271-0420

(1) DEQ will distribute compliance instruments according to this rule. ~~DEQ will distribute compliance instruments from a cap according to sections (2) through (4) no later than March 31 of the calendar year of that cap.~~

2) Annual distribution of compliance instruments to covered fuel suppliers that are local distribution companies. No later than March 31 of the calendar year of that cap. DEQ will annually distribute to each local distribution company, or to its successor(s) due to a change in ownership or operation, the number of compliance instruments from the calendar year’s cap stated in Table 4 in OAR 340-271-9000.

(4) Annual distribution of compliance instruments to covered fuel suppliers that are not local distribution companies and not new covered fuel suppliers. DEQ will annually distribute compliance instruments from the applicable calendar year’s cap to covered fuel suppliers that are not local distribution companies and not new covered fuel suppliers as follows:

[Add new subsection (a)]

DEQ shall issue a preliminary notice of distribution of compliance instruments no later than May 31 of the calendar year of that cap; and by no later than October 31 of that



same calendar year, issue a final distribution order including any changes in distribution/allocation based on available information submitted by each such covered fuel supplier including emissions data reports submitted to DEQ pursuant to OAR Chapter 340, Division 215 and the verification statement submitted to DEQ pursuant to OAR Chapter 340, Division 272.

* * *

Distribution of Reserve Compliance Instruments (OAR 340-271-0420)

- Remove the annual 300,000 compliance instrument limit per covered fuel supplier from the reserve distribution.
- Align the reserve compliance instruments distribution dates with the non-reserve compliance instruments distribution dates to allow utilization of prior year (4 quarters) of GHG emissions data reports submitted under OAR 340-215-0046 and verification reports submitted under OAR 340-272-0100.
- PROPOSED DRAFT RULE LANGUAGE:

OAR 340-271-0020

(24) 'New covered fuel supplier' means a person who first meets or exceeds the threshold for applicability, as provided in Table 1 in OAR 340-271-9000, in a given calendar year.

OAR 340-271-0420(5)(d)

(d) If DEQ approves an application, DEQ ~~shall~~ ~~may~~ distribute one or more compliance instruments to the covered fuel supplier from the reserve. DEQ shall issue a preliminary notice of distribution of compliance instruments to new covered fuel suppliers from the reserve no later than May 31 of the following year the person became a new covered fuel; and by no later than October 31 of that same calendar year, issue a final distribution order including any changes in distribution/allocation based on available information submitted by each such new covered fuel supplier including emissions data reports submitted to DEQ pursuant to OAR Chapter 340, Division 215 and the verification statement submitted to DEQ pursuant to OAR Chapter 340, Division 272. In determining the number of compliance instruments to distribute from the reserve to the covered fuel supplier, DEQ ~~shall~~ ~~may~~ consider:

(A) ~~The number of compliance instruments the covered fuel supplier might have received according to section (4) if DEQ had sufficient available information to include the covered fuel supplier in that calculation.~~ The annual emissions data report submitted to DEQ under OAR Chapter 340, Division 271 for the year in which the person becomes a new covered fuel supplier and the verification statement submitted to DEQ pursuant to OAR Chapter 340, Division 272;



(B) The number of compliance instruments in the reserve at that time. For purposes of clarity, in the first year a new covered fuel supplier triggers the annual covered emissions threshold in OAR 340-271-0110(3)(b), the new covered fuel supplier's distribution of compliance instruments shall be limited to compliance instruments available from the reserve in that calendar year in accordance with OAR 340-271-0420(3)-(5);

* * *

(D) ~~A maximum distribution amount that will not exceed 300,000 compliance instruments per covered fuel supplier per year~~ DEQ shall allocate reserve compliance instruments among all eligible new covered fuel suppliers based on the ratio of each new covered fuel supplier's annual emissions in the prior year.

HF Sinclair would like to continue to do business in the state of Oregon. We have been forced to reduce direct sales into the state and may be forced to halt all direct sales, which could lead to further disruptions already occurring in the Oregon fuel market. These suggested changes to the CPP rules would provide a clearer, more predictable path for new market entrants to enter the program and, likewise, would allow HF Sinclair to continue providing fuel to Oregonians.

Thank you for your consideration.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeremy Price". The signature is written over the printed name.

Jeremy Price
Manager, West Coast Government Affairs



Department of Environmental Quality
Attention: Nicole Singh and Elizabeth Elbel
Subject: Climate 2023 Rulemaking

Thank you for the opportunity to comment on these important rule clarifications.

The stated goals of the Climate Protection Program are to reduce GHG emissions and other air pollutants, maximizing public health benefits, and minimizing costs for consumers in environmental justice and other communities in Oregon. To be consistent with this goal, **DEQ should require biomethane to be injected into a natural gas pipeline in Oregon.** We have serious concerns that biomethane is being given undue credit under DEQ's current legislative authority, which provides biomethane with a 100% CO₂ reduction credit. The known carbon intensity of biomethane, typically 30 to 60%, is being ignored!!¹ We know scientifically that this is an incorrect assumption that overly advantages biomethane relative to other mitigation options. This fact is particularly relevant to the trade-off between Community Climate Investments (CCIs) and biomethane. **CCIs will generate long-term emission reductions in weatherization and electrification that will persist for years after the investment is made, as compared to RNG purchases, which require regular annual payments for this partially lower carbon fuel.** Therefore, CCIs generate more emission reductions for less cost, and dollar for dollar are a much better long-term investment. In fact, in the near future, CCIs are a much less expensive option for NWN to meet its CPP obligations, with analysis showing that choosing CCIs rather than biomethane could save \$150 million by 2026². In addition to the cost savings, CCIs will generate much greater local benefits in terms of reductions in air pollution and economic development opportunities, even compared to in-state biomethane. We therefore urge DEQ ensure both emission reduction and economic development benefits go to Oregonians by requiring that only biomethane that is injected into a natural gas pipeline in Oregon be allowed for book and claim credit.

Regarding biomethane delivered directly to an end-user, we would support credit only if the supplier and end-user are both located in Oregon, and if there is credible evidence, as determined by DEQ, that biomethane use is displacing natural gas that could otherwise have been delivered by an existing supplier in Oregon.

Regarding the vintaging of book and claim credits, we believe DEQ should require biomethane to be booked (injected into a pipeline in Oregon) and claimed within the same calendar year.

Although we support green hydrogen development for hard to electrify applications, we do not believe in the use of hydrogen in buildings. Green hydrogen will always be an expensive energy carrier compared to the green electricity itself, so its primary markets will be applications in long distance transportation and high temperature industries, and it will command a premium price. Electrification is the clear cost-effective choice for space and water heating applications. **Furthermore, we do not support book and claim accounting for application of hydrogen, even for industry and transportation**

¹ [Department of Environmental Quality: Fuel Pathways – Carbon Intensity Values : Oregon Clean Fuels Program : State of Oregon](#)

² Docket No. LC 79, In the Matter of NW Natural, 2022 Integrated Resource Plan, Staff Final Comments, Page 9.



applications, because like biomethane, hydrogen has a carbon footprint – depending upon how it is made. For example, even if only electrolytic hydrogen were allowed, it's unlikely that early plants will use 100% dedicated green electricity. Without a **program to account for the carbon intensity of hydrogen production, storage and transport**, a book and claim accounting process cannot properly distinguish the environmental attributes of different forms of hydrogen, and so should not be used.

The Metro Climate Action Team is a community of volunteers working to advance sound climate policy and ensure Oregon is a leader in addressing the climate crisis.

Metro Climate Action Team Steering Committee

Brett Baylor, Rick Brown, Linda Craig, Pat DeLaquil Dan Frye, Debby Garman, KB Mercer, Michael Mitton, Rich Peppers, Rand Schenck, Jane Stackhouse and Catherine Thomasson



Natural Gas Vehicles for America

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March 30, 2023

Leah Feldon, Director
Department of Environmental Quality
700 NE Multnomah Street, Suite 600 | Portland, OR 97232-4100

RE: NGVAmerica Comments on the Oregon Climate Protection Program Proposed Changes

Dear Director Feldon:

Natural Gas Vehicles for America (NGVAmerica) is the national trade association dedicated to the decarbonization of the transportation sector through the increased use of gaseous fuels including renewable natural gas, conventional natural gas, hydrogen-blended gas, and hydrogen. Our member companies produce, distribute, and market natural gas and renewable natural gas (RNG, also called biomethane), manufacture and service natural gas vehicles (NGVs), engines, and equipment, and operate fleets powered by clean-burning gaseous fuels across North America.

NGVAmerica respectfully submits the following comments on the proposed changes to the Oregon Climate Protection Program (CPP) by the Oregon Department of Environmental Quality (DEQ) supporting the use of hydrogen and renewable natural gas environmental credits from across North America as method for utilities to lower their emissions under the CPP and to continue to incentivize the lowest carbon fuels available to the transportation market.

Renewable natural gas (RNG or biomethane) currently plays an important role in decarbonizing the transportation sector and therefore policy makers should pursue approaches that facilitate the continued use of RNG and its growth, and not take steps that would limit or hinder opportunities for further growth. Electrification holds significant promise, but it is not a silver bullet solution. There are and will continue to be huge obstacles to fully electrifying the transportation sector. Moreover, promoting additional competition for environmental solutions benefits everyone – continuing to encourage other solutions particularly for medium- and heavy-duty on-road and off-road transportation is critical to accelerating the pace of emission reductions and ensuring that there are viable options for businesses that are moving to reduce emissions.

In the U.S. on-road transportation market, renewable natural gas currently accounts for nearly seventy percent of all the fuel consumed in natural gas vehicles including delivery vehicles, freight trucks, refuse trucks and transit buses. See <https://ngvamerica.org/wp-content/uploads/2023/04/NGV-RNG-Decarbonize-CY-2022-FINAL.pdf>. In 2022, natural gas vehicles consumed nearly 460 million gasoline gallon equivalent of RNG. This achievement represents the culmination of many years of project development and billions of dollars in investment in production capacity, fuel delivery networks, fueling infrastructure, and vehicle acquisitions. Today virtually all the cellulosic biofuel consumed under the EPA's RFS Program is renewable natural gas. This achievement and the future success of other cellulosic biofuels would not be possible without market-crediting mechanisms that allow book-and-claim and other solutions. The nation's pipeline operators and utilities have been instrumental in ensuring that increased supplies of renewable natural gas are able to get to market.

Advocating the increasing use of NGVs where they benefit most.
For the economy. For the environment. For health. For security. **For America.**

Hydrogen currently only plays a small role in transportation but is expected to play a larger role in future years. We similarly expect that the nation's pipeline operators and utilities will be instrumental in ensuring access to hydrogen supplies. Policy makers should welcome this participation and encourage it to ensure that increasing supplies of renewable energy are available to consumers and businesses.

Aside from helping to decarbonize the transportation sector, encouraging the development of clean fuels like RNG that are derived from organic waste resources also provides a primary and immediate strategy for reducing critical methane emissions. The most efficient way to address emissions from waste resources and to harness the energy potential of these waste resources is to allow fuel producers the option of continuing to move this fuel to market by using existing infrastructure and recognized market-based accounting practices.

NGVAmerica and its members recognize that decarbonization efforts and cleaner air will only be achieved by focusing on a multi-technology approach that includes promoting the use of readily available, cost-effective low-carbon and carbon-negative solutions. Today, trucks, buses and other vehicles powered by RNG are delivering steep reductions in greenhouse gas emissions as has been shown in the emissions reductions in California and Oregon through their Low Carbon Fuel Standard and Clean Fuels Programs.

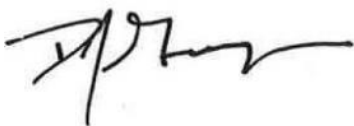
NGVAmerica strongly believes that RNG-operated low NOx vehicles must be a key component in the DEQ CPP if impactful emissions reductions are the goal and are to occur in any reasonable timeframe. To support the growth of renewable fuels we recommend that the DEQ continue to support both electric and gas utilities' ability to commonly purchase environmental credits for renewable energy produced across North America as a method for utilities to lower their emissions under the CPP.

Environmental credit systems that allow for utilities to "book" the environmental benefits of renewable energy and "claim" them no matter where it is produced and injected into the nation's energy system is a critical strategy to grow new supplies of renewable fuels, both in Oregon and across the country. But imposing geographic limits on a utility's purchases of environmental credits for CPP compliance takes emission reduction opportunities off the table, at a time when every opportunity that benefits the customers should be an option.

NGVAmerica recognizes that incentivizing hydrogen and renewable natural gas everywhere, not just in Oregon, will accelerate the transition to a renewable energy future while also maintaining the energy reliability upon which we all depend. We ask that the DEQ continue supporting the use of hydrogen and renewable natural gas environmental credits from across North America as method for utilities to lower their emissions under the CPP.

Thank you for your consideration, and please contact me or Sherrie Merrow at smorrow@ngvamerica.org or 303.883.5121 with any comments or questions.

Sincerely,



Daniel J. Gage
NGVAmerica President

Oregon Department of Environmental Quality
Via e-mail: Climate.2023@DEQ.oregon.gov

Re: Comments on proposed updates to Oregon's Greenhouse Gas Reporting Program (GHGRP) and Climate Protection Program (CPP)

The Northwest Gas Association (NWGA) represents the three natural gas utilities and two transmission pipelines that provide warmth and comfort to over 2 million Oregon residents (more than 800,000 households), and productive energy for almost 90,000 Oregon businesses, institutions, and industries.

NWGA members support and are actively engaged in reducing regional greenhouse gas emissions (GHGs) and meeting their Climate Protection Program ("CPP") obligations by utilizing 30,000 miles of existing energy infrastructure that is the natural gas transmission and distribution system in Oregon.

NWGA is responding to Oregon Department of Environmental Quality's (DEQ) request for comments regarding GHGRP and CPP rulemaking that will determine to what extent our members can utilize hydrogen and renewable natural gas ("RNG") as compliance mechanisms.

Environmental credit systems allow for utilities to "book" the environmental attributes of renewable energy and "claim" them regardless of where they are produced and injected into the nation's energy system. Electric and gas utilities commonly purchase environmental credits for renewable energy produced across North America. This system yields increased renewable energy development and results in greater GHG emissions.

Placing geographic limitations for compliance purposes on where renewable energy is produced is both inconsistent and counterproductive. It would be an unjustified departure from standard operating procedure for highly successful RNG related credit programs. Neither the federal RIN program, nor the California Low Carbon Fuel Standard put geographic limitations on their programs, and both are credited with incenting multiple dozens of methane-capturing projects across the United States.

Imposing geographic limits regarding gas production for purposes of CPP and GHGRP compliance takes emission reduction opportunities off the table at a time when every opportunity that benefits our customers and the environment should be an option. Deviating from the standard regarding the treatment of

the environmental attributes of renewable energy will limit emissions reductions that could otherwise be achieved and will serve only to punish energy consumers that rely on gas for warmth, hot water and productive energy.

Our industry is pro-actively adopting and will continue to employ practices and technologies that reduce the emissions impact of natural gas consumers. Our work in this regard complements the state's overall climate policy goals and we need to utilize every available tool.

The NWGA looks forward to working collaboratively with ODEQ as this process unfolds. Thank you for your time and consideration.

Sincerely,

A handwritten signature in blue ink, appearing to read "Dan Kirschner". The signature is fluid and cursive, with a long horizontal stroke at the end.

DAN S. KIRSCHNER
Executive Director

NW Natural Comments Supporting Book and Claim Accounting for Renewable Natural Gas and Hydrogen under the Climate Protection Program

May 30, 2023

ATTN: Nicole Singh and Elizabeth Elbel
Oregon Department of Environmental Quality
Climate.2023@deq.oregon.gov

NW Natural appreciates the opportunity to submit comments following the second meeting of the 2023 climate rule making rules advisory committee meeting.

NW Natural strongly supports the use of book and claim accounting for both renewable natural gas (“RNG”) and hydrogen in Oregon’s Greenhouse Gas Reporting Program and the Climate Protection Program (“CPP”) to incentivize renewable energy development across North America. Such accounting provides climate benefits across the country, including in the State of Oregon. Greenhouse gases are global, and RNG and hydrogen projects are, like renewable electricity resources, very site-specific.

NW Natural has delivered energy to customers for 164 years. The company continues to evolve to meet the changing needs of the customers and communities we serve. This includes working to rapidly integrate renewable energy resources into our portfolio and decarbonize the product we deliver while we also working with customers to champion conservation through energy efficiency. Ensuring Oregon policies support renewable and low carbon resources aligns NW Natural and the state of Oregon’s shared goals to realize a low carbon climate and resilient future energy system.

NW Natural submits the following recommendations to the Oregon Department of Environmental Quality (“DEQ”) regarding book and claim accounting:

- DEQ should allow book and claim accounting for RNG injected into pipelines across North America to count toward CPP compliance.
- DEQ should allow book and claim accounting for RNG directly delivered to an end-user.
- To allow RNG credits to be appropriately verified, DEQ should require RNG to be claimed within the same or subsequent calendar year it was injected into a pipeline.
- For consistency, DEQ should adopt similar requirements for hydrogen as it does for RNG.

Adopting these recommendations will help ensure the CPP maximizes greenhouse gas (“GHG”) reductions to the fullest extent possible.

1. DEQ should allow book and claim accounting for RNG across North America.

The Oregon Department of Environmental Quality (“DEQ”) should allow for RNG injected into any pipeline in North America to be eligible CPP compliance via book and claim accounting. To geographically restrict where RNG must be injected would arbitrarily limit the GHG emissions reductions that would otherwise occur.

GHG Emissions Reductions Anywhere Create Climate Benefits Everywhere

The effects of GHG emissions are global. As such, reducing such emissions anywhere, within Oregon or otherwise, creates a climate benefit everywhere; Oregonians would benefit from GHG reductions, regardless of where they occur. Thus, a geographic restraint on RNG book and claim accounting, such as the one currently drafted, is unnecessarily restrictive and arbitrary, given that there is no greater climate benefit to Oregonians from projects in Oregon versus projects elsewhere.

A Geographic Restriction on RNG or Requirement to Move “Bundled” RNG Harms Oregon Customers

RNG is physically identical to traditionally produced natural gas.¹ In light of this fact, imposing geographic constraints on where RNG must be injected into the pipeline system to be eligible for CPP compliance does nothing to benefit end-use customers in Oregon. Furthermore, the individual molecules of the gas at issue, whether RNG or traditional natural gas, are not physically tracked (or even trackable) to the end-user.

Not only would a geographic restriction not benefit Oregon energy customers—it would harm them by driving up the costs for utilities to comply with the CPP. NW Natural has been able to prioritize least cost least risk renewable resources from out of state developments to benefit all customers, delivering real carbon emission reductions while moderating costs to households. Should CPP compliance costs rise, energy prices for Oregonian families and businesses will inevitably rise as well.

The RNG industry has coalesced around the use of Renewable Thermal Certificates (RTCs) to represent the environmental benefit of RNG. The purchase and retirement of RTCs to represent the environmental benefits of RNG is the efficient way to ensure benefits are not double-counted and can be credited to specific customers.

¹ Unlike traditionally produced natural gas, however, RNG can have a significantly lower or even negative carbon intensity value. *See* California Air Resources Board, *LCFS Pathway Certified Carbon Intensities*, <https://ww2.arb.ca.gov/resources/documents/lcfs-pathway-certified-carbon-intensities> (last visited May 26, 2023).

RNG injected anywhere in North America could move to Oregon customers, provided significant capacity contracts are secured. Requiring RNG to be physically contracted from source to end-user would only add pipeline capacity contract costs, while offering no emissions benefit. Whether RNG is contracted physically from Point A to Point B, or RTCs are generated at Point A to be retired at Point B, there is no physical difference occurring in the gas system. The same RNG project will produce the same amount of RNG, displacing the same amount of traditionally produced gas, regardless of whether gas is physically contracted to move, or RTCs only are retired.

Recommended RNG Geography Rule Language

For the above reasons, we encourage DEQ to make the following changes in the draft language in OAR 340-215-0105(7)(b)(A), 340-215-0044(5)(c), and 340-215-0042(5) respectively:

“Gas injected into a natural gas pipeline ~~connected to Oregon~~ anywhere in North America may be reported under this division using book and claim accounting if the reporting entity meets all reporting and recordkeeping requirements of this division.”

“In addition to the requirements in this division, when reporting gas injected into a natural gas pipeline ~~connected to Oregon~~ anywhere in North America using book and claim accounting the regulated entity must also . . .”

“When reporting contractual deliveries of fuel injected into a natural gas pipeline ~~connected to Oregon~~ anywhere in North America using book and claim accounting the regulated entity must retain and make available . . . Records demonstrating the specific quantity of fuel claimed was injected into a natural gas pipeline system directly ~~connected to Oregon~~ anywhere in North America in the current data year and link those environmental attributes to a corresponding quantity of natural gas withdrawn for use in Oregon.”

Additionally, we encourage DEQ to make the following deletion in the draft language in OAR 340-215-0020(X):

“Book and Claim” refers to the accounting methodology where the environmental attributes of an energy source are detached from the physical molecules when they are commingled into a common transportation and distribution system for that form of energy. The detached attributes are then assigned by the owner to the same form and amount of energy when it is used. ~~For the purposes of this division, the common transportation and distribution system must be connected to Oregon.”~~

Alternative Geographic Restriction Standard

In the event that DEQ commits to imposing a geographic restriction, it should allow RNG injected in any pipeline connected to Oregon to be eligible for CPP compliance via book and claim accounting.

If DEQ chooses to adopt this alternative, we would encourage DEQ to keep the current draft language in the sections and subsections listed above, with “[directly or indirectly](#)” added before “connected to Oregon” in each instance.

2. DEQ should allow book and claim accounting for RNG delivered directly to an end-user outside of Oregon.

As stated above, DEQ should allow RNG injected in any pipeline in North America to be eligible for book and claim.

For CPP compliance purposes, DEQ should also recognize book and claim accounting for RNG supplied directly to an end-user anywhere in North America (rather than injected into a natural gas pipeline network).

We encourage DEQ to make the following addition as a subsection in the draft rule at OAR 340-215-0105(7)(b)(B):

[“Gas supplied directly to an end-user anywhere in North America may be reported under this division using book and claim accounting if the reporting entity meets all reporting and recordkeeping requirements of this division.”](#)

3. DEQ should require RNG to be claimed within the same or subsequent calendar year.

Under book and claim reporting, DEQ should require the RNG to be claimed within the same or subsequent calendar year it was injected into a pipeline. A longer vintage timeline will allow the necessary flexibility for entities who are waiting on the U.S. Environmental Protection Agency or other regulatory entities to approve certification of pathways and credit generation. This will allow greater liquidity in RNG markets and ensure customers are not unduly burdened by higher prices that might result from less-liquid RNG market time periods due to various related regulatory activities at the national or state level.

NW Natural has been actively engaged in RNG project development since 2019 and is familiar with the time constraints associated with project development and delivery. In addition to the physical construction of a project, the commissioning, verification and establishment of a project and the associated renewable natural gas in an approved registry can create a temporal delay between a project’s start in reducing emissions in the air shed and in delivering trackable environmental attributes.

By allowing the environmental attributes of RNG to be claimed in the same or subsequent calendar year the RNG was injected, DEQ can balance the alignment of the actual RNG use and the associated claimed reduction, while providing the time necessary for regulated entities to procure the environmental attributes in the first place.

We encourage DEQ to change all instances of “same reporting data year” in the draft OAR 340-215 rule to instead read “same [or subsequent](#) reporting data year.”

4. DEQ should allow for book and claim reporting of hydrogen in the Greenhouse Gas Reporting program and for CPP compliance.

Book and Claim Rules for Hydrogen Should be Consistent with Those for RNG

Like RNG, hydrogen can effectively reduce emissions by displacing natural gas that would otherwise exist in the pipeline system. By allowing book and claim for hydrogen in the same manner as allowed for RNG, DEQ would be promoting regulatory consistency in addition to maximizing GHG emissions reductions. All the benefits of allowing book and claim for RNG apply to hydrogen as well: in each case, renewable fuel displaces traditional natural gas; the more DEQ can incentivize this replacement, the greater the climate benefit for Oregonians.

The Federal Government is Making Massive Investments in Hydrogen

Through the Inflation Reduction Act and the Infrastructure Investment and Jobs Act, Congress has allocated billions of dollars to support hydrogen development nationwide.² Furthermore, the Biden Administration has identified wide-scale development and deployment of hydrogen as critical to the decarbonization of the American economy. As just one example of the Administration's prioritization of this technology, the U.S. Department of Energy's first Energy Earthshot Initiative, Hydrogen Shot, seeks to reduce the cost of clean hydrogen by 80% to \$1 per 1 kilogram in 1 decade.³

To maximize the benefits available to Oregonians under these federal programs, the CPP should be designed to incentivize the use of hydrogen through allowing book and claim reporting. Hydrogen production can be very site-specific, and in order to secure the least-cost and most environmentally beneficial hydrogen resources, hydrogen production may occur throughout North America. Leaving hydrogen off the table as a viable compliance option risks stifling future Oregon innovation in this area.

NW Natural appreciates the opportunity to engage with DEQ and share their support for the use of book and claim accounting under Oregon's Greenhouse Gas Reporting Program and the Climate Protection Program. If you would like to further

² See The White House, *The Inflation Reduction Act Delivers Affordable Clean Energy for Oregon*, <https://www.whitehouse.gov/wp-content/uploads/2022/08/Oregon.pdf> (last visited May 25, 2023); The White House, *Updated Fact Sheet: Bipartisan Infrastructure Investment and Jobs Act*, <https://www.whitehouse.gov/briefing-room/statements-releases/2021/08/02/updated-fact-sheet-bipartisan-infrastructure-investment-and-jobs-act/> (last visited May 25, 2023).

³ U.S. Department of Energy, *Hydrogen Shot*, <https://www.energy.gov/eere/fuelcells/hydrogen-shot> (last visited May 26, 2023).

discuss this letter or have any questions, please reach out to Mary Moerlins at mary.moerlins@nwnatural.com.

Sincerely,

Mary Moerlins

Mary Moerlins
Director of Environmental Policy & Corporate Responsibility
NW Natural

**Beyond Toxics * Citizens for a Better Lincoln County * Climate, Energy and Environment Team,
Consolidated Oregon Indivisible Network * Climate Reality Project, Portland Chapter
Climate Solutions * Columbia Riverkeeper * Community Energy Project
Douglas County Global Warming Coalition * DPO Environmental Caucus * Earthjustice
Ecumenical Ministries of Oregon, Oregon Interfaith Power & Light * Electrify Corvallis
Electrify Now * Green Energy Institute at Lewis & Clark Law School
Metro Climate Action Team * Natural Resources Defense Council * Onward Oregon
Oregon Business for Climate * Oregon Environmental Council * Oregon Chapter Sierra Club
Physicians for Social Responsibility * Rogue Climate * Southern Oregon Climate Action Now
Third Act Oregon * Verde * 350 Deschutes * 350 Eugene * 350 Washington County**

May 30, 2023

Oregon Department of Environmental Quality
Office of Greenhouse Gas Emissions
Via email to climate.2023@deq.oregon.gov

RE: 2023 Climate Rulemaking RAC #2 Comments

On behalf of the undersigned 28 organizations representing climate, public health, business, faith, and environmental justice communities from across Oregon, we appreciate the opportunity to provide comments and feedback related to issues discussed at the second Rulemaking Advisory Committee (RAC #2) meeting of the Department of Environmental Quality's (DEQ) 2023 Climate Rulemaking.

As DEQ emphasized in introducing the RAC #2 meeting topics, the issues and proposed rule changes under consideration in the 2023 Climate Rulemaking will have far-reaching consequences for the climate and communities in Oregon. By designing guardrails and pathways for regulated entities to comply with Oregon's cornerstone Climate Protection Program (CPP) and HB 2021, this rulemaking – if done well – will be vital to ensuring our state stays on track to achieve our climate goals, and to delivering public health, economic, and employment benefits for environmental justice communities in Oregon. However, given the broad scope of issues and laws touched by this proceeding, there could be very serious unintended consequences if impacts to communities and the climate are not sufficiently considered.

As underscored by the March 2023 United Nations' Intergovernmental Panel on Climate Change report, without further government action to immediately reduce emissions across all sectors, global temperatures are likely to surpass 1.5 degrees Celsius within the next decade.¹ While Oregon has made important progress in recent years to reduce emissions from some of our top polluting sectors, we are still **19 percent short of our 2020 targets**.² The effects are obvious across the state – from drought to wildfires to deadly heat waves – and will only get worse if we do not work to reduce fossil fuel use in Oregon and build more resilient communities.

We therefore strongly urge DEQ to use this rulemaking to protect and strengthen – rather than undermine – our cornerstone climate programs by prioritizing emissions reductions and associated local air quality

¹ IPCC, Summary for Policymakers, A.6 (2023), available at https://report.ipcc.ch/ar6syr/pdf/IPCC_AR6_SYR_SPM.pdf.

² Oregon Global Warming Commission 2023 Report to the Legislature, accessible at <https://www.keeporegoncool.org/s/2023-Legislative-Report.pdf>

and economic benefits in Oregon. This rulemaking provides an opportunity not only to help ensure Oregon stays on track to achieve our climate goals, but also to create jobs, improve public health, and enhance the vibrancy and resiliency of Oregon communities.

With those goals in mind, we urge DEQ to:

1. Restrict biomethane used for CPP compliance to that which produces direct benefits for Oregonians.
2. Improve compliance and reporting requirements to support strong implementation of existing programs and inform future regulation with respect to use of hydrogen.
3. Strengthen emissions reduction requirements for new or expanded large stationary source facilities in Oregon under the CPP's Best Available Emissions Reduction program.

Finally, after much thought, we hope that DEQ will commit to initiate a rulemaking that proposes greenhouse gas reporting requirements specifically for the CPP, rather than trying to balance the critical intent of that program with reporting requirements of other programs that are not specifically related to advancing benefits for environmental justice communities in Oregon.

I. Biomethane used for CPP compliance should produce benefits for Oregonians.

We understand from DEQ's biomethane rulemaking brief³ and presentation for the RAC #2 meeting that DEQ staff is assessing several Greenhouse Gas Reporting Program (GHGRP) and CPP goals in developing the proposed rule amendments for book and claim reporting, including: accurately and completely accounting for greenhouse gas emissions; providing compliance options and flexibility for regulated entities; providing certainty for regulated entities on use of biomethane for compliance; maximizing greenhouse gas emissions reductions and potential emissions reductions from biomethane; minimizing costs for consumers in Oregon, particularly environmental justice communities; and assessing any potential local benefits of biomethane production or use.

With these goals in mind, we strongly urge DEQ to limit the eligible use of book and claim to only biomethane that is injected into a pipeline within Oregon, at least for purposes of the CPP. Doing so preserves the ability of DEQ to accurately and completely account for greenhouse gas emissions reductions in the state, while maintaining certainty and flexibility for regulated entities. These limits would also help to ensure direct public health and economic benefits for environmental justice and other communities in Oregon.

The alternatives outlined in DEQ's rulemaking brief – allowing the use of book-and-claim for out-of-state biomethane projects or investments – are extremely problematic. First, allowing book-and-claim reporting of biomethane injected either 1) into a pipeline outside of Oregon or 2) delivered directly to an end-user outside of Oregon would be superfluous as a flexibility mechanism; the CPP already provides significant flexibility and cost constraints for regulated entities. Further, **enabling these options would be detrimental to achieving the overall clean air, public health, consumer and economic goals of the CPP, and contrary to DEQ's mandate to “safeguard the air resources of the state” and “restore and**

³ <https://www.oregon.gov/deq/rulemaking/Documents/c2023m2GHGrules.pdf>.

maintain the air quality” of Oregon.⁴ Out-of-state biomethane projects and investments deliver no direct benefits to Oregon’s air quality, or its workers, ratepayers, or communities, while the CPP’s existing, robust alternative compliance option (i.e, the Community Climate Investment (CCI) program) will provide substantial economic, health and job creation benefits to environmental justice and other Oregon communities and improve air quality in their communities. In fact, it is unclear if out-of-state RNG delivers even **indirect** benefits to Oregonians. Since DEQ does not possess the authority to regulate CO2 emissions from the combustion of biomass unless necessary to comply with the federal Clean Air Act, effectively requiring it to treat biomethane as a zero emissions fuel,⁵ and since the least expensive biomethane provides the least emissions-reduction benefits, we anticipate gas utility investments in biomethane will do little to reduce greenhouse gas emissions outside of Oregon.

Allowing covered fuel suppliers to rely on out-of-state biomethane presents the alarming likelihood that investments will be diverted from the CCI program. The CCI program was developed and informed by many months of engagement with environmental justice communities in Oregon, with the goal of supporting investments that maximize public health, jobs, and cost-saving benefits for these and other communities historically disenfranchised and disproportionately impacted by economic disinvestment, health challenges, and environmental harms. Through the 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. If this rulemaking allows for reporting and compliance of out-of-state biomethane (through the likely use of Renewable Thermal Certificates or RTCs) to count toward CPP compliance, gas utilities will take advantage of this avenue and purchase the cheapest RTCs they can, which will result in underinvestment in CCIs. This would be a shame. As underscored by a recent Oregon Public Utility Commission filing on NW Natural’s Integrated Resource Plan, relying on the CCIs as a means of compliance “will benefit Oregonians through utility rate reductions and is more likely to create health and equity benefits in Oregon.”⁶

In considering rule language, DEQ should compare its proposed treatment of biomethane to the current treatment of CCIs. DEQ’s proposal introduces into the CPP an “offset”-like scheme, the kind of contrivance it rightfully attempted to avoid in its CPP rulemaking. DEQ’s proposal would allow the use of RTCs purchased anywhere in the country (or even internationally if no pipeline injection is required), representing any amount of carbon reduction, and which could be used to meet 100% of a covered fuel supplier’s mandate. This scheme (1) does not require environmental attributes purchased by the entity to be bundled with the fuel (undermining even the fiction of fossil gas displacement); (2) does not require demonstrated carbon reductions associated with the fuel; and (3) fails to account for feedstock, fuel location, or assessment of whether the captured methane was intentionally created.

In comparison, the carefully crafted CPP mechanism permits just one mitigation alternative in the form of the CCI credit. The CPP specifies that CCIs must reduce anthropogenic greenhouse gas emissions in Oregon by an average of at least one MT CO2e per CCI credit, reduce emissions of other air contaminants and promote public and environmental health in Oregon, and protect Oregon consumers from increases in

⁴ ORS 468.015; ORS 468A.010; *see also* ORS 468A.015.

⁵ ORS 468A.020(3).

⁶ <https://edocs.puc.state.or.us/efdocs/HAC/lc79hac142022.pdf>

fossil fuel prices. Further, the ability to purchase CCIs is limited by percentage, so a covered fuel supplier is not permitted to buy itself out of compliance while continuing to emit greenhouse gasses. The CCI entities are subject to DEQ approval, their work plans are subject to DEQ review and approval, and with oversight by an Equity Advisory Committee. **The choice DEQ makes will impact the success of the CPP in achieving actual emission reductions in Oregon and impact energy costs for Oregon consumers for decades to come. Importantly, a covered fuel supplier's investments in out-of-state biomethane to meet its CPP obligations will not limit fossil fuel infrastructure expansion, as the utility will continue to deliver methane to its customers and need to make investments in that delivery system. In comparison, CCI investments will reduce reliance on methane, reduce emissions and associated air pollution in Oregon, and assist environmental justice communities and low-income Oregonians with the energy transition.**

As DEQ considers rule changes to the GHGRP to determine compliance obligations for companies regulated by the CPP, we urge you to keep in mind the stated goals of the program, which was developed over the course of an extensive 18 month rulemaking process and adopted with widespread public support and environmental justice community engagement. As noted in DEQ's biomethane rulemaking brief, the CPP 1) requires that covered entities reduce greenhouse gas emissions; 2) supports reduction of emissions of other air contaminants that are not greenhouse gases; 3) prioritizes reduction of greenhouse gases and other air contaminants in environmental justice communities; 4) and provides covered entities with compliance options to minimize business and consumer economic impacts. The compliance and reporting requirements discussed in this RAC must align with these goals. If DEQ is unable to meet the important mandates of the CPP with rules that are broadly applicable to other programs, it should initiate a separate rulemaking to adopt rules that will be suitable to the CPP and DEQ's existing authority.

II. Compliance and reporting requirements should be improved to support strong implementation of existing programs and inform future regulation with respect to use of hydrogen.

As noted in the hydrogen brief, DEQ currently has authority under the GHGRP to require reporting of hydrogen use and related information from entities that are already regulated under the program for other activities. We urge DEQ to consider broader statewide implications of hydrogen production and use. Oregon is swiftly moving away from carbon intensive hydrogen production and toward green electrolytic hydrogen. A few things to be mindful of as we look across the policy landscape:

- ODOE undertook a high level study on hydrogen in 2022 and will likely continue looking at the issue with a focus on carbon intensities of various production processes and a merit order of deployment to ensure optimal and efficient use of hydrogen for hard-to-decarbonize sectors.
- Federal funding is becoming available for hydrogen pilot projects, with strong preferences and incentives for green electrolytic hydrogen.
- The Northwest Hydrogen Hub is considering pilot projects, all of which will likely involve green electrolytic hydrogen.
- HB 2530, passed by the legislature in the 2023 session, establishes a definition for green electrolytic hydrogen and ties that definition to our efforts to secure federal dollars.

In its 2022 report, “Renewable Hydrogen in Oregon: Opportunities and Challenges,” ODOE acknowledged the difficulty of collecting data on hydrogen use. The agency recommended development of “a more in-depth inventory of current hydrogen use in the state.”⁷ Data is the foundation for a more comprehensive and informed statewide hydrogen policy – one that focuses on limited and efficient deployment of green electrolytic hydrogen for hard-to-decarbonize sectors and phases out carbon intensive forms of hydrogen production. It’s important that we have thorough transparency to inform DEQ staff and policymakers. Therefore, we urge DEQ to require a maximum level of transparency and reporting for hydrogen production.

The proposed rules would require entities regulated under the GHGRP that produce, use, or directly supply hydrogen in Oregon to report the following additional information about the hydrogen:

- The amount of hydrogen being used or supplied in Oregon.
- Information about the production facility and process that produced the hydrogen, including impacts to environmental justice communities and natural and Tribal resources.
- The identity of any vendors from which the hydrogen was purchased.

These are useful and appropriate categories of information. However, more specificity is required to establish a comprehensive and transparent base of information. Specifically, with regard to the new requirements on emissions data reports, under (5)(b)(D) Feedstock(s) used to produce the gas; and (E) Production method. We encourage DEQ to stipulate additional information in this section, including:

- The provider of the feedstocks;
- Where and how feedstocks were produced;
- Feedstock carbon intensity;
- Production method carbon intensity;
- Specs or schemata of the production method; and
- Carbon intensity of electricity used in an electrolyzer to produce hydrogen. Electrolytic hydrogen is likely to be the prevailing technology due to the incentives and policies identified above. However, electricity from the grid can have markedly different carbon intensities. Data on carbon intensity of electricity for electrolyzers should be reported, along with information on whether clean electricity sources are existing or additional.

In its rulemaking brief, DEQ notes that hydrogen can be blended with existing fossil natural gas supplies within pipeline networks. Indeed, at least one project has been proposed in Oregon entailing hydrogen blended into gas pipelines.⁸ The research is mixed on the efficacy, GHG reduction potential, and safety of blending. A body of emerging research indicates that the GHG reduction potential is significantly lower than previously thought. It is imperative that the rules address these types of projects and recognize their limitations.

Specifically, a study has shown that hydrogen blending over 5% requires entirely new pipeline infrastructure.⁹ In terms of accounting for environmental attributes, another study found that “a 20%

⁷ [2022-ODOE-Renewable-Hydrogen-Report.pdf \(oregon.gov\)](#)

⁸ [NW Natural scraps plans for blended hydrogen and natural gas project in Eugene – Oregon Capital Chronicle](#)

⁹ [Hydrogen blends over 5% may need infrastructure modifications \(smart-energy.com\)](#)

fraction only represents about 7% in energy terms (due to the difference in molecular weight), which means blending could achieve, at best, only 7% CO₂ emissions reduction.”¹⁰

Given the emerging research around blended hydrogen, and the lack of a scientific consensus as to its efficacy, GHG reduction potential, and safety, not to mention DEQ’s limitations with respect to regulating the process by which hydrogen is produced, we strongly urge DEQ to not facilitate book and claim accounting for these types of projects. If DEQ does allow book and claim accounting for hydrogen, it must at the very least accurately account for the environmental attributes *actually* achieved per unit of energy.

III. Emissions reduction requirements should be strengthened for new and expanded large stationary source facilities in Oregon under the CPP’s Best Available Emissions Reduction (BAER) program.

A. Reflect the Public Process in the BAER Rules

For the benefit of stakeholders, impacted communities, and the regulated sources themselves, we appreciate DEQ’s proposed rule changes to clarify public engagement on BAER assessments. Given the impacts to communities from source operations, we applaud DEQ’s proposal to incorporate into the CPP rules requirements that the public be notified of and offered the opportunity to provide input at multiple stages of the BAER process. Specifically, we strongly support DEQ’s proposed rule changes requiring public notice and at least a 30-day comment period after (1) a facility submits its BAER assessment to DEQ and (2) DEQ publishes the draft BAER order.

B. Strengthen BAER Treatment for Stationary Sources

As our organizations repeatedly expressed through written and verbal comments throughout the initial CPP rulemaking process, it is vital that large industrial emitters be held accountable for their significant climate pollution by ensuring regulation of both fuel combustion and process emissions from stationary sources. Moreover, many of our organizations expressed significant concerns about DEQ’s proposal to exempt stationary sources from binding emissions reduction requirements and instead regulate these emissions through a BAER approach. We repeatedly recommended that industrial source emissions come under the program’s emissions cap to assure the best outcomes for achieving Oregon’s greenhouse gas (GHG) reduction goals while improving air quality and public health in impacted communities. We urged DEQ to require mandatory reductions in process-based GHG emissions that increase in stringency over time, consistent with the CPP’s science-backed, declining emissions cap.

Contrary to our strong and repeated recommendations, the final EQC-adopted CPP rules provided a BAER approach for stationary sources to comply with the CPP, meaning that emissions from stationary sources could very well increase under this program. Given that, it is especially critical that the rules remain as stringent and ambitious as possible.

¹⁰ [Hydrogen blending in gas grid would lead to 'limited CO₂ benefits and a large increase in energy costs': Irena Recharge \(rechargenews.com\)](https://recharge.news.com/news/hydrogen-blending-in-gas-grid-would-lead-to-limited-co2-benefits-and-a-large-increase-in-energy-costs/)

As the only existing state regulation on major industrial emitters, **responsible for roughly 20% of our state's total GHG emissions**, it is vital that the CPP works to ensure science-based emissions reductions from existing stationary sources and deter development of new stationary sources in Oregon. In fact, DEQ's preliminary CPP reference case modeling estimated that industrial emissions will *increase* by 28% between 2018 and 2050.¹¹ We believe DEQ should use this rulemaking opportunity to ensure the CPP adequately deters expansion of existing sources or development of new stationary sources of process-based GHG emissions that will make it more difficult for Oregon to meet its GHG emissions targets, and that will harm local communities.

Continuing to enable the development of new sources or expansion of existing sources flies in the face of DEQ's stated equity and emissions goals under the CPP. Particularly given recent, historic federal investments in industrial decarbonization—including more than \$20 billion from the 2022 Inflation Reduction Act, an estimated \$67 billion from the 2022 CHIPS and Science Act, as well as forthcoming investments from the CPP's Community Climate Investment program—that will accelerate industrial efficiency upgrades and other technological advancements, **there is no reasonable excuse to continue to allow the development of new sources, or allow the expansion of existing facilities, with the potential to emit unfettered climate pollution in Oregon.**

We are therefore concerned that DEQ's revised draft rule language continues to exempt these sources from mandatory declining emissions reductions, and maintains the two-part threshold for requiring pre-construction BAER review for permit modifications. **We again strongly urge that any new stationary source or any proposed modification that has the potential to emit GHGs in any quantity should complete a BAER assessment prior to construction.** Facilities must be incentivized to install technologies and seek operational changes to reduce emissions from the outset. Such an approach will help Oregon's manufacturing sector remain competitive as economies around the world continue to decarbonize. As the BAER program currently operates, large stationary sources have no incentive to consider new technologies or change processes to maximize emissions reductions unless their actual emissions exceed 25,000 MT CO₂e annually and DEQ mandates a technology or operation change.

However, if DEQ is unable, due to resource constraints and workload balancing, to require BAER assessments for all new or modified sources with the potential to emit GHGs in any quantity, we recommend that DEQ instead lower the threshold to require any source with a potential to emit (PTE) above 5,000 MT CO₂e per year to undertake a BAER assessment. Noting, again, that these sources do not fall under the cap, contrary to treatment of industrial sources in both California's cap and trade program and Washington's cap-and-invest program, Oregon should not position itself as the state welcoming industrial polluters seeking access to ports and rail infrastructure, which are also trying to avoid stringent emissions regulations of other West Coast states.

Finally, to ensure that covered stationary sources actually achieve real, verifiable GHG emissions reductions, we once again strongly urge DEQ to add provisions in the rules that convert a source's BAER determination into a mandatory emissions limit that will be incorporated into the source's air pollution permit. The CPP is a remarkable regulation, but the BAER component requires careful oversight to

¹¹ Or. Dept. of Env'tl. Quality & ICF, Oregon Climate Protection Program: Modeling Study on Program Options 9 (2021), <https://www.oregon.gov/deq/Regulations/rulemaking/RuleDocuments/ghgcr2021modStudyResults.pdf>.

achieve the modeled emissions, equity, and economic benefits. Continuing to exempt these sources from binding emissions reduction requirements will not only undermine the climate potential of the CPP, but will also fail to capitalize on unprecedented federal incentives for technological innovation and advancement. As we have learned from other states and countries' experiences, a declining emissions limit on industry is what paves the way for upgrades like electrification and super efficient boilers, and for innovations in cleaner, less carbon intensive manufacturing.

C. Issue Basic ACDPs

As we indicate above, we continue to urge reconsideration of DEQ's decision to allow new sources to operate in Oregon that produce process-based GHG emissions. Nevertheless, we appreciate DEQ's desire to anticipate sources that do not yet exist but which will be subject to BAER. In the event DEQ continues to welcome industries that produce GHG emissions, it is appropriate for DEQ to require such facilities to apply for a basic permit in order to confirm whether the source is subject to BAER. We reiterate our concern that new industrial facilities are frequently sited in environmental justice communities that already face air pollution and climate change impacts. We urge DEQ to add safeguards to protect local communities and prevent new industrial sources from impairing Oregon's GHG emissions reduction progress.

D. Permitting Now Will Save Time in the Long-Run

Some RAC members expressed concern about the time it might take for DEQ staff to process new permits. In response, we note that DEQ's decision to proactively evaluate sources in advance of construction efforts will save applicants time and money in the long-term. Retroactively correcting errors will impose burdens on both DEQ staff and the regulated entity.

IV. DEQ Public Engagement and Education Materials

In addition to the substantive rule feedback above, we want to thank DEQ staff for providing briefing materials for the second RAC meeting that were relatively easy to follow and very informative, especially given how complicated these topics can be to communicate. We are also grateful to staff for answering our questions throughout the process – before, during, and after the meeting. We hope that DEQ will continue to create these kinds of materials and opportunities so that other stakeholders and the public can engage as easily as possible, especially on issues related to community benefits.

We recognize that DEQ staff are being very intentional to act within the constraints of DEQ's existing authority while still sharing relevant information. To that end, we appreciated that DEQ acknowledged during the second RAC meeting that biomethane is chemically indistinguishable from traditional natural gas. However, we think it could also be beneficial for DEQ to review and revise, as appropriate, its background information in its briefing materials, to make sure that community members can better understand the potential implications of these rulemaking decisions. As an example, in the "Proposed rule clarifications for reporting biomethane" brief, it reads "Since biomethane is derived from organic matter the carbon contained within the biomethane is already part of the natural carbon cycle." We take issue with this framing as it completely excludes the climate, public health, and environmental justice concerns

of biomethane production, transport, and use. It is also potentially misleading to describe biomethane as being part of the “natural carbon cycle” when it is captured methane from industries that are largely un-natural and extremely polluting. We hope that DEQ will take a look through its materials for these kinds of statements and make sure to provide more nuanced and accurate information, particularly where it might be helpful for community members wishing to engage.

V. Conclusion

For the above reasons, we strongly encourage DEQ to use this rulemaking to protect and strengthen our cornerstone climate programs including the CPP by prioritizing emissions reductions *and* associated local air quality, public health, energy affordability, and jobs benefits in Oregon.

We appreciate the opportunity to provide comments and all the work DEQ staff have put into making this a thorough and inclusive process. We look forward to continuing to engage as the process moves forward.

Sincerely,

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RE: 2023 Climate Rulemaking RAC #2 Comments

350Deschutes is a nonprofit climate organization that works primarily in Central Oregon and Statewide through policy. We represent about 2000 stakeholders in Central Oregon, some who live in historically underserved communities. Thank you for the opportunity to comment.

I am deeply concerned about allowing industries under the cap to be allowed to use credits of any kind for out-of-state RNG or Hydrogen.

First, this is outside the State of Oregon's jurisdiction. It is especially problematic since RNG and clean hydrogen are both indistinguishable from their more carbon intensive counterparts methane (fossil gas) and non-green hydrogen. What is to prevent the polluter from using carbon intensive fuels, such as fossil gas, or non green hydrogen, and receiving credit ? Will they claim credit in more than one state? As an example, the only type of RNG known to lower emissions is that sourced from landfill gas, waste, or sewage treatment plants. Can DEQ ensure that the industry is using only lower emission RNG rather than using dirty fossil gas, since they are chemically identical?

And since RNG has such a limited scope in terms of viability for highest level of carbon reduction, (it is cleaner only in applications where it is used for heavy duty vehicles) one asks whether it should be supported at all. If the industry tries to use RNG or Hydrogen for home applications, it will not be its highest and best use, and would interfere with progress towards electrification. Electrification has become the energy of choice in residential, and is quickly moving that way for the transportation sector.

The same is true of hydrogen. It has its cleaner (green) and dirty forms. RTC's are a false solution. The use of RTCs inhibits real pollution reductions in communities that need it most. Those that are already suffering health and safety issues from living close to polluting industries. If we want industry to lower its pollution in Oregon, we must ask them to reduce the use of fossil gas through efficiencies, and technology, perhaps through electrification. Instead of focusing on where to expand fossil gas through an existing pipeline, they should focus on cleaning up their methane emissions, everywhere.

Research has shown repeatedly that methane cleanup is a cost saving action for industry, and technologies are available, and yet industry has failed to take responsibility for doing this.

It is also extremely important to consider full life cycle analysis to account for both upstream and downstream emissions in order to account for various pathways and production methods.

The Literature states that "anticipated leakage is climatically significant: literature estimates for methane leakage from biogas production and upgrading facilities suggest that leakage is in the 2%–4% range (mass

basis), up to as much as 15%. Policy makers should consider that under reasonable leakage and demand assumptions, RNG could be climate intensive.” (Environmental Research Letters, August 2020.

<https://iopscience.iop.org/article/10.1088/1748-9326/ab9335/pdf>) Another source: https://www.epa.gov/system/files/documents/2022-11/RNG_Operations_Guide.pdf

Another reason why other avenues, such as CCI’s, for direct emission reduction, should be used and incentivized for regulated sites in Oregon.

Now is the time to protect vulnerable communities from the risks of pollution in their back yards. It is hard to see how allowance for credits used in other States will

accomplish that.

Lastly, if RNG is to be transported via existing pipelines, this adds to the safety risks. For example, the pipeline running through Central Oregon is 61 years old. 50 years is considered to be the useful life of a pipeline.

<https://pstrust.org/wp-content/uploads/2015/12/Weimer-Old-Pipes.pdf>) As more fuel is being compressed to put into these pipelines, they stress the infrastructure. The rate of pipeline incidents is astronomically high, compared to past decades. We must avoid not only new infrastructure, but putting more dangerous and climate-questionable fuels into our aging infrastructure.

Thank you for considering these comments.

Diane Hodiak

Executive Director

350Deschutes

Climate policy, actions, education



May 26, 2023

VIA EMAIL

Oregon Department of Environmental Quality
Climate.2023@deq.oregon.gov

RE: RHA Comments on 2023 Climate RAC Meeting #2

Thank you for the opportunity to provide comments on proposed hydrogen reporting rules as discussed during the second RAC meeting for the 2023 Climate Rulemaking held on May 16, 2023.

As presented during the meeting, there were two questions related to the proposed rules on which DEQ staff requested feedback. RHA is happy to provide the following input on these questions.

1. What additional data should DEQ collect from hydrogen suppliers and stationary sources using hydrogen?

As mentioned in our comments at the meeting, the rules do not appear to include an accounting for upstream emissions of hydrogen production. If we understand correctly, staff noted that DEQ does not have the statutory authority to require reporting on the carbon intensity (CI) of fuels used for stationary power sources.

It is important to ensure that the cleanest, lowest CI hydrogen feasible at this stage in the sector's development is produced and utilized. The Governor just signed HB 2530 into law that included definitions for renewable and green electrolytic hydrogen that RHA helped to develop. RHA would recommend that those definitions be incorporated into these draft rules and that producers be required to report the feedstock and production method of the hydrogen. End users of hydrogen in stationary sources should be required to report what type of hydrogen they are using based on feedstock and production method, or attest to the use of renewable or green electrolytic hydrogen.

A bill that RHA proposed during the current Oregon legislative session, SB 124, would require the reporting on the type, amount and carbon intensity of hydrogen used in backup power generation systems to replace polluting diesel backup generators. As we understand it, this is more information than DEQ would require and if this bill were to pass and become law, could therefore, serve as additional useful information for the agency.

2. Should DEQ allow for book and claim reporting of hydrogen in the Greenhouse Gas Reporting program and for Climate Protection Plan compliance?

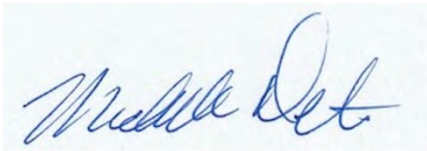
It would seem to be difficult to put hydrogen under a book and claim reporting system if the CI or source of the hydrogen produced and/or used in a stationary source is not known. It would not be

advisable to allow book and claim or any credit for the production or use of fossil or high carbon hydrogen.

Per the discussion at the RAC meeting related to book and claim accounting and geographical boundaries, RHA would recommend at minimum a western regional geographic area as most of the clean hydrogen production will be in, and supply coming from, Washington and California, not in or from Oregon. However, supply in Oregon may be accelerated if a Pacific NW Hydrogen Hub is approved and funded by the US Department of Energy, however, not nearly as much or as quickly as in California and Washington.

Thank you again for the opportunity to provide our input.

Sincerely,

A handwritten signature in blue ink, appearing to read "Michelle Detwiler", is centered on a light blue rectangular background.

Michelle Detwiler
Executive Director
Renewable Hydrogen Alliance
m.detwiler@renewableh2.org

Southern Oregon Climate Action Now

SOCAN

Confronting Climate Change

<https://socan.eco>

CLIMATE ENERGY & ENVIRONMENT TEAM



**CONSOLIDATED OREGON
INDIVISIBLE NETWORK**

Alan Journet Ph.D.

Co-facilitator

Southern Oregon Climate Action Now

Member

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May 16th 2023

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541-301-4107

Climate.2023@DEQ.Oregon.gov

Office of Greenhouse Gas Programs
Oregon Department of Environmental Quality

Colleagues:

I comment today as cofacilitator of Southern Oregon Climate Action Now, an organization of over 2,000 rural Southern Oregonians who are concerned about the climate crisis and seek meaningful statewide effort to address it. I also offer these comments on behalf of the Climate, Energy and Environment Team of the Consolidated Oregon Indivisible Network.

In relation to the RNG issue, I acknowledge that greenhouse gas emissions reductions anywhere are beneficial. I can also understand why DEQ is limited in its capacity to undertake full life cycle assessment of energy sources given its limited authority. I further recognize that this has the unfortunate consequence of suggesting that replacing fracked natural gas with biomethane generates emissions reduction even though full lifecycle analysis would reveal oftentimes that it does not deserve such a assessment. It is unfortunate when these realities collide, as they seem to be doing here. The CPP program was designed to benefit Oregon and Oregonians. However, if DEQ has to limit its assessment of emissions to what is occurring in-boundary (except for electricity generated elsewhere) then it seems only consistent that DEQ should limit the utilities to undertaking emissions reductions in-boundary as the Community Climate Investment opportunity does. It is unfortunate further, that limiting RNG to in-state sources would have the perverse consequence of promoting CAFOs, mega dairies, and landfills along with the multitude of environmental hazards that they generate. Probably the best solution to this conundrum is to restrict RNG use in the gas pipelines to RNG generated in Oregon while simultaneously enforcing the regulations controlling the actions of CAFOs, mega dairies and landfills in order to reduce the environmental damage that these entities impose on Oregon and Oregonians.

The discussion of Hydrogen left me somewhat confused. I appreciated the clarification of the different methods for generating Hydrogen but was not clear if DEQ was indicating any preference or requirement as to the method for generating the Hydrogen. There is abundant evidence that the only acceptable method for generating Hydrogen, if we are genuinely trying to reduce greenhouse gas emissions, is the so-called green hydrogen route featuring electrolysis based on renewable energy. Howarth and Jacobson (2021), for example, reported that: “the greenhouse gas footprint of blue hydrogen is more than 20% greater than burning natural gas or coal for heat...” The point here, of course, is that while the combustion of hydrogen results in zero emissions, the devil is in the route by which that hydrogen is generated. There is zero climate benefit if the Hydrogen is generated in a greenhouse gas intensive manner. Thus, there is a huge problem with Hydrogen if gas companies are allowed to reduce their emissions by exchanging natural gas for hydrogen if that hydrogen is generated in a manner that makes it worse than coal in terms of greenhouse gas emissions. I realize that DEQ has problems relating to its authority to regulate emissions in another state, but it makes no sense to promote greenhouse gas emissions elsewhere (through Hydrogen generation) in order to reduce emissions in Oregon. The bottom line is that in order to serve the goal of emissions reduction, DEQ would be best served by developing a mechanism that allows the CPP to insist on the means by which hydrogen is generated.

There is also a limit to the amount of Hydrogen that can be blended into pipeline transmissions before those pipes are compromised. Evidence suggests that the maximum concentrations of Hydrogen that the current pipeline infrastructure can tolerate before damage occurs is between 15% (Wochner *at al.* 2020) and 20% (St Joh 2022).

Evidence strongly suggests that blending neither RNG nor H into the gas transmission system constitutes a credible solution to the negative climate impacts of the business model currently employed or projected by the gas utilities. The rational conclusion seems to be that the gas utilities are engaged in a fraudulent marketing campaign that suggests they are committed to reducing the negative impact of their product, but are really just committed to doing the minimum they can do to convince legislators and regulators that they should be allowed to continue their devastating practice of profiting from a product that is destroying our natural ecosystems and the very livability of our planet

Respectfully submitted,

A handwritten signature in black ink that reads "Alan R.P. Journet". The signature is written in a cursive, flowing style.

Alan R.P Journet Ph.D.

Cofacilitator, Southern Oregon Climate Action Now

Member, Climate, Energy and Environment Team of the Consolidated Oregon Indivisible Network

Sources Cited

Howarth R and Jacobson M 2021 How green is blue hydrogen? 1676 | Energy Sci Eng. 9:1676–1687.
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<https://www.canarymedia.com/articles/hydrogen/experts-say-blending-hydrogen-into-gas-pipelines-wont-work>

Wochner D, Safro S, Abbey J, O'Neill M 2020 Blending Hydrogen Into U.S. Natural Gas Pipelines: Three Issues to Resolve. Bloomberg Law, Environment and Energy.
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StormFisher Hydrogen Ltd. Supporting Book and Claim Accounting for Renewable Natural Gas and Hydrogen under the Climate Protection Program

May 30, 2023

ATTN: Nicole Singh and Elizabeth Elbel
Oregon Department of Environmental Quality
Climate.2023@deq.oregon.gov

StormFisher Hydrogen strongly supports the use of book and claim accounting for both renewable natural gas (“RNG”) and hydrogen in Oregon’s Greenhouse Gas Reporting Program and the Climate Protection Program (“CPP”) to incentivize renewable energy across North America.

StormFisher Hydrogen develops, owns, and operates hydrogen-based clean fuel production facilities that enable the transition to a low-carbon future. Leveraging our decades of experience in renewable energy, we help corporations, utilities, and governments achieve net zero emissions through these fuels. Our developments support resiliency and a net zero economy across sectors by meeting the right intersection of needs within our supply chain. We are an outlet for renewable power, create commercial value with local partners by maximizing the value of existing by-products, and produce Green Hydrogen, Renewable Natural Gas, and eMethanol for end-markets that are traditionally hard to decarbonize.

StormFisher is developing several projects that will produce low carbon fuels that will help reduce fossil fuel emissions in the US. To maximize our ability to produce low carbon fuels at the lowest price possible a book and claim accounting system should be adopted by the Oregon Department of Environmental Quality (“DEQ”) detailed below. Absence of a book and claim accounting system would drastically restrict the options available to Oregon to meet its emission reductions target.

StormFisher Hydrogen submits the following recommendations to the Oregon DEQ:

- DEQ should allow book and claim accounting for RNG injected into pipelines across North America to count toward CPP compliance.
- DEQ should allow book and claim accounting for RNG directly delivered to an end-user.
- For consistency, DEQ should adopt similar requirements for hydrogen as it does for RNG.

Adopting these recommendations will help ensure the CPP maximizes greenhouse gas (“GHG”) reductions to the fullest extent possible.

1. DEQ should allow book and claim accounting for RNG across North America.

The Oregon Department of Environmental Quality (“DEQ”) should allow RNG injected into any pipeline in North America to be eligible CPP compliance via book and claim accounting.

To geographically restrict where RNG must be injected would arbitrarily limit the GHG emissions reductions that would otherwise occur. A geographic restraint on RNG book and claim accounting, such as the one currently drafted, is unnecessarily restrictive.

Recommended RNG Geography Rule Language:

For the above reasons, we encourage DEQ to make the following changes in the draft language in OAR 340-215-0105(7)(b)(A), 340-215-0044(5)(c), and 340-215-0042(5) respectively:

“Gas injected into a natural gas pipeline ~~connected to Oregon~~ anywhere in North America may be reported under this division using book and claim accounting if the reporting entity meets all reporting and recordkeeping requirements of this division.”

“In addition to the requirements in this division, when reporting gas injected into a natural gas pipeline ~~connected to Oregon~~ anywhere in North America using book and claim accounting the regulated entity must also . . .”

“When reporting contractual deliveries of fuel injected into a natural gas pipeline ~~connected to Oregon~~ anywhere in North America using book and claim accounting the regulated entity must retain and make available . . . Records demonstrating the specific quantity of fuel claimed was injected into a natural gas pipeline system directly ~~connected to Oregon~~ anywhere in North America in the current data year and link those environmental attributes to a corresponding quantity of natural gas withdrawn for use in Oregon.”

Additionally, we encourage DEQ to make the following deletion in the draft language in OAR 340-215-0020(X):

“Book and Claim” refers to the accounting methodology where the environmental attributes of an energy source are detached from the physical molecules when they are commingled into a common transportation and distribution system for that form of energy. The detached attributes are then assigned by the owner to the same form and amount of energy when it is used. If DEQ commits to imposing a geographic restriction, it should allow RNG injected in any pipeline connected to Oregon to be eligible for CPP compliance via book and claim accounting.

2. DEQ should allow book and claim accounting for RNG delivered directly to an end-user outside of Oregon.

As stated above, DEQ should allow RNG injected in any pipeline in North America to be eligible for book and claim. For CPP compliance purposes, DEQ should also recognize book and claim accounting for RNG supplied directly to an end-user anywhere in North America.

3. DEQ should allow for book and claim reporting of hydrogen in the Greenhouse Gas Reporting program and for CPP compliance.

Like RNG, hydrogen can effectively reduce emissions by displacing natural gas that would otherwise exist in the pipeline system. By allowing book and claim for hydrogen in the same manner as allowed for RNG, DEQ would be promoting regulatory consistency in addition to maximizing GHG emissions reductions. All the benefits of allowing book and claim for RNG apply to hydrogen as well: in each case, renewable fuel displaces traditional natural gas; the more DEQ can incentivize this replacement, the greater the climate benefit for Oregonians.

Through the Inflation Reduction Act and the Infrastructure Investment and Jobs Act, Congress has allocated billions of dollars to support hydrogen development nationwide.¹ Furthermore, the Biden Administration has identified wide-scale development and deployment of hydrogen as critical to the decarbonization of the American economy through the U.S. Department's Hydrogen Shot, which seeks to reduce the cost of clean hydrogen.²

The CPP should be designed to incentivize the use of hydrogen through allowing book and claim reporting. Leaving hydrogen off the table or restricting its application as a viable compliance option risks stifling future Oregon innovation in this area and is at odds with emission reduction goals.

StormFisher Hydrogen appreciates the opportunity to engage with DEQ and share their support for the use of book and claim accounting under Oregon's Greenhouse Gas Reporting Program and the Climate Protection Program. If you would like to further discuss this letter or have any questions, please reach out to Pearce Fallis at pfallis@stormfisher.com.

Sincerely,



Pearce Fallis
Co-Founder

www.stormfisher.com
pfallis@stormfisher.com

¹ See The White House, *The Inflation Reduction Act Delivers Affordable Clean Energy for Oregon*, <https://www.whitehouse.gov/wp-content/uploads/2022/08/Oregon.pdf> (last visited May 25, 2023); The White House, *Updated Fact Sheet: Bipartisan Infrastructure Investment and Jobs Act*, <https://www.whitehouse.gov/briefing-room/statements-releases/2021/08/02/updated-fact-sheet-bipartisan-infrastructure-investment-and-jobs-act/> (last visited May 25, 2023).

² U.S. Department of Energy, *Hydrogen Shot*, <https://www.energy.gov/eere/fuelcells/hydrogen-shot> (last visited May 26, 2023).



Jim Verburg
Senior Director, NW and SW Climate and Fuels

June 6, 2023

Sent via email to: Climate.2023@deq.oregon.gov

Elizabeth Elbel
Nicole Singh
Oregon Department of Environmental Quality
GHG Programs
700 NE Multnomah Street
Portland, OR 97232-4100

Re: *WSPA Comment Letter; Oregon DEQ Climate 2023 Rulemaking RAC #2*

Dear Ms. Elbel and Ms. Singh,

The Western States Petroleum Association (WSPA) appreciates this opportunity to serve on the Rulemaking Advisory Committee (RAC) for the Climate 2023 Rulemaking and to provide feedback on RAC meeting #2 which was held on May 16th, 2023. WSPA is a non-profit trade association that represents companies that explore for, produce, refine, transport and market petroleum, petroleum products, natural gas, and other energy supplies in Oregon and four other western states. WSPA's member companies produce the fuels and create the energy we all need now and for the future, including renewables, biofuels, innovative solar and sustainable energy projects.

DEQ held the second of three RAC meetings on May 16th, 2023, which provided an opportunity for DEQ to cover with RAC members and the public the latest developments and rule language regarding biomethane and hydrogen reporting, BAER and Third Party Verification. WSPA offers the following comments.

Comments on renewable natural gas (RNG) Book-and-Claim – Slides 35-38 from Staff Presentation

WSPA recommends that, if DEQ maintains a book-and-claim protocol for RNG, that the book-and-claim protocol be recognized for RNG injected into any pipeline that can directly or indirectly supply natural gas to Oregon up to the amount of natural gas covered by the CPP today. Setting arbitrary limits to injection points of RNG to be within the state of Oregon or to a limited number of Western States will reduce the cost effectiveness of the CPP and limit the ability for companies to comply with the CPP.

Comments on Hydrogen - Slide 51 from Staff Presentation

WSPA recommends that Oregon DEQ recognize additional pathways for the production of renewable hydrogen to reduce emissions covered by the CPP. Limiting renewable hydrogen to hydrogen produced through electrolysis will do little to encourage renewable hydrogen as a compliance option provided its limited footprint today. Hydrogen produced from renewable hydrocarbon feedstocks, such as renewable propane and other renewable hydrocarbon and hydrocarbon mixtures (including renewable ethane, renewable propane, renewable butane, renewable pentane, and renewable naphtha) should qualify as renewable hydrogen. Such renewable feedstocks may be produced as co-products of a renewable diesel fuel or renewable jet

fuel facility, for example.

The definition of renewable hydrogen should be expanded to cover a broader range of renewable hydrogen pathways.

WSPA appreciates the opportunity to provide comment on the Climate 2023 Rulemaking. If you have any questions about the information presented in this letter, please contact me at (360) 296-0692 or via email at jverburg@wspa.org.

Sincerely,



James Verburg
Senior Director, NW and SW Climate and Fuels



Cc: Colin McConnaha – Oregon DEQ – Manager, Office of GHG Programs
Jessica Spiegel – WSPA – Senior Director, Northwest Region