



# Written Comments

## Greenhouse Gas Emissions Program 2021

### Rulemaking: Advisory Committee Meeting 4

This document is a compilation of written comments received related to the fourth meeting of the advisory committee for the Greenhouse Gas Emissions Program 2021 Rulemaking held April 22, 2021 to develop a new Climate Protection Program. Comments related to this meeting received after the cutoff will be included with comments from the next advisory committee meeting.

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## DEQ Comments for Cap and Reduce RAC #4

April 30, 2021

By: Diane Hodiak, Executive Director, 350Deschutes,  
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Thank you for the opportunity to comment.

At a time of climate emergency, with an urgency to act on climate, DEQ must not allow dirty industries to overly influence rules. Here's one reason;

Fossil fuel air pollution kills one in five people annually.

[Industries that think that program costs of CCI is too high at 70 to 90 ton, must consider the cost to society.](#)

A [new study from MIT](#) suggests that in the US, 53,000 people a year die prematurely because of automobile pollution, compared to 34,000 people a year who die in traffic accidents. and automobiles represent only 7% of this kind of air pollution in the US. [Power plants produce much more.](#) (NRDC, Feb 2021)

**DEQ has an opportunity to right this injustice.** We ask that you create bold and courageous rules to accomplish this. Resist the urge to fall back and let other governments or agencies do the needed work. Oregon can lead rather than lag. You are charged with leading the way on this. Oregonians are counting on you.

Giving Fossil fuel plants permission to pollute is not the answer. Nor is lukewarm rulemaking that allows industry to game the system, or to do little, using the excuse that its "too expensive" How expensive are human lives?

**Costs of inaction to society are huge. This needs to be reflected in your model.** Abundant research shows the rapid advance towards trillions of dollars that are now, and will be spent on climate adaptation. Yet, none of this appear's in ICF modeling. One example:

<https://yaleclimateconnections.org/2020/11/fighting-climate-change-cheaper-than-business-as-usual-and-better-for-the-economy/>

Here is a brief synopsis of other concerns:

**Modeling scenarios are incomplete and scenarios appear unlikely to reach the needed emission reductions.**

1. Emission reduction goals do not align with The Governors Executive Order, and projected reductions are likely unachievable. As an example, the electricity sector is using goals based on 2005, with is 8 to 10 mmt higher than 1990, stated in Governors Executive Order.
2. Follow the science: The cap should be at 50% for 2030 and 100% by 2050, net zero emissions. Over 100 countries have set net zero emission goals by 2050, according to the Paris Climate Agreement. Oregon needs a net zero emission goal to encourage compliance. BACT alone for big polluters will not get us there.
3. Will Aviation be exempt? Many airlines are already moving towards cleaner fuels. Why should they be exempt when other industries are included?
4. What about fugitive emissions from full lifecycle of fuels? Methane from RNG and Natural gas pack a lot of accelerated GWP. They must be included in the accounting and Cap: not just combustion and process.
5. Here is a source to compare regulations of stationary sources. It discusses BACT as well as LAER and other regulatory options. Although it is predominantly used for new permitting, there are examples that might provide guidance.  
<https://ww3.arb.ca.gov/bact/docs/ssrcalifornia.htm>

**Unregulated sectors and biogenic emissions will derail the goals:**

Agriculture 10 to 15%, Forestry, who the Center for Sustainable Economy Research shows as Oregon's biggest emitter, are outside the Cap. To what extent will giving exemptions to aviation, utilities and stationary sources further weaken progress toward the goals?

## **RNG and Natural Gas Assumptions are Likely Flawed**

In an interview on KPOV.org radio, Laura Feinstein, Sightline fellow, stated that **15% is the maximum usage for RNG**. The main reasons are that cost effective sites are likely to accelerate the cost of RNG, and most low cost sites, landfill, and manure lagoons, have already been enabled. Her article further describes the perils of RNG:

<https://www.sightline.org/2021/03/09/the-four-fatal-flaws-of-renewable-natural-gas/#:~:text=RNG%20has%20four%20fatal%20flaws,carbon%20intensity%2C%20and%20industry%20obfuscation>. Union of Concerned Scientists also concurs with this estimate.

**RNG is not without a carbon footprint, see below.** Since it is methane, its high level of GWP emissions will figure prominently into the model.

**Natural Gas has no place in a Just Transition to a low carbon economy.** Today, Natural gas is 25% of ghg emissions. Note this study: <https://www.energy-transitions.org/publications/mission-possible/>

Buildings of all kinds can be electrified. RNG should be used only by heavy industry that currently have few decarbonization options. To plan on its expansion as a low carbon fuel source is unwarranted. To plan for the continued or increasing use of natural gas is also a liability for any climate plan.

Additional regulations that could minimize emissions with RNG: require abatement of fugitive methane emissions from all lifecycle processes: production, storage, and transport. Also require that RNG must be sourced in Oregon. (this is a CA law, and would minimize emissions from transport)

April 29, 2021

For: Oregon Department of Environmental Quality  
From: Angus Duncan  
Subject: Climate Protection Plan Rulemaking – Comments

While many useful comments on DEQ's modeling of the CPP have arisen from the RAC process with which NRDC can associate itself, we would like to propose an additional dimension to DEQ's modeling in laying out its Climate Protection Plan Rulemaking: a sensitivity analysis that assumes lower than projected remediation costs, one that results in greater availability of more carbon efficient technologies to achieve the targets set in the scenarios.

The DEQ scenario analysis presented on April 21 showed (a) small but net negative job effects; (b) small but net positive GSP effects; and, (c) small but net positive net income effects. The operative word in all three results is "small"; job losses, for example, were all under -12% (ranged from -0.44% to -0.07%). Understanding that distribution of negative effects can be more significant for specific populations and sectors, these are still remarkably low effects for significant environmental and public health gains. They are also in line with prior analyses (e.g., Portland State University) looking at similar causes and consequences.

With such balanced outcomes, other considerations can and should be weighed in that balance. DEQ is looking at public health outcomes but without (as I understand) assigning these a monetary or quantitative value that could affect outcomes.

If we think of health outcomes as a sensitivity analysis (even without monetizing the outcomes) that can affect policy choices, we should certainly be considering another sensitivity: the potential that costs of compliance turn out to be overstated because technology gains and corresponding cost-of-compliance reductions advance faster than DEQ currently assumes.

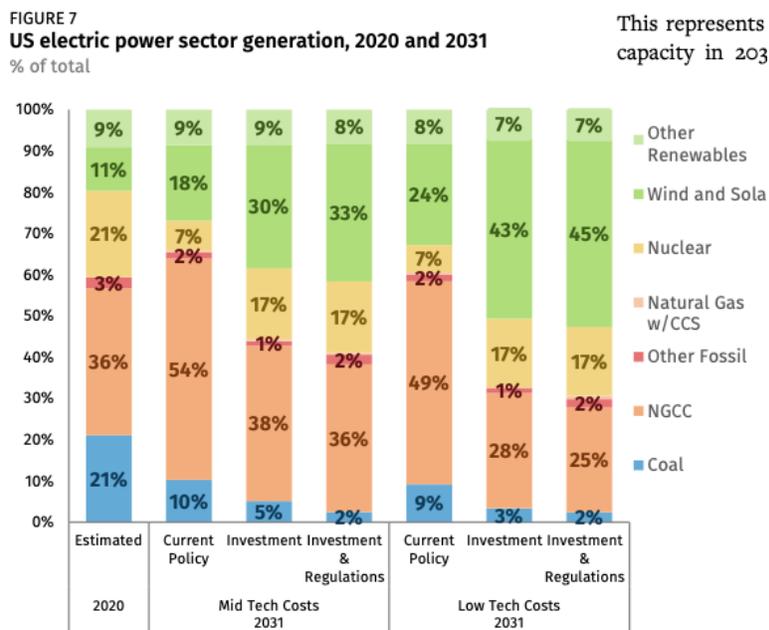
Below I offer illustrations and evidence that relying on current costs almost certainly means that GHG emissions reduction costs are almost certainly overstated, while potential for material technological advances are under-estimated. If this is so, then the roughly balanced positive and negative economic costs would not be balanced but would weigh significantly in favor of earlier and more aggressive cap setting and lowering.

I urge DEQ to undertake such an analysis of technologies pertinent to sectors expected to be regulated under the CPP. While the outcome of such a forecast, however well-grounded, cannot be dispositive, it can certainly be weighed by the RAC and by the EQC in settling on a final rule.

The most immediately available illustration of the value of adding this dimension is in the electricity sector (which includes the availability and cost effectiveness of electrical technologies to replace applications of fossil fuels, and displace the corresponding emissions).

A recent report<sup>1</sup> from The Rhodium Group describes a “current policy” reference case in which today’s (2020) evolving generating technologies are subject to prevailing public health emissions regulation together with government greenhouse gas reduction incentives/disincentives and combined private-government investments. Outcomes, forecast through 2031, show a CO2 emissions curve that had been declining from 2005 now stalling through the 2020’s.

It then looked at CO2 emissions effects as technological advances are sustained through this decade, under mid-level projected costs and more aggressive but not ahistorical lower technology cost reductions, in both cases driven by mid-level and more aggressive assumptions of regulatory incentives and levels of investment. Predictably, lower clean energy technology costs lead to higher levels of investment and more rapid decarbonization.



Source: Rhodium Group. Note: Other renewables include hydro and geothermal

This is a kind of mechanical calculation that should surprise no one. But it gains in significance when considered in the context of the rapid technology advances and cost reductions that have been realized in the electricity sector over even just the past ten years. The costs of electricity from solar photovoltaics has declined >80%; of wind, ; and of lithium-ion batteries, by 97%. The average cost of an electric vehicle battery pack has declined by 87% in this period, and new car EV costs are in some cases below \$30,000, while life cycle costs are competitive with comparable internal combustion vehicles.

<sup>1</sup> Pathways to Build Back Better: Investing in 100% Clean Electricity” The Rhodium Group, US Energy and Climate, March 23, 2021

Lower battery costs have resulted in increased range metrics, while refueling options are expanding and refueling times falling rapidly.

Gains in other sectors are less dramatic but unequivocal. The life cycle cost of heat pumps for space and water heating is, in many climate zones, already competitive with natural gas heating; while heat pumps are beating the competition for combined heating/cooling.

A recent competition sponsored by The Rocky Mountain Institute proposed a \$1million prize for a new technology design that would reduce air conditioning costs by a factor of  $\geq 5X$ . RMI wound up awarding *two* such prizes (lower cost and lower polluting AC is critical to protecting human health and managing emissions in a warming world).

Industrial emissions reductions are more elusive, but emerging options include electric heat pump pre-heating and substitution of green hydrogen for natural gas in high-temperature furnaces and other such applications.

The critical dimension to all these stories is that technological advances and cost reductions are far from exhausted. Lawrence Berkeley Labs, to offer just one example, projects that wind energy costs will decline by another 37%-49% by 2050; while the National Renewable Energy Lab, to offer another, projects solar PV-generated electricity to drop by 2030 from a current \$46/megawatt hour to under \$20/megawatt hour.

Such declining technology cost curves, supported by both research and extrapolation of relevant recent past experience, should inform DEQ's scenario cost-of-compliance and economic impact analyses in its CPP rulemaking.





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*Representing Cascade and Avista as  
Oregon’s Rural Service Providers*

May 3<sup>rd</sup>, 2021

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Submitted to: [GHGCR2021@deq.state.or.us](mailto:GHGCR2021@deq.state.or.us);

Dear Ms. Singh,

Thank you again for the opportunity to represent the perspective of Cascade Natural Gas and Avista (Rural Service Providers) through my position on the Department of Environmental Quality’s (DEQ) Regulatory Advisory Committee (RAC). We appreciated the conversations that took place during the DEQ’s April 22<sup>nd</sup> meeting regarding the health, equity, and economic modeling results as well as the development of a fourth policy scenario. The Rural Service Providers would also like to thank DEQ for hosting a separate Q&A session about ICF’s modeling efforts on April 28. We appreciate the opportunity to contribute to this proceeding, and we look forward to continued engagement in the areas outlined in our comments.

That additional Q&A session notwithstanding, the **Rural Service Providers remain deeply concerned about the relatively narrow scope of the modeling analysis and compliance options informing DEQ’s overall approach, and the lack of transparency into its assumptions and modeling.** As we approach the mid-way point in the RAC process, the Rural Service Providers are challenged to assess or even to scope the critical “bottom line” impacts to our customers and to our business operations. As DEQ is aware, natural gas LDCs play, and should continue to play, an important role in supplying Oregonians with clean, reliable, and affordable energy. That reliability and resiliency role will continue – especially during extreme weather events – as intermittent renewable resources, hydrogen and renewable gas are added to Oregon’s fuel mix. Unfortunately, the narrow scope and lack of transparency of DEQ’s approach to date have yielded little insight into the real-world reliability and affordability impacts for our customers. **As a result, the Rural Service Providers’ customers face unacceptable levels of uncertainty both with the full breadth of economic and reliability**

**impacts of DEQ’s intended strategy, and with the ability to mitigate any unintended consequences associated with GHG emissions migration.**

To mitigate these uncertainties, the Rural Service Providers re-iterate two key themes and requests from our prior input into the RAC process, namely:

- **Flexibility & Feasibility:** It is critical for regulated entities to have as many pathways to compliance as possible to achieve maximum GHG reductions at minimal cost for our utility customers; and
- **Transparency in Modeling:** The risk to our customers of unintended consequences (including incentivizing migration from regulated emissions sources to unregulated emissions sources) is paramount. We request that DEQ share their reference case power sector forecasts and any sensitivity analysis conducted from those forecasts. Further, DEQ should make all efforts to expedite its response to the data request made by NWSA.

## Executive Summary

Today, the Rural Service Providers operate extensive infrastructure to deliver gaseous fuels to end users at affordable rates *as required by our regulators*. For Oregon’s goal of a clean energy future this infrastructure should be leveraged to deliver a blend of low-carbon fuels such as renewable natural gas and hydrogen. Our infrastructure also serves an essential role in addressing reliability challenges associated with intermittent renewable resources, and in the resilience of the overall energy system amid increasingly extreme weather events.

As we reach the halfway-point of our RAC proceedings, **the Rural Service Providers do not have adequate information or insights from the RAC meetings to assess the affordability and reliability risks and impacts on our customers of the DEQ’s scenario options, as our regulators will require.** To mitigate this lack of information, Rural Service Providers provide several comments and requests regarding program structure and the rulemaking process in the key themes of **flexibility and feasibility**, and **transparency and accuracy in modeling**.

### **Flexibility & Feasibility**

Natural gas consumption varies with economic and weather cycles, and emissions-reducing projects may require years of planning and development. **A cap-and-reduce program that provides flexible, but quantifiable pathways to GHG reductions will allow regulated entities to pursue emissions reductions in a cost-effective manner.**

In addition, from a compliance perspective, **it is critical for regulated entities to have as many pathways to compliance as possible to achieve maximum carbon reductions at minimal cost for our utility customers.** The CCI fund discussed on March 18<sup>th</sup> and April 22<sup>nd</sup> could serve as an important tool for supporting sustainability in our communities through quantifiable carbon reduction activities in low income, rural, and traditionally underserved communities. As currently proposed, however, it is unclear how the CCI will provide a lower cost flexible

alternative for compliance, how it will be operated, and how much it will cost. We would be particularly concerned if, as some RAC participants have suggested, the CCI were utilized as the sole alternative compliance mechanism for regulated entities. Such limitations, paired with unrealistic pricing and a scope of activities limited to in-state projects, will diminish the program's overall GHG reduction impacts. This problem would be further exacerbated if the purpose of allowable projects were diluted from maximizing GHG reductions in underserved communities, to addressing non-GHG externalities.

The ability to address ancillary social and environmental needs is a co-benefit of a cap-and-reduce program. However, these additional benefits should not detract from the stated purpose of EO 20-04, which is to reduce GHG emissions.

Specific feasibility and flexibility-themed comments are summarized below.

1. The fourth policy scenario DEQ intends to model should be one that focuses on limiting total economy-wide emissions by maximizing RNG development and trading, and by allowing a high rate of CCI utilization. In this way, the scenario's outcome will demonstrate whether targets can be met with limited electrification and at a potentially lower cost to the Oregon economy. This is particularly important since ICF has identified job loss impacts associated with the other scenarios modeled. And although ICF has characterized this loss as minimal, no loss of livelihood is minimal to the families and communities that experience this hardship. DEQ should therefore identify pathways that protect the economic security of all Oregonians, and not just those sectors that DEQ perceives merit preservation.
2. DEQ should be careful to avoid a "command and control" approach that is informed exclusively by "best available technologies" (BAT). While BAT provides a snapshot in time, it does not account for emerging technologies that would ultimately increase liquidity in the compliance trading market and support innovative compliance options for regulated entities.
3. DEQ's analysis should consider emerging technologies such as hydrogen enriched natural gas and power-to-gas methane production that gas utilities could deploy to reduce the carbon content of their products.
4. DEQ used a 2010 baseline to inform scenario modeling efforts, but the baseline should be replaced in the final program with an initial cap amount informed by an average of several representative years, to mitigate impacts from weather and economic trends.
5. Natural gas distribution companies are not able to procure RNG or energy efficiency/conservation improvements for transport customers through existing regulatory requirements. DEQ should re-examine regulatory, jurisdictional, and logistical challenges associated with regulating all qualified stationary source emissions through the natural gas distribution companies. As stated in previous comments, transport customers are not direct gas sales customers of local distribution companies. Oregon's gas utilities are therefore unable to influence emissions from transport customers or collect funds to support GHG mitigation efforts.

## **Transparency & Accuracy in Modeling**

Public engagement and open communication are the cornerstones of a well-designed and vetted program that serves the public good. On April 8, Northwest Gas Association (NWGA) submitted a Public Records Request to better understand the underlying assumptions informing DEQ and ICF's analysis. Although DEQ did hold a Q&A with the public and ICF to address public questions, at the time of this letter, **the information specifically requested by NWGA has not yet been provided. This creates a continued challenge to RAC members and the general public, regardless of affiliation, to provide meaningful input to this process.**

Without a clear understanding of how decisions are made, or transparency in modeling, the stakeholder participation requested by DEQ as part of this rulemaking becomes superficial at best. We are growing concerned that the process has been heavily driven by staff leanings, non-public meetings outside the RAC, and pre-determined conclusions and outcomes. Expanded transparency in program design and modeling will be essential to ensuring the cap-and-reduce program achieves the goals outlined in EO 20-04 in a manner that is efficient, economical, and just.

In addition, **the lack of transparency in DEQ's scenario modeling contributes to an unnecessary risk of unintended consequences**, including incentivizing migration from regulated emissions sources (such as natural gas utilities and other fuel suppliers) to unregulated emissions sources (such as the electric sector). The DEQ's analysis informing this direction depends on the uncertain assumption that the power sector achieves its decarbonization goals on time. We believe that the outcome of an economywide emissions analysis will be very sensitive to this assumption. We request that DEQ share their reference case power sector forecasts and any sensitivity analysis conducted around these forecasts.

Specific comments reiterating our requests for transparency are summarized below.

1. DEQ should make all efforts to expedite the data request made by NWGA, and DEQ should ensure that information is provided in a timely manner so that stakeholders may use it to inform the results of the RAC proceedings.
2. DEQ's modelers should provide a tabular summary of assumptions and intermediate results of the scenario analysis, similar to the tables provided in ICF's recent decarbonization study for New York City.<sup>1</sup>
3. DEQ should provide the Reference Case power sector forecasts used for its modeling, the assumptions regarding how the emissions factor of electricity will change over time (in units of emissions per electricity consumed), and the methodology for estimating the emissions associated with electricity consumed by customers in Oregon. DEQ should also publish its assumptions about the carbon intensity of the grid outside of Oregon.

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<sup>1</sup> For example, see Table ES-1 of ICF (2021) "Pathways to Carbon-Neutral NYC." Available at: <https://www1.nyc.gov/assets/sustainability/downloads/pdf/publications/Carbon-Neutral-NYC.pdf>

4. DEQ should publish information regarding the expected impacts that the cap-and-reduce program will have on customer energy costs.
5. DEQ should justify its decision to base the price of CCI instruments on the EPA’s social cost of carbon (SCC) using a 2.5% discount rate, when other discount rates (e.g., 3%, 5%) would result in lower instrument prices.

## Comment Details

As stated in our Executive Summary, the Rural Service Providers have identified two core themes with respect to program structure and the rulemaking process.

### Flexibility and Feasibility

As the Rural Service Providers stated in our comments submitted following the 3<sup>rd</sup> RAC meeting, in order to promote flexibility, CCIs should be one of several alternative compliance pathways available to regulated entities. Alternative compliance instruments should be available in sufficient volumes to support reduction targets; and alternative compliance instruments must be cost-accessible and of relative affordability compared to other compliance options.<sup>2</sup> Further, we believe that a successful fund can only be achieved through a transparent and stakeholder-informed framework overseen by a separate monitoring agency that works to avoid emissions leakage, contain costs, and allocate funds toward verifiable outcomes that benefit disadvantaged communities.

The Rural Service Providers maintain these previous comments and offer additional insights below related to the recent RAC 4 discussion.

Cascade appreciates that DEQ will be developing its analysis further with a fourth policy scenario. This additional modeling should focus on limiting total economy-wide emissions by maximizing RNG development and trading, and it should allow for a high rate of CCI utilization. This will help the RAC better understand whether targets can be met in a manner that minimizes the GHG migration risk associated with aggressive electrification and results in lower cost to Oregon.

Modeling should also consider a mix of both new and emerging technologies and DEQ should be careful to avoid a “command and control” approach that is informed exclusively by “best available technologies” (BAT). While BAT provides a snapshot in time, it does not account for emerging technologies that would ultimately increase liquidity in the compliance trading market and support innovative compliance options for regulated entities. For example, while not readily available on the market today, natural gas fired heat-pump technology has been increasing in sophistication over the last decade. The Northwest Energy Efficiency Alliance (NEEA), for example, continues to identify promising natural gas efficiency technologies. These include

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<sup>2</sup> Rural Services Providers’ [RAC 3 Comments](#)

highly efficient combination hot water and space heat equipment, as well as emerging natural gas technologies like gas-driven heat pumps and commercial gas rooftop units.<sup>3</sup>

Likewise, the modeling to date has appeared to exclude consideration of hydrogen-enriched natural gas (HENG) and power-to-gas technologies. HENG is a technology in development<sup>4</sup> with the potential to reduce the carbon content of delivered gas.<sup>5</sup> Power-to-gas processes are a pilot-stage technology that can produce pipeline quality gas by combining CO<sub>2</sub> with hydrogen produced from renewable sources.<sup>6</sup> Though these technologies are not immediately available in the U.S., many demonstration projects are underway around the world, and it is reasonable to expect they may be adopted in Oregon by 2050.

In reviewing the modeling data provided to the RAC to date, we've observed that 2010 baseline emissions were used to preliminarily inform modeling efforts. As stated in previous comments, a single baseline year is difficult to weather normalize, and may not sufficiently capture "typical" usage. This baseline should be replaced in the final program design with an initial cap amount informed through an average of several representative years, to mitigate impacts from weather and economic trends.

Finally, DEQ needs to re-examine regulatory and logistical challenges associated with regulating transport customers through Oregon's natural gas distribution companies. As stated in previous comments, transport customers are not direct gas sales customers of local distribution companies, and Oregon's gas utilities are therefore unable to influence emissions or collect funds to support efficiency efforts. We are not able to procure RNG or energy efficiency/conservation improvements for transport customers through existing regulatory requirements.

The ability of natural gas distribution companies to leverage emissions reductions from transport customers does not currently exist and we believe a mechanism for leveraging these emissions reductions would need to be clearly provided through legislation or regulation, and approved by the Oregon Public Utilities Commission in the event that DEQ does decide to hold LDCs responsible for transport emissions from transport customers. Natural gas distribution companies will require the ability to recover compliance costs from transport customers to support implementation of energy efficiency efforts for these facilities, and we will require significant additional pathways for compliance through abundant and affordable alternative compliance mechanisms.

DEQ must also consider that these customers generally represent Energy Intensive and Trade Exposed (EITE) businesses that are more sensitive to increases in energy costs which could result in a business moving to a lower cost state or region. DEQ appeared to be applying a BAT technology approach for industrial facilities to address concerns with compliance success for those entities. However, DEQ did not consider the natural gas combustion emissions in that

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<sup>3</sup> In 2020, studies were published on the promise of the [Robur Heat Pump Field Trial](#) & [Energy Modeling of Commercial Gas Rooftop Units in Support of CSA P.8 Standard](#)

<sup>4</sup> In California, SoCal Gas is planning a pilot demonstration of hydrogen generation and pipeline blending. <https://www.socalgas.com/regulatory/a20-11-004>

<sup>5</sup> Existing studies show that generally at relatively low hydrogen concentrations (10-20% by volume), blending hydrogen into the natural gas supply may not require major investment or modification to infrastructure and can be done in a safe manner. (IEA, 2019; NREL, 2013; National Research Council Canada, 2017)

<sup>6</sup> SoCal Gas (2021). "Power-to-Gas Technology." Available at: <https://www.socalgas.com/clean-energy/renewable-gas/power-to-gas>

approach and those emissions could be the majority of emissions occurring at an industrial facility versus the process emissions.

## Transparency & Accuracy in Modeling

As we opined in our comments submitted following the 3<sup>rd</sup> RAC meeting, the Rural Service Providers continue to request a transparent and vetted methodology for determining CCI prices. We also express concern regarding the unclear drivers of emissions reductions in the modeled policy scenarios as well as the origins of design elements of the cap-and-reduce program, such as the CCI fund. It is essential that all elements of cap-and-reduce program design be developed within the parameters of the RAC, and therefore be subject to public feedback and comment.

The Rural Service Providers stand by these previous comments and have provided additional insights as they relate to the recent RAC 4 discussion. In particular, we are highly interested in DEQ releasing the data requested by the NWGA on April 8 as part of a Public Records Request to better understand the underlying assumptions informing DEQ and ICF's analysis. DEQ should make all efforts to expedite its response to the data request made by NWGA and ensure that information is provided in a timely manner so that stakeholders may use it to inform the results of the RAC proceedings.

In the meantime, DEQ's modelers should provide a tabular summary of assumptions and intermediate results of the scenario analysis, similar to the tables provided in ICF's recent decarbonization study for New York City.

DEQ should also provide the reference case power sector forecasts, the assumptions regarding how the emissions factor of electricity will change over time (in units of emissions per electricity consumed), and the methodology for estimating the emissions associated with electricity consumed by customers in Oregon. We also seek a better understanding of the assumptions made about the carbon intensity of the grid outside of Oregon.

Cascade and Avista share the concerns about customer energy costs that Northwest Natural raised in the fourth RAC meeting. A policy approach focused on electrification would remove customers from the gas network and result in increased gas delivery costs for customers who cannot afford to electrify their heating and hot water needs. DEQ should present its assumptions regarding customer energy costs in each policy scenario that is modeled.

DEQ's policy scenarios assume that CCI instruments will be priced in alignment with the EPA's social cost of carbon, using a discount rate of 2.5%. The U.S. Government's Interagency Working Group on Social Cost of Greenhouse Gases has forecast the social cost of carbon using different discount rates.<sup>7</sup> DEQ should share its rationale for selecting a discount rate of 2.5% instead of the 3% and 5% discount rates that would result in lower-priced instruments. Further, DEQ should consider boundaries for CCIs prices to steer the program toward maximum emission reductions. For instance, a price that is too high will deter market buy-in and result in a

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<sup>7</sup> Interagency Working Group on Social Cost of Greenhouse Gases (2021). "Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide." Available at: [https://www.whitehouse.gov/wp-content/uploads/2021/02/TechnicalSupportDocument\\_SocialCostofCarbonMethaneNitrousOxide.pdf](https://www.whitehouse.gov/wp-content/uploads/2021/02/TechnicalSupportDocument_SocialCostofCarbonMethaneNitrousOxide.pdf)

limited fund for a mechanism that otherwise has a high potential for impact, and a price that is too low will de-prioritize sector-specific emissions where market participants do not consider the full range of options available before purchasing CCIs.

In addition to these items, questions still remain unanswered from the Q&A session on April 28. We have provided our questions below:

### *Electric Generation*

- 1) The boundaries around electric generation sources will be important, since emissions may be displaced to out-of-state facilities that supply Oregon's electricity and that might not prioritize decarbonization.
  - a. Is it appropriate to disregard emissions that are displaced to out-of-state generation facilities? How would the model's emissions forecast change if it accounted for all facilities that supply electricity to customers in Oregon?
- 2) The mix of electric generation sources in the power sector will have a large influence on emissions that result from electrification.
  - a. What mix of electric generation sources does the model assume for present day? How is the mix of generation sources forecast to evolve over time?
  - b. Has the modeling team tested sensitivity around the forecast changes in the electric generation mix? How would the model's results change if fuel-burning generation plants do not retire on schedule?

### *Fuel Switching and Electrification*

- 3) DEQ / ICF stated that electrification is a key technology for reducing emissions from natural gas and other fuels. When end-use consumption is switched from fuels to electricity, the energy efficiency changes because electric and fuel appliances use energy differently. These relative efficiencies influence our estimates of the amount of emissions displaced to the electric sector.
  - a. What efficiencies did ICF assume for the following fuels and end uses?
    - i. Gas-fired and electric space heating
    - ii. Gas-fired and electric water heating
    - iii. Gas-fired and electric cooking
    - iv. Gas-fired and electric industrial process heat
    - v. Gasoline-powered and electric passenger vehicles
    - vi. Diesel-powered and electric medium-duty vehicles
  - b. Does the model include any changes in these efficiencies over time, due to stock turnover or technology improvement?

## *Renewable Natural Gas (RNG)*

- 4) Does the model include the possibility that utilities may purchase RNG attributes that would allow them to claim sales of RNG produced and consumed out-of-state?

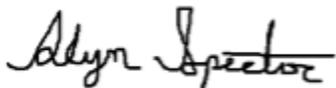
## Conclusion

As stated before, local distribution companies such as Cascade and Avista have an obligation to provide safe, reliable service to our customers. We cannot mandate reductions to energy use, only incentivize. Where these incentives are insufficient to meeting our GHG reduction obligations, we will be dependent on well-vetted and reliable alternatives to meeting our reduction targets. This means having a broad range of alternative pathways, with demonstrable GHG reductions, at a cost that does not burden economically vulnerable populations. Given that the Cap and Reduce program is designed to address a global problem, it is counterintuitive to limit the benefits of compliance mechanisms solely to local outcomes. The need for abundant, realistic, and GHG-centered alternative compliance mechanisms becomes even more essential if, as suggested during RAC-4, the leaning of DEQ is to regulate **all** natural gas consumption from stationary sources, including those who are not direct customers of local gas supplies, at the gas utility level.

Cascade Natural Gas and Avista appreciate the opportunity to participate as members of the RAC. We look forward to continuing to engage in this process to help support the achievement of meaningful carbon reductions for natural gas customers with the greatest benefit lowest cost for our communities.

We thank you for the opportunity to participate in this process to ensure the best possible outcome for our environment, economy, and equity for all Oregonians.

Respectfully Submitted,



Alyn Spector  
Energy Efficiency Policy Manager  
*Representing Cascade and Avista as  
Oregon's Rural Service Providers*

April 25, 2021

Nicole Singh, Senior Climate Policy Advisor  
Department of Environmental Quality  
Office of Greenhouse Gas Programs  
700 NE Multnomah St.  
Portland, OR 97232

Submitted to: GHGCR2021@deq.state.or.us;

Dear Ms. Singh,

Thank you for the opportunity to comment on the agency's GHG Emissions Program rulemaking. These comments focus largely on the design of the Community Climate Investment (CCI) alternative compliance option. I very much support the use of a CCI concept as part of Oregon's GHG Program. The CCI program should deliver multi-pollutant benefits directly to frontline EJ and impacted communities; and I trust DEQ will include those EJ community interests and voices in the design and oversight of such a program.

I believe DEQ should develop a set of overarching principals governing the CCI, solicit public comment on those principals along with the draft rule language, and present both to the EQC. Further refinement of CCI program principals and governing criteria can and will continue post rule-making as DEQ convenes workgroups to flesh out the details of the program. But I believe at least initial governing principals are important to vet and present to the EQC as part of the final rule.

Here are some design principals I believe are key for a successful Oregon CCI program.

1. Oregon should use every opportunity within the CCI option to maximize public health benefits for the people of Oregon, especially our most vulnerable citizens in Oregon's environmental justice and "impacted" communities. This in part would mean limiting CCI projects to in-state (Oregon) projects, and not allowing out-of-state projects that provide in-direct, less reliable, less verifiable, less valuable benefits to Oregon communities.
2. Needless to say, to ensure environmental integrity every CCI project must meet the same criteria as any legitimate emissions offset (consistent with emission reduction credit principals in Division 268). Each project must produce emission reductions that are Quantifiable and Verifiable (i.e. certifiable by an independent 3rd party audit). They must be Enforceable, Permanent, Surplus (i.e. in addition to what otherwise would occur without the cap & reduce program), and Contemporaneous (i.e. the actual emission reduction must occur within a reasonable timeframe from when the credit is granted).

3. Critical to the CCI program will be how projects are prioritized and selected for funding. Beyond simply defining what types of projects may be “allowable”, it is essential that DEQ develop an overarching set of values, principals, and criteria that will govern how CCI projects are prioritized and selected for funding. Public input and transparency are essential components of a successful CCI effort. The CCI’s key principals and operating guidance should be developed through workshops with interested committee members and representatives of impacted communities across a demographically, economically, and geographically diverse range of stakeholders. DEQ’s CCI guiding principals should:

- Center the opinions and needs of frontline EJ and impacted communities.
- Give the highest priority to projects that provide multi-pollutant emission reductions (GHG + particulate + air toxics) that directly benefit vulnerable urban and rural neighborhoods, especially those located in proximity to regulated facilities or sources of high risk air pollution.
- Give significantly lower or no priority to “forestry” projects until the appropriate science and role of forestry in carbon reduction is better understood. It seems likely that GHG reduction projects from forestry practices would not meet the criteria for emission reduction credits envisioned for the CCI. In other words, forestry GHG reduction projects seem much less likely to be enforceable, permanent, quantifiable, contemporaneous, and surplus. In addition, they would not provide meaningful multi-pollutant public health benefits to front-line EJ communities. The CCI should not be seen as a “job creation program” for timber interests in rural Oregon. It is a mistake to assume that helping rural Oregon means helping timber interests. The best way for the CCI program to benefit impacted rural communities is to provide direct multi-pollutant emission reduction for EJ citizens in rural towns and communities.

4. I disagree with commenters who say the goal of the CCI program should be to provide reductions at “minimal cost”. The purpose of the CCI program should be to provide a voluntary option for alternative compliance that may be less expensive than on-site reductions and provides direct air quality benefits to Oregon citizens. The purpose should not be to provide the “cheapest possible” compliance option. Giving priority to the “cheapest” or “minimal” cost options risks allowing out-of-state or global emission reduction “credits” that are less verifiable, less enforceable, and much less valuable to the people of Oregon.

Thank you for your consideration.

David Collier

voluntary option for alternative compliance that may be less expensive than on-site reductions and provides direct air quality benefits to Oregon citizens. The purpose should not be to provide the “cheapest possible” compliance option. Giving priority to the “cheapest” or “minimal” cost options risks allowing out-of-state or global emission reduction “credits” that are less verifiable, less enforceable, and much less valuable to the people of Oregon.

Thank you for your consideration.

David Collier

April 30, 2021

Oregon Department of Environmental Quality

Office of Greenhouse Gas Programs

700 NE Multnomah St. Suite 600

Portland, OR 97232

[GHGCR2021@deq.state.or.us](mailto:GHGCR2021@deq.state.or.us)

*Submitted via Email*

*cc: Kristen Sheeran, Richard Whitman*

**RE: DEQ's Proposed Best Available Technology (BAT) Approach for the Industrial Sector**

Thank you for the opportunity to comment after DEQ's fourth Climate Protection Program Rulemaking Advisory Committee meeting. We – as members of the RAC, representatives of advocacy organizations, and individuals - are writing to express concerns with DEQ's proposed approach to regulating stationary sources' emissions by using a best available emissions reduction approach separate from the cap. While we do not oppose using a Best Available Technology approach as a complementary tool to maximize climate, community, and economic benefits, it is critical that industrial emissions be held to mandatory limits under the cap.

**Excluding industrial emissions from under the cap is unacceptable.** The overarching purpose of DEQ's rulemaking is to place a firm limit of greenhouse gas pollution across all major emitting sectors of Oregon's economy while promoting equity and justice. Industrial emissions are challenging to decarbonize, which creates more—not less—reason to include them under the cap. The incentives that a cap will create to seek out new decarbonization opportunities and innovate are critical in the industrial sector. By only requiring BAT, DEQ risks decreasing these incentives for innovation and investments. This effect would only be exacerbated if DEQ does not plan to update the BAT determination on a frequent basis. Including industrial emissions under the cap will also help the state understand and manage overall allocation of emissions. If the industrial sector takes up more “space” under the cap, then other measures need to be prioritized/emphasized for other sectors so the state is achieving our overall obligation to meet science-based targets.

**Excluding industrial emissions from the cap would be a blow to the equity and justice objectives** DEQ has identified for this program. Industrial GHG reductions may often result in “co-pollutant” reductions that will create local health benefits. If benefits are distributed equitably, historically pollution overburdened, predominantly low-income and minority communities stand the most to gain from reductions in co-pollutants and the most to lose from excluding industrial sources from under the cap.

**A Best Available Technology (BAT) approach could be an excellent complement to covering industrial sources under the cap.**

- If BAT is utilized, a **third party** that meets certain criteria and is approved by the agency should conduct an audit for each entity creating a pollution reduction evaluation that—as DEQ proposes— **covers both greenhouse gases and pollutants that impact local health**. A qualified third party with safeguards that prevent bias can offer a much more rigorous and unbiased assessment of what technology is “available” to reduce GHG and local pollution.
- Regulated industrial entities should be required to engage a third party to complete this audit as part of their compliance obligations and submit the results to DEQ. This will be a much more **feasible approach** than DEQ trying to explore “available” technology directly, which DEQ likely does not have the staff capacity for.
- As DEQ’s issue brief notes, a **further understanding is needed of what GHG reduction solutions may also reduce local air pollutants that impact health**. Similarly, an understanding of any tradeoffs between GHG reductions and reducing local air pollutants is necessary. This information can help prioritize on-site reductions that will create local health benefits especially for historically overburdened communities. For this reason, third party auditors, regulated entities, and DEQ **should consider local air pollution impacts and expected health benefits** when determining what technologies are “available,” a calculation that is likely to include a cost or payback period calculation.

**DEQ does not need to exempt industrial emissions from the cap to protect those entities** from leakage and trade exposure. Protection for EITE industries can be accomplished through allowance allocation, as it is in California and as contemplated in the newly passed Washington cap and invest bill.

Thank you for your consideration.

Sincerely,

**RAC member signatories:**

Amy Schlusser, Green Energy Institute at Lewis & Clark Law School

Don Sampson, Affiliated Tribes of Northwest Indians

Nora Apter, Oregon Environmental Council

**Organizational signatories:**

Alan Journet, Southern Oregon Climate Action Now

Angus Duncan, NRDC

Brett Baylor, Rick Brown, Pat DeLaquil, Dan Frye, Debbie Garman, Mark McLeod, KB Mercer, Michael Mitton, Rich Peppers, Rand Schenck, and Jane Stackhouse, Metro Climate Action Team Steering Committee

Diane Hodiak, 350Deschutes

Erica Morehouse, Environmental Defense Fund

Prof. Janet Lorenzen, 350Salem

Jason Barbose, Union of Concerned Scientists

Laurie A. Wayburn, Pacific Forest Trust

Meredith Connolly, Climate Solutions

Ryan Haugo, The Nature Conservancy in Oregon

**Individual signatories:**

Helen Kennedy, Marcola

Kathy Moyd, Portland

April 30, 2021

Oregon Department of Environmental Quality  
Climate Protection Program  
700 NE Multnomah Street, Suite 600  
Portland, OR 97232-4100

Submitted via email to [GHGCR2021@deq.state.or.us](mailto:GHGCR2021@deq.state.or.us)

Re: Rules Advisory Committee Meeting #4 – Comments

This comment letter is submitted on behalf of EVRAZ Portland. Thank you for the opportunity to participate in the Rules Advisory Committee (RAC) Workshop 4 and the ICF Modeling question and answer session on April 28<sup>th</sup> to support development of the Oregon Climate Protection Program (CPP) regulations.

Oregon Department of Environmental Quality (DEQ) staff and ICF presented initial information on Economic, Co-Benefits and Equity Analysis modeling. DEQ staff requested input and discussion on the use of site specific Best Available Technology (BAT) emissions reduction approach for stationary sources, and their proposed approach for Community Climate Investments (CCI). We are submitting questions about the modeling study, and comments on the BAT and CCI approaches.

Our understanding of Director Whitman’s statement on the treatment of Energy-Intensive, Trade-Exposed (EITE) Industries is that DEQ does not believe they have the regulatory authority to adapt the CPP to protect EITEs in Oregon from unfair competition from businesses operating in geographic areas without carbon cap or pricing mechanisms. We are submitting comment on this issue and associated leakage of greenhouse gas emissions.

We continue to believe that there is a meaningful interrelationship between program elements and we cannot provide more than initial reactions to concepts until the overall program is proposed.

## Oregon Climate Protection Program: Modeling Study on Program Options

We appreciated the opportunity to ask questions of the modelers and technical staff working on the CPP. Even with the information presented and the answers to the questions asked by RAC members and the public, we are finding it difficult to understand the assumptions, and results of the analysis. We have

the following suggestions for the presentation of information to make the results easier to follow and questions that will help us provide useful comments on assumptions.

The purpose of the study is re-stated below for reference:

DEQ contracted with ICF to conduct a study to assess different greenhouse gas emissions reduction program designs through specialized emissions and economic modeling to analyze potential effects on:

- Forecasted greenhouse gas emissions
- Equity, air quality, and public health co-benefits
- Economic effects on regulated entities, businesses, consumers, and Oregon’s economy

**Question 1.** The economic effects of different program designs on regulated entities, businesses, consumers, and Oregon’s economy are presumably estimated by the “Multi-Sector Scenario Model” referenced in Figure 1 of the ICF Modeling Brief for this project. This Multi Sector Scenario Model takes energy demand forecasts, electricity generation, and cost information to produce greenhouse gas (GHG) emissions and costs. Can you provide any information about what is calculated and how it is calculated within this model?

**Question 2.** It would be helpful to see the data from the Multi-Sector Scenario Model in simple tables of inputs and outputs. As an example – could the following table be provided for the Business as Usual (BAU), and each of the Scenarios? Can graphs showing how these variables move through time also be provided?

**Case:** [provide a table for BAU and separate tables for Scenario 1, Scenario 2, Scenario 3, and Scenario 4]

Sector	Energy Use	Energy Cost	Electricity Use	Electricity Cost	(Output) Emissions	(Output) Employment
Transportation						
Natural Gas						
Residential and Commercial						
Agriculture						
Industrial						

**Question 3.** Could a table showing how inputs and outputs of the Multi-Sector Scenario Model vary through time be prepared? A possible example is shown below.

**Case: BAU** (with additional tables to show Scenario 1, Scenario 2, Scenario 3, and Scenario 4)

Input/Output	2020	2025	2030	2040	2050
Population (input?)					
GSP (input or output?)					
Emissions (output)					
Employment (output)					
Health Benefits, by sector (output)					

GSP = Gross State Product

**Question 4.** As costs change, the quantity demanded for energy and fuels typically will be different. Can you explain how this was handled in the analysis?

**Question 5.** Did you assume that Oregon is a closed economy (so that economic changes inside Oregon have no spillover effects on other economies)?

## Stationary Source Regulation

EVRAZ is generally supportive of regulation of process emissions and direct pipeline customer natural gas use through site specific Best Available Technology (BAT). There are good procedures for BAT analysis in federal regulations and documents. We support using the existing framework of regulations and procedures as the basis of these analyses. For process emissions, these approaches generally use a top-down approach of identifying all technologies and analyzing each technology for feasibility. For energy use, these approaches generally require periodic energy audits with implementation of identified, cost-effective measures within a certain time frame.

The challenge of this approach is that it requires analysis and evaluation on a site-by-site basis. The benefits, particularly for EITE industries is that it provides a continuous path of real emissions reductions with the potential to avoid production and emissions leakage.

A key consideration for using this approach in an ongoing program is to balance the timing of the evaluations and implementation of technology against the intensive capital investment requirements, and timelines for analysis and implementation.

## Community Climate Investments

We provided comment on the CCI in our last comment letter and our concerns have not been moderated by the new proposal.

## Energy-Intensive, Trade-Exposed Industry and Leakage

EITEs are industries that use relatively high amounts of energy in production. The steel industry is an example of this. Steel is produced in several types of processes that require heat high enough to produce molten metal. Further processing of steel into end products requires additional heating steps that use energy. Equipment powered by electricity is not technically feasible for some of these processing steps at this time. Steel, and steel end products are manufactured in several U.S. states and other countries. If steel manufactured in the U.S. (or Oregon specifically) is not available, steel is imported from other states or countries to meet the demand for steel products. The global/national greenhouse gas emissions are not reduced (and may even increase), the emissions are just relocated. Such relocation of emissions is often called emissions leakage.

When the manufacturing and jobs that go with it move to another location, it is referred to as production leakage. Production leakage typically occurs when a business incurs increased costs that it cannot pass to either suppliers or customers. To remain competitive in an industry, production may be forced to a location that has lower costs of production. If the CPP developed in Oregon does not allow accommodation to EITE industries, there is a high probability of production leakage. Production leakage

means that Oregon would potentially lose the industrial production and the jobs. However, it is doubtful there would be a corresponding net reduction in GHG emissions. If the end products are still in demand, the production will just move to a lower cost location. With production leakage, Oregon weakens its economy, and it is uncertain whether there is any environmental benefit as a result.

Achieving a net reduction in GHG emissions depends on emission leakage, which comes down to the relative emissions from the Oregon production compared to the emissions in the new location. Emissions leakage can occur within the U.S. with production leakage to other states, or internationally. If this occurs, a GHG reduction program is ineffective in reducing global emissions. In most cases, global emissions can be reduced more substantially by accommodating EITEs until technology can catch up and requiring emissions reductions as they become technologically and economically feasible.

When discussing leakage, it is important to consider if the products of the industry in question are needed in the economy. If steel, toilet paper, and cardboard boxes will still be used in the Oregon economy, forcing the production and associated emissions of these needed commodities to other locations is not an effective policy approach in reducing GHG emissions.

We urge the DEQ to consider science, and reasonable policy to reduce global emissions effectively by reasonable accommodation of EITE industries in Oregon. Emissions from these industries are a relatively minor amount of the overall program emissions and considerations would not be substantially different than considering different thresholds for other regulated sectors. Reductions can be made to these emissions with reasonable programs in Oregon. Forcing the emissions to other locations will not get rid of them. In EVRAZ's case, it would adversely affect a business that has made substantial investments in the use of solar power and the reduction of GHG emissions in the U.S.

Thank you for the opportunity to weigh in on these issues.

Sincerely,  
Moore Noise, LLC



Martha Moore, PE  
Principal Engineer/Member

cc: Debbie Deetz Silva/EVRAZ



We Feed You



April 30, 2021

Via Email: [GHGCR2021@deq.state.or.us](mailto:GHGCR2021@deq.state.or.us)

Colin McConnaha  
Manager, Office of Greenhouse Gas Program  
Oregon Department of Environmental Quality  
700 NE Multnomah Street, Suite 600  
Portland, OR 97232

**RE: Cap & Reduce Rule Advisory Committee Meeting, April 22, 2021**

Dear Mr. McConnaha,

Food Northwest appreciates the opportunity to provide the following comments on the materials and discussion at the April 22 meeting of the RAC.

**Address EITEs**

We were very surprised and concerned to hear that DEQ will not provide important policy protections to protect economic and emissions leakage from Emissions Intensive, Trade Exposed (EITE) businesses. These protections were critical components to previous cap-and-trade policy proposals in Oregon (see HB 2020 (2020) and SB 1530 (2019)). These policy provisions are also central to the California AB32 cap-and-trade program, as well as the recently passed cap-and-trade program in Washington.

This risk of greenhouse gas emission and economic leakage is described in the State's own report titled "*Oregon Sectoral Competitiveness under Carbon Pricing*" authored by Vivid Economics in 2018. As stated in the report:

*Oregon has a competitive manufacturing and industrial sector, as evidenced from robust employment growth recently. The state is highly diversified with both high-tech and natural resource manufacturing in its top value-adding sectors.*

\*\*\*

*However, if the cap-and-trade is not designed to maintain industrial competitiveness, it can also lead to the risk of carbon leakage in covered emissions-intensive and trade-exposed (EITE) sectors.*

\*\*\*

*[R]isk of associated negative environmental, economic, and socio-political outcomes makes preventing carbon leakage central to any cap-and-trade mechanism design.\*\*\*[W]hen implementing a carbon price, policymakers have been careful to*

*ensure carbon leakage risk is addressed given it implies an increase in global emissions, in addition to economic activity and employment shifting to external jurisdictions.\*\*\**

*Vivid Economics, Oregon Sectoral Competitiveness under Carbon Pricing, December 2018, pp 3-4).*

*In summary, the current approach to regulating natural gas without any policy to mitigate energy price impacts for EITEs does not align with other jurisdictions, will increase global emissions, and will hurt Oregon's economy.*

### **Best Available Emissions Reduction Approach**

In order to help address and mitigate for leakage risk, greenhouse gas programs including, Oregon HB 2020 and SB 1530, and Washington's recent cap and trade bill have included Best Available Technology approaches to reducing emissions. Below is an approach to consider. We recognize that audits and analyses will be a challenge for DEQ to conduct. Facility use of a qualified third-party could reduce the burden on DEQ.

**Audit Report:** Each regulated facility would complete, using a qualified third-party professional, an audit of its fossil fuel combustion systems and non-combustion processes which generate GHG emissions. The audit would identify all available technologies, techniques, production processes, methods, equipment and systems to reduce GHG emissions at the facility. The audit will also rank the foregoing and recommend the **Best Available Emissions Reduction Approach**. The audit will also produce a carbon intensity baseline for the facility using data from 2016 – 2019. The years 2020 and 2021 should probably be excluded as abnormal periods. However, this may be very facility specific and may not be the case for some. The audit would also determine the BEAR emission rate (tonne GHG/unit of output) for each material contributor of greenhouse gases at the facility.

**Best Available Emissions Reduction Technology/Approach (BEAR):** means the fuels, processes, equipment and technology that will most effectively reduce the regulated emissions that are associated with the manufacture of a good , without changing the characteristic of the good being manufactured, that is technically feasible, commercially available, economically viable and compliant with all applicable laws.

**Benchmark:** DEQ will establish an emissions efficiency benchmark based on the Best Available Emissions Reduction Approach (BEAR). The facility-specific BEAR will be updated periodically (we recommend every 9 – 10 years) The benchmark will be the GHG emissions that would result if the facility were to use BEAR, as of the date of the last update, that materially contributes to the regulated emissions of the facility.

In determining the benchmark, DEQ will take into consideration the audit report; the technical feasibility, commercial availability and economic viability of options to reduce GHG emissions; and the barriers that would prevent adoption of BEAR.

**Implementation Plan:** Each facility will submit to DEQ an Implementation Plan identifying how the facility will complete the efficiency improvements related to natural gas use, and that have a payback period of five years or less identified in the Audit Report, within two years of DEQ approval of the Implementation Plan. Reasonable extension dates will be granted if DEQ determines that additional time is reasonable and necessary for completion.

**Compliance:** DEQ could distribute free compliance instruments to facilities that are executing the Implementation Plan and on a path to BEAR, or it could deem them in compliance. DEQ could consider use of offsets where there are barriers to BEAR or that BEAR are not economically viable.

## **Offsets**

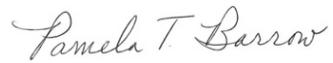
The over-arching purpose of the Climate Protection Program is to reduce greenhouse gas emissions. DEQ risks foreclosing real and significant opportunities for emissions reductions when it limits offsets to those purchased through the Community Climate Investments (CCI). Carbon sequestration (agricultural and forest) should be included as well as other projects that reduce greenhouse gas emissions, are permanent reductions, and are additional to mandates required by other regulations. Regulated entities should be able to purchase offsets through existing registries and certified sources. To achieve the CPP's goal to promote equity, DEQ could require a certain percent of offsets come from the CCI.

## **Modeling**

We were surprised and dismayed that so little information was provided at the modeling session on April 28. It is difficult to feel confident in DEQ's conclusion that the CPP is achievable with little impact on the economy when results are only at the statewide-level; when there is no assessment of natural gas, electricity, or transportation fuel cost increases; and when leakage risks are not modeled. The cost impacts and leakage potential of the policy scenarios on regulated sectors need to be provided by the modeling analysis so that the CPP can address cost containment (a CPP goal) and prevent leakage. Energy costs are certain to increase under the CPP and energy is a significant input in production and transportation of products. We would also like to understand what DEQ is hoping to isolate in Scenario #4 and how the four scenarios are informing the CPP design and draft rules.

Food Northwest appreciates the opportunity to provide comments on RAC Meeting #4. We look forward to continuing to work with DEQ and the RAC to shape a CPP that meets the three goals and is good for Oregon's economy, environment and its citizens. Please contact me if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Pamela T. Barrow".

Pamela Barrow, Vice President

**Sent:** Tuesday, April 13, 2021 8:56 PM  
**To:** GHGCR2021 \* DEQ  
**Subject:** Greenhouse Gas Emissions Program 2021

One of the objectives of the GHG Emissions Program is to “prioritize equity by promoting benefits and alleviating burdens for environmental justice and impacted communities.”

- Yet, the Potential project options includes only:
  - – Expanding public transit operations & availability
  - – Installing electric heat pumps and water heaters
  - – Energy efficiency
  - – Electrifying school and transit buses
  - – Converting local delivery fleets to non-fossil fuels

Not listed are improvements to bicycling and walking. Given the statistics below, it would seem that you’ve missed a major opportunity for reducing the mono-modality of the transportation system, and promoting equity and benefits to Oregonians who can’t afford or don’t own a car. The rule should place an emphasis on projects that ensure alternatives to travel by automobile including separated cycle tracks along arterial and collector streets, and reducing maximum speeds to 20 MPH in residential neighborhoods (slow enough to be shared by all modes).

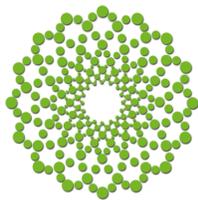
City or region	Current bike mode share	Adopted or defined bike mode share target
Portland, OR	6% (2009 ACS) 7% (2010 Auditor report work trips)	30% of work trips (Draft Portland Plan) 2035
Corvallis, OR	9.4% (2000 Census)	None
Davis, CA	14% (2000 census)	25% of all trips by 2012 (adopted in 2009 bike plan)
Boulder, CO	12.3% (2009 ACS) 7% (2000 census) 15.9% (2009 travel diary survey - includes all trips, not just commute)	Increasing bicycle mode share (all trips) at least 4% between 1994 (11.3%) and 2020 (1996 bicycle system plan). (Goal has been met according to travel diary survey results.) Other related targets are: 75% non-SOV mode share by 2020 (2008 Transportation plan) zero growth in VMT from 1994 levels.
Eugene, OR	10.8% (2009 ACS)	Approximately 22% (Draft bike/ped plan has defined a target of doubling bike mode share by 2020)

Source: RVMPO Strategic Assessment Final Report, February 2016

Mode share is not a choice when the choice is between a safe mode of travel (by automobile) and an unsafe one (riding a bicycle).

Please consider adding improvements to walking and bicycling among the list of “potential project options.” Please don’t use the term bicycle friendly. That is understood to mean accommodating bicycles not making the travel mode safe and convenient on streets in Oregon communities.

Gary Shaff  
 Ashland



May 3, 2021

Colin McConnaha  
Manager, Office of Greenhouse Gas Programs  
Oregon Department of Environmental Quality  
*Via email to CapandReduce@deq.state.or.us*

**Re: Comments on Climate Protection Program Rulemaking Advisory Committee  
Meeting No. 4 on Regulation of Stationary Sources**

Dear Mr. McConnaha:

The Green Energy Institute at Lewis & Clark Law School is a nonprofit energy and climate law and policy institute within Lewis & Clark's top-ranked environmental, natural resources, and energy law program. We greatly appreciate the opportunity to participate in the Rulemaking Advisory Committee (RAC) for the Department of Environmental Quality's (DEQ) Climate Protection Program, and respectfully submit these comments on issues relating to the proposed approaches for regulating stationary source emissions under the program.

**I. Regulating Stationary Source Emissions under the Climate Protection Program**

*DEQ Discussion Questions: What are your thoughts on regulating stationary source emissions with a site-specific best available emissions reduction approach instead of the use of compliance instruments? What do you see as the potential benefits and the challenges to using this approach for stationary sources?*

We have serious concerns about DEQ's proposal to regulate stationary source emissions through a best available emissions reduction (BAER) approach. While the Climate Protection Program (CPP) should aim to maximize on-site reductions of process-based emissions from industrial facilities, the proposed approach would replace binding emissions limits with site-specific technology and/or operational requirements that rely on subjective determinations of the "best available" strategies for reducing emissions from complex industrial processes. In addition to being inconsistent with the directives of Governor Brown's Executive Order 20-04 (EO 20-04), this approach would require an enormous amount of technical expertise to administer effectively, would require a high level of agency oversight to achieve modest emissions reductions, and would create opportunities for regulated industries to exert undue influence over their compliance obligations. Moreover, it is unclear how exempting industrial source emissions from the program's emissions cap will support Oregon's greenhouse gas (GHG) reduction goals or help improve air quality in impacted communities.

Any approach that excludes stationary source GHG emissions from regulation under the CPP's cap would be inconsistent with EO 20-04, which directs DEQ and the EQC to cap and reduce GHG emissions from large stationary sources in a manner consistent with the science-backed goal of reducing Oregon's GHG emissions at least 45% below 1990 levels by 2035 and at least 80% below 1990 levels by 2050. The total process-based GHG emissions DEQ is effectively proposing to exempt from regulation under the cap (1,143,089 metric tons CO<sub>2</sub>e in 2019) would comprise more than 10% of Oregon's total allowable 2050 emissions under the targets established by EO 20-04.<sup>1</sup> Moreover, the preliminary CPP reference case modeling estimates that industrial emissions will increase by 28% between 2018 and 2050.<sup>2</sup> Given the urgency and severity of the climate crisis, there is no justifiable reason to exclude industrial GHG emissions from regulation under the CPP cap.

The proposed approach also lacks clarity on several key issues. First, if no technical or operational strategies are currently available to reduce GHG emissions from a specific industrial process, would industrial sources using that process be effectively exempt from compliance obligations under the program? Second, if a source applies BAER yet fails to achieve any meaningful reductions in emissions, would the source be penalized or subject to enforcement action? Third, after a source applies BAER, would the source be required or expected to increase its emissions reductions over time? Fourth, would emissions from new industrial sources also be exempt from regulation under the cap?

An optimal approach would be to regulate process-based GHG emissions under the program-wide emissions cap and require applicable stationary sources to apply BAER and maximize on-site emissions reductions before they are eligible to use any flexibility mechanisms available under the program. For example, if an industrial facility applies BAER but is still unable to meet its compliance obligations, DEQ could allow the facility to purchase community climate investment (CCI) credits for its excess emissions. To mitigate potential impacts from co-pollutant emissions, CCI revenues collected from stationary sources could be directed to projects that improve air quality in communities impacted by industrial air pollution. DEQ could also limit or prohibit industrial emitters from purchasing compliance instruments from other regulated entities.

We urge DEQ to develop an approach for regulating stationary source emissions that (1) includes process-based emissions within the CPP's program-wide emissions cap, (2) requires industrial and manufacturing sources to maximize on-site emissions reductions through the application of BAER, and (3) allows regulated sources to purchase community climate investment credits to account for any excess emissions that are not adequately controlled by BAER. This approach would be consistent with the directives of EO 20-04 and Oregon's science-backed GHG reduction targets while also ensuring on-site reductions in emissions from industrial processes. Moreover, by requiring stationary sources to purchase CCI credits for any excess emissions that BAER fails to capture (in contrast to simply exempting these emissions from regulation, as DEQ

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<sup>1</sup> OR. DEPT. OF ENVTL. QUALITY, REGULATING STATIONARY SOURCE EMISSIONS tbl. 1, p. 3 (April 20, 2021), <https://www.oregon.gov/deq/Regulations/rulemaking/RuleDocuments/ghgcr2021ConsidStation.pdf>. To achieve EO 20-04's emissions goals, Oregon's GHG emissions cannot exceed 11.2 million metric tons CO<sub>2</sub>e in 2050.

<sup>2</sup> OR. DEPT. OF ENVTL. QUALITY & ICF, OREGON CLIMATE PROTECTION PROGRAM: MODELING STUDY ON PROGRAM OPTIONS 5 (2021), <https://www.oregon.gov/deq/Regulations/rulemaking/RuleDocuments/ghgcrRefPolResults.pdf>.

has proposed), this approach would help drive investments in projects that directly and meaningfully benefit environmental justice communities that are currently or historically burdened by industrial pollution.

## II. Determining Best Available Emissions Reductions

*DEQ Discussion Questions: What might DEQ need to consider when determining whether a source has met best available emissions reduction assessment? What factors should be considered and evaluated as part of the assessment (i.e. emission reductions, availability of emissions reduction processes and technology, cost of technologies, potential interactions with co-pollutants and local air quality)?*

First, to determine BAER for industrial and manufacturing process-based GHG emissions, DEQ should apply a similar analysis to EPA’s top-down approach for identifying best available control technology (BACT) for GHG emissions.<sup>3</sup> This approach should require sources to use technologies, process changes, and any other available strategies that have the greatest potential to effectively reduce GHG emissions from industrial and manufacturing facilities in Oregon. In the context of the Clean Air Act’s PSD program, EPA noted, “there are “compelling public health and welfare reasons for BACT to require all GHG reductions that are achievable.”<sup>4</sup> This principle is equally applicable in the context of identifying BAER under the CPP program.

Second, DEQ should reevaluate BAER every five years to ensure that covered sources are continuing to use the best available technology on an ongoing basis.

While the top-down BACT approach should inform the BAER analysis, there are some fundamental differences between the Clean Air Act’s PSD program and the CPP. DEQ should therefore adapt the existing BACT framework in a few key ways and tailor the BAER approach to meet the needs and objectives of the CPP. For instance, rather than rely on agency staff to determine BAER on a source-by-source basis, DEQ should consider directing regulated stationary sources to contract with eligible third-party consultants to conduct BAER analyses. Under this approach, consultants should be vetted and certified by DEQ to promote objectivity, accuracy, and impartiality of BAER determinations. BAER selections should also be subject to DEQ approval.

### A. Top-Down Approach for Determining BAER

We encourage DEQ to establish a five-step, top-down approach for identifying, evaluating, and selecting BAER for industrial and manufacturing emissions:

***Step 1: Identify all available control technologies.*** In the first step of the BAER analysis, DEQ (and/or any certified third party consultants) should identify available technologies, production processes, and other methods, systems, or techniques for controlling process-based GHG

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<sup>3</sup> See U.S. ENVTL. PROTECTION AGENCY, PSD AND TITLE V PERMITTING GUIDANCE FOR GREENHOUSE GASES (2011), <https://www.epa.gov/sites/production/files/2015-12/documents/ghgpermittingguidance.pdf> [hereinafter EPA GHG PERMITTING GUIDANCE].

<sup>4</sup> *Id.* at 40.

emissions from industrial and manufacturing facilities. EPA’s BACT/RACT/LAER Clearinghouse should serve as a starting point for identifying available technologies and process-based control strategies.<sup>5</sup> DEQ should consider controls available in other source categories or sectors to determine whether GHG reduction strategies or technologies implemented at other sources could be applied to reduce emissions from regulated industries in Oregon. This analysis should also explore the potential for technology transfer from sources or industrial processes in other countries, as well as innovative emerging technologies.<sup>6</sup> No available control strategies should be omitted during this phase of the analysis. For example, reductions in operations or output should be listed as available BAER candidates if they would reduce GHG emissions. However, under no circumstances should DEQ incorporate a “redefining the source” framework into the CPP’s BAER analysis. Under the BACT framework, many polluting facilities have managed to avoid applying effective pollution controls by asserting that available controls would “fundamentally redesign” the nature of the facilities.<sup>7</sup> This loophole must not be available under the CPP.

***Step 2: Eliminate technically infeasible options.*** Under this step, any strategies that cannot feasibly be implemented by the relevant source type for physical, chemical, or technical reasons should be removed from the analysis. Strategies that have been successfully implemented by similar sources or processes should only be eliminated if they are not commercially available (and are not projected to become commercially available within a timeframe necessary to meet compliance obligations) or cannot feasibly be installed or operated at the relevant stationary source. Cost should not influence technical feasibility determinations.

***Step 3: Rank remaining control technologies.*** In step three, all available and technically feasible emissions control options should be ranked according to their effectiveness in reducing GHG emissions (converted to CO<sub>2</sub>e). The combination of strategies with the greatest potential to effectively reduce emissions should be ranked first.

***Step 4: Evaluate the most effective control strategies.*** At this stage in the analysis, DEQ should assess the environmental, economic, and energy impacts of the top-ranked strategies. The top-ranked control strategy should be selected as BAER unless it is eliminated due to justifiable environmental, economic, or energy impacts. If the top-ranked strategy is eliminated, DEQ should repeat this analysis for the second-ranked strategy. For each strategy evaluated, the agency should consider potential GHG reduction benefits relative to any potential adverse impacts. The agency should exercise a reasonable amount of discretion and objectivity when assessing the potential impacts and benefits from emissions control strategies.<sup>8</sup> Wherever feasible, DEQ and/or a certified consultant should independently verify information submitted by

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<sup>5</sup> U.S. Env’tl. Protection Agency, *RACT/BACT/LAER Clearinghouse (RBLC)*, <https://cfpub.epa.gov/RBLC/index.cfm?action=Home.Home&lang=en>.

<sup>6</sup> See EPA GHG PERMITTING GUIDANCE, *supra* note 3, at 24.

<sup>7</sup> See *Helping Hand Tools v. EPA*, 848 F.3d 1185 (9th Cir. 2016); *Sierra Club v. EPA*, 499 F.3d 653 (7th Cir. 2007); see also Sage Ertman, *Climate Change and the PSD Program: Using BACT to Combat the Incumbency of Fossil Fuels*, 47 ENVTL. L. 995 (2017).

<sup>8</sup> “In conducting the energy, environmental and economic impacts analysis, permitting authorities have “a great deal of discretion” in deciding the specific form of the BACT analysis and the weight to be given to the particular impacts under consideration.” EPA GHG PERMITTING GUIDANCE, *supra* note 3, at 41.

regulated industries and sectors. The agency's assessment should include three distinct impact analyses:

- The *environmental impacts analysis* should focus on impacts beyond those directly associated with the source's GHG emissions, such as projected reductions in co-pollutant emissions resulting from the control strategy. This analysis should consider potential environmental and public health impacts in the surrounding community, as well as over a broader geographic area. For example, if a top-ranked control strategy would reduce GHG emissions but increase emissions of harmful co-pollutants that would present a threat to local communities or ecosystems, the strategy should likely be eliminated due to its environmental impacts.<sup>9</sup>
- The *economic impacts analysis* should focus on the cost effectiveness of a control strategy's emissions reductions in terms of cost per unit of emissions reduction. The economic impacts analysis should not focus on how affordable a control option is for a specific source. A control option should only be removed due to its economic impacts if the cost per unit of emissions reduction is disproportionately high compared to slightly less effective control options.
- The *energy impacts analysis* should aim to determine whether the control strategy would significantly increase energy consumption at the source, particularly consumption of fossil fuels for energy production. This analysis should also assess any potential energy benefits associated with the control strategy, such as switching from fossil-based to renewable energy sources. Energy-related costs should be evaluated through the economic impacts analysis rather than the energy impacts analysis.

**Step 5: Select the BAER.** In the final step of the analysis, DEQ should select the highest-ranked control strategy that was not eliminated in step 4 as the BAER for the applicable source or sector. In contrast to the BACT analysis under the Clean Air Act, if stationary source emissions are covered under the CPP cap, the BAER selection does not necessarily need to be translated into specific permit-based emissions limits. If industrial emissions are covered under the cap, stationary source emissions would generally be limited by the number of compliance instruments distributed to each covered source or sector. If, however, DEQ decides to pursue its proposal to apply a BAER-based approach that exempts industrial emissions from regulation under the cap, the final stage of the BAER process must include a comprehensive review of the selected BAER's performance potential, which must then be translated into enforceable emissions limits for the applicable source.

## **B. Regularly Reevaluate and Update BAER**

In addition to establishing a top-down approach for determining BAER, DEQ should review and update BAER determinations every five years to account for advances in technologies and industrial processes. The Clean Air Act requires such updating under Sections 111 (New Source Performance Standards) and 112 (National Emissions Standards for Hazardous Air Pollutants), and DEQ should integrate this into the CPP. As decarbonization efforts gain momentum across the country and the world, innovative technologies and practices will inevitably emerge to reduce

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<sup>9</sup> However, EPA recommends that this analysis should consider the potential GHG reductions in relation to any increases in co-pollutant emissions. For example, significant reductions in GHG emissions may potentially outweigh a slight increase in co-pollutant emissions from a geographically isolated facility. *See id.* at 42.

emissions from manufacturing and industrial processes. The CPP should require stationary sources to update their BAERs over time as new control options become available.

Regular BAER updates will be particularly essential if industrial emissions are not covered under the CPP emissions cap, but the program should require BAER updates under either regulatory approach. If industrial source emissions *are* regulated under the program's emissions cap, the decline in compliance instrument allocations should in theory incentivize stationary sources to maximize cost-effective emissions reductions. However, there are a variety of economic and non-economic factors that could deter sources from installing new emissions control technologies, such as unfamiliarity with innovative equipment. Alternatively, if industrial emissions are not regulated under the cap, stationary sources that have applied BAER will have no incentive to install new technologies or alter their processes to maximize emissions reductions.

To ensure that BAER continues to maximize emissions reductions over time, DEQ should direct regulated entities to review step one of the BAER analysis at regular intervals (*e.g.*, every five years). If this review identifies new emissions control strategies that were not previously evaluated, the entity should be required to conduct a new BAER analysis to compare the effectiveness and environmental, economic, and energy impacts of new controls with the source's existing BAER. A directive to reevaluate and update BAER will help drive demand for—and development of—innovative new technologies that could create additional economic opportunities in Oregon while enabling greater emissions reductions from stationary sources.

In conclusion, we strongly encourage DEQ to develop an approach for regulating stationary source emissions under the CPP's program-wide emissions cap that requires industrial and manufacturing sources to maximize on-site emissions reductions through the application of BAER and allows regulated sources to purchase community climate investment credits to account for any excess emissions that are not adequately controlled by BAER. We encourage DEQ to establish a top-down approach for determining BAER for regulated stationary sources, and urge the agency to include requirements for reevaluating BAER on a regular basis to support deployment of emerging emissions reduction technologies and processes.

We appreciate your consideration of our comments.

Sincerely,

Amelia Schlusser  
*Staff Attorney*  
*The Green Energy Institute at Lewis & Clark Law School*

**Sent:** Friday, April 30, 2021 3:47 PM  
**To:** GHGCR2021 \* DEQ  
**Subject:** Re: My proposed comments on RAC 4

Colin McConnaha, Manager, Office of GHG Programs  
Oregon Department of Environmental Quality  
GHGCR2021@deq.state.or.us

**Comments on Oregon Climate Protection Program: Rulemaking Advisory Committee Meeting 4**

I appreciate that we are given over a week after the RAC meeting to provide comments that will be published. I have signed the environmental group letters regarding the “Modelling Approach and Results” and “Best Available Technology, so I will not repeat that information here.

I am concerned that for the past two RAC meetings modeling results have been delivered with insufficient time for RAC members and members of the public like me to evaluate them. In addition, even when they are delivered, the amount of specific information is insufficient in many areas.

Having the emissions from the different sectors stacked on one plot makes it very difficult to determine the emission changes of each of the individual sectors. I did a quick check by darkening the horizontal lines and determining the year when the total emissions first went below the line for each scenario. It was interesting that the variation was up to five years but not very useful for detailed analysis.

Scenario	30 MT	25 MT	20 MT	15 MT	10 MT
1	2024	2030	2035	2040	2047
2	2025	2031	2035	2040	2050
3	2023	2028	2033	2038	2045

Trying to get accurate information for the individual sectors from the plots to compare the different scenarios and to see whether the caps were met would not be possible. Therefore, **I would like ICF to post as soon as possible an Excel spreadsheet with the emissions and the emissions cap for each sector per year for each scenario, and include the emissions for non-regulated sectors monitored by the DEQ like electricity.**

A major responsibility for the RAC will be recommending how flexibility options should be defined and used. It is impossible for them to do this from the modeling given only one blue line on the chart and a few general comments. It is obvious from the plots that there is considerable variation between the scenarios and over time within a scenario. Therefore, I would like ICF to post as soon as possible an Excel spreadsheet with the number of Compliance Instruments (1 MTCO<sub>2e</sub>) used for each option (trading, banking, CCI) per sector per year. For banking, include the number banked and the number redeemed. On a separate sheet, for each trade, include the year, the number of CIs, the sector selling, the sector buying, and the average price. Note: there may be multiple entries for a trade if multiple sectors are buying.

I am concerned that the program is not taking advantage of the fourth scenario to do more than change the CCI allowance. Here are a few ideas of what else can be done:

- The effect of a price on greenhouse gases such as in HR 2307, the Energy Innovation and Carbon Dividend Act
  - Reducing the allowance of trading and CCIs after 2035
  - Requiring banked CIs to be used before buying CIs from other entities or CCIs from DEQ

Kathy Moyd

**Sent:** Friday, April 30, 2021 4:35 PM  
**To:** GHGCR2021 \* DEQ  
**Cc:** Andy Smith; Jenna Jones; Peter Brandom  
**Subject:** Cap and Reduce RAC Meeting Comments Meeting #4 - League of Oregon Cities

Good Afternoon,

Please consider the following on behalf of the League of Oregon Cities.

- Please provide graphic representation, if possible, of scenario outcomes related to policy options over the program time horizon. For example, present CCIs, banking, trading with emissions outcomes for each policy through the program timeline. Similarly, present health, economic and co-benefits/equity aspects along the timeline.
- In your attempts to illuminate the cost impacts of the program, it is imperative that at least a similar effort, if not more, be spent in defining the costs that we are likely to incur from inaction. It seems we might have some good data related to impacts from fires, floods, impacts to vegetation including agriculture, equity communities, health, etc.
- Are there specific criteria that DEQ intends to use to select a final scenario, and if so what are they? - Does DEQ believe that an earlier greater reduction is preferred even if longer term reduction trends are not as great?

We offer our preferred policy elements at this stage of the process:

<b>Policy Element</b>	<b>Current Preference</b>
Cap application	Policy scenario 4
Cap and trajectory	Prefer interim goal, need more information to determine specific scenario preference
Trading allowed?	Policy scenario 4
Banking allowed?	Policy scenario 4
Allowable use of CCIs	20% - 25%
CCI price	Policy scenario 4
Regulated sectors	Need more information
Sector exclusions	Need more information

Thank you,  
Peter

Peter Brandom (he/him/his) | *Senior Project Manager*  
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Matthew Zaragoza-Watkins, Ph.D.  
matthew.zaragoza-watkins@vanderbilt.edu  
www.zaragoza-watkins.com

April 30, 2021

Oregon Department of Environmental Quality  
Office of Greenhouse Gas Programs  
700 NE Multnomah St. Suite 600  
Portland, OR 97232  
GHGCR2021@deq.state.or.us (*Submitted via Email*)

cc: Kristen Sheeran, Nik Blosser, Richard Whitman

Dear Ms. Singh:

I understand the Oregon Department of Environmental Quality (DEQ) is developing a regulatory proposal to cap and reduce economy-wide emissions. I write to share early results from my ongoing research into the competitiveness and productivity of manufacturing industries under California's economy-wide cap-and-trade program. I am currently an Assistant Professor of Economics at Vanderbilt University. I have worked as an economist at Environmental Defense Fund (EDF) and the California Air Resources Board (CARB). At CARB, I led the process to design carbon-intensity benchmarks and the output-based allocation mechanism used for the industrial sector. My coauthors, Jonathan Camuzeaux of EDF and Ireri Hernandez of Bocconi University, and I have received some financial support for our research from EDF. Today, I write only for myself based on our current results. In the future, we plan to submit our findings for peer-review and publication.

**Our research shows pollution in California is down, while productivity and jobs are up.** Our project is motivated by observations that, in the absence of independent, unbiased research, unfounded and misleading claims about its likely impacts on industrial employment and output often beset efforts to adopt and implement cap-and-trade programs. To address this gap, my colleagues and I developed novel methods for measuring Cap and Trade's impacts on California's capped industries. Briefly, we compare California facilities' outcomes to outcomes at a comparable set of facilities in other states, before and after the start of Cap and Trade, to get a clearer picture of how it has affected California industries. Our current results tell a far richer and more positive story than the narrative that has tended to dominate policy debates about the environmental and economic trade-offs associated with Cap and Trade:

**Under Cap and Trade, manufacturing industries are more efficient,** cutting emissions while expanding output. Since 2012, the average emissions intensity of goods produced by California's industrial facilities has declined by 10% relative to goods produced by comparable facilities in other states. Around the state, the most efficient facilities are expanding output, while competition to become the most efficient producer is causing all industrial facilities to make on-site efficiency improvements.

**Employment has increased in California manufacturing industries** relative to a comparable set of uncapped facilities located in other states. Annual job growth accelerated by 1-2% concurrent with the start of Cap and Trade. These modest but (statistically) significant results are worth

watching closely in the future. And while more research is needed to pinpoint the underlying mechanisms, it is plausible that manufacturing employment is growing because of newfound efficiencies or because labor is less costly and polluting than other substitutable inputs.

**Output at California manufacturing facilities has steadily grown** with no break in the trend relative to uncapped facilities in other states. Under California’s program, emissions-intensive and trade-exposed (EITE) facilities receive more free allowances the more they produce – instead of the more they emit. So there is a strong incentive for those facilities to find ways to cut emissions while maintaining output.

Policymakers in places like Oregon that are considering Cap and Trade can take comfort from these results, especially since California’s program’s critical elements, the same features that likely contributed to these positive outcomes, are readily available to other states.

**Cap-and-trade policy elements designed to support competitiveness and economic growth**

In California, some capped firms compete against out-of-state firms that do not face a carbon price, curbing the capped firms’ ability to pass through emissions and abatement costs completely. California and most other capped jurisdictions address these competitiveness issues using some form of industry-wide carbon-intensity (emissions/unit produced) “benchmark” to allocate free allowances to EITE industries. Once EITE industries are identified, benchmarked, output-based free allocation helps protect these firms’ competitiveness and prevent production and emissions from “leaking” to out-of-state facilities without carbon pricing – avoiding negative impacts on the local economy.

California’s EITE facilities appear to be thriving under output-based allocation indexed to industry-wide carbon-intensity benchmarks, even as their annual free allocation and benchmarks decline. California EITE facilities initially received, on average, 90% of the allowances they needed for free. While due to their relative efficiency, the most efficient facilities in each industry received an even higher proportion of their required allowances for free. Each EITE facility’s free allowance allocation updates every year based on its production and the overall cap decline. The system of industry-wide carbon intensity benchmarks and output-based allocation rewards the most efficient facilities, and gives every facility a strong incentive to maintain output and increase efficiency.

Other jurisdictions may want to similarly allocate free allowances to EITE facilities, especially since the formula can flexibly accommodate higher or lower free allocation levels overall.

I understand there is a recent proposal to exclude the industrial sector from under the cap. Instead, regulators would conduct a “Best Available Technology” analysis for each entity and require entities to complete all “available” reduction opportunities. My experience as a regulator and my research findings suggest this command-and-control-style approach would be a costly misstep on the path to economy-wide decarbonization. To match the cost-effectiveness and environmental performance of regulating industrial sources under an aggregate emissions cap, DEQ staff would need to perpetually evaluate, every potential emission reduction. The proposed scheme would also blunt the incentive for industrial entities to innovate new ways of producing goods more efficiently. My research shows, under a declining emissions cap, California industries are developing innovative ways of making more products while producing fewer emissions. It also shows that California’s benchmarked, output-based allocation approach, which freely supplied industry with approximately 90% of their needed emissions to begin with, declining annually with the cap, is sufficient to protect against leakage. Exploring best available technology could provide some useful insights, however, it is not an adequate substitute for placing the industrial sector under a firm and declining carbon limit.

Thank you for the opportunity to share my research findings and insights from my cap-and-trade experience with you. If I can help answer any follow-up questions, I would be happy to do so.

Sincerely,

A handwritten signature in black ink that reads "Matthew Zaragoza-Watkins". The signature is written in a cursive style with a large initial 'M' and a distinct dot before the last name.

Matthew Zaragoza-Watkins, Ph.D.  
Assistant Professor of Economics  
Vanderbilt University

May 5, 2021

DEQ Office of Greenhouse Gas Programs Staff:

Thank you for the opportunity to comment on the materials and topics presented at the April 22nd, 2021 Rulemaking Advisory Committee (RAC) meeting. Below you will find comments drawing on the expertise of Multnomah County staff and consultation with community partners.

## Modeling results

The COBRA model of health impacts shows significant health benefits for all scenarios. Health benefits are one of the most important and immediate benefits that Oregonians could gain from implementation of the CPP. For this reason, we want to reiterate that while COBRA provides helpful insights, the results are an underestimate of health benefits of pollution reduction. We'd like to share with the RAC that there are at least four reasons for this:

**COBRA does not include all pollutants** potentially reduced by the CPP, focusing instead on one pollutant: PM2.5. There are many other GHG co-pollutants with serious health effects, such as hazardous air pollutants from industrial processes and vehicle emissions.

**COBRA does not include all health endpoints** that would result from pollution reductions. There are many adverse health outcomes associated with air pollution that are not included in the model, but which are likely to be improved as a result of declining air pollution. Among these are dementia, diabetes, childhood leukemia, stroke, and preterm births. A notable trait of these conditions is that people live with some of them for a very long time, making them costly to treat and impactful on quality of life.

**COBRA does not include all causal pathways** that could be affected by the CPP, or any that are unrelated to air pollution. For example, changes in fuel prices or Community Climate Investments could shift some travel to active modes, and any associated increase in physical activity would have large health benefits. In studies of health impacts of transportation investments, physical activity benefits often exceed the benefits of reduced air pollution ([e.g. Metro's Climate Smart Strategy](#)).

**COBRA does not include indirect health effects from improved resilience or reduced climate impacts.** Climate change has many health effects, such as heat related illness, vector-borne disease, respiratory disease from wildfire smoke, injuries from extreme weather, exposure to harmful algal blooms, and high stress levels that accompany disruption to livelihood and social ties. None of these impacts are included in COBRA, nor are any protective effects that may come about as a result of Community Climate Investments.

Additionally, COBRA does not reflect the distribution of health benefits among demographic groups. Pollution reductions in areas with high existing burdens of pollution are likely to disproportionately benefit children, pregnant women, lower income households, racialized

groups, and people with existing chronic conditions. Importantly, these groups experience disparities in many health conditions associated with exposure to combustion of fossil fuels. For example, the death rate from diabetes among Black residents of Multnomah County is nearly three times the rate among non-Hispanic white residents.<sup>1</sup>

The health benefits reflected in the modeling results are a small slice of the potential benefits of the CPP. Considering this underestimate and the small differences in health benefits between scenarios, as well as with large differences in unmodeled benefits of Community Climate Investments (CCIs) across scenarios (5%-25%), it is difficult to confidently rank the scenarios in terms of health benefits. However, it is clear that under all scenarios the CPP is likely to result in significant direct health benefits.

## Community Climate Investments

As the discussion of CCIs evolves, we suggest two principles for their design:

- 100% of CCIs should reduce human exposure to fossil fuel combustion
- Decisions about CCIs should be made by impacted communities

Additionally, we urge DEQ to design CCIs in a way that builds on investments communities are already making to reduce the use of fossil fuels and their related impacts to human health, and avoids penalizing communities that have chosen to make these investments. We recommend that detailed discussion of the design of CCIs take place in a forum convened separately from the RAC in order to allow for sufficient time and attention to this significant potential compliance mechanism, and to ensure that impacted communities have a clear voice in the CCI framework.

## Stationary sources

We support continued consideration of regulating stationary sources by applying the best available emissions reduction approach. Using this method would reduce the likelihood of perpetuating environmental injustices in nearby communities, which is a potential pitfall of the alternative compliance instruments that have been discussed by the RAC. This conclusion assumes that alternative compliance would indeed remain unavailable to facilities regulated by best available emissions reduction.

As several RAC members mentioned during the April meeting, these facilities are in communities and have human impacts. We encourage DEQ to present demographic information alongside emissions data in future discussions. This practice reinforces the potential for human health impacts from these facilities and would help the RAC quickly screen for environmental justice issues. These data are already available and summarized by DEQ as part of the Cleaner Air Oregon (CAO) prioritization calculations. As an example, we have attached the CAO prioritization data for the facilities listed in DEQ's briefing on the topic (see Table 1).

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<sup>1</sup> Multnomah County Report Card on Racial and Ethnic Disparities (2014). Available from: <https://multco.us/file/37530/download>

Finally, we would welcome discussion of how the CPP and CAO interact, and particularly whether DEQ would consider GHG emissions as an additional prioritization factor for calling in facilities currently in group 3 (lower priority facilities to be called in as resources permit or if new information becomes available) for CAO.

Thank you for your consideration of these comments.

Regards,  
Brendon Haggerty  
Healthy Homes and Communities Program Supervisor (Interim)  
Multnomah County Health Department

Table 1. Excerpt of Cleaner Air Oregon prioritization data

Source Number	Source Name	Risk Screening Percentile	Demographic Screening Percentile	Meters to Residential	Meters to Non-res.	Group	Address	City	Zip	County
05-2042	Dyno Nobel Incorporated	0.66	0.26	485	200	3	63149 Columbia River Highway	Deer Island	97054	Columbia
01-2029	Ash Grove Cement Company	0.83	0	1130	1130	3	33060 Shirttail Creek Rd	Durkee	97905	Baker
05-2005	United States Gypsum Company	0.74	0.33	275	445	3	29073 Dike Rd	Rainier	97048	Columbia
24-5398	Covanta Marion, Inc.	0.94	0.55	225	110	1	4850 Brooklake Rd NE	Brooks	97305	Marion
25-0027	ConAgra Foods Lamb Weston, Inc.	0.58	0.78	830	200	3	600 Columbia Ave NE	Boardman	97818	Morrow
26-0027	SemiConductor Components Industries, LLC	0.55	0.89	495	400	3	23400 NE Glisan St	Gresham	97030	Multnomah
26-1865	EVRAZ Inc, NA	0.72	0.3	750	490	3	14400 N Rivergate Blvd	Portland	97203	Multnomah
26-3240	Microchip Technology, Inc.	0.72	0.72	95	235	2	21015 SE Stark St	Gresham	97030	Multnomah

26-9537	Owens Corning Foam Insulation, LLC	0.1	0.68	730	130	3	18456 NE Wilkes Rd	Gresham	97230	Multnomah
34-0055	Qorvo Inc (TriQuint Semiconductor)	0.41	0.53	180	340	3	2300 NE Brookwood Pkwy	Hillsboro	97124	Washington
34-2681	Intel Corporation	0.87	0.88	400	360	2	2501 NE Century Boulevard	Aloha	97124	Washington
34-2804	Maxim Integrated Products, Inc.	0.69	0.74	150	110	3	14320 SW Jenkins Rd	Beaverton	97005	Washington
34-2813	Jireh Semiconductor, Inc.	0.71	0.5	685	105	3	3131 NE Brookwood Pkwy	Hillsboro	97124	Washington
36-5034	Cascade Steel Rolling Mills, Inc.	0.98	0.53	430	90	1	3200 OR-99W	McMinnville	97128	Yamhill



Submitted to: GHGCR2021@deq.state.or.us

April 30, 2021

**TO:** Oregon Department of Environmental Quality  
**FROM:** Northwest Pulp & Paper Association  
**RE:** Rulemaking Advisory Committee Meeting 4, Oregon Climate Protection Program

Thank you for the opportunity for the Northwest Pulp & Paper Association (NWPPA) to provide comment on Oregon Department of Environmental Quality's (DEQ) Oregon Climate Protection Program Rulemaking Advisory Committee (RAC) Meeting 4, held April 22, 2021. As a member of the RAC, Kathryn VanNatta Director of Regulatory Affairs for NWPPA, submits the following written comments.

### **Background**

NWPPA is a 65-year-old regional trade association representing 10-member companies and 14 pulp and paper mills and various forest product manufacturing facilities in Oregon, Washington and Idaho. Our members hold various permits issued by DEQ including permits for Title V Air Operating Program and the Air Contaminant Discharge Program, and also report Greenhouse Gas (GHG) emissions under DEQ's GHG Reporting and Third Party Verification Program.

NWPPA members are at the forefront of Oregon air quality improvement efforts. Our members have embraced technically advanced and scientifically sound controls on air emissions over the past 20 plus years. We are proud of our dedication to efficient and environmentally sound processes and reduction of GHG emissions over time. We are committed to the hard work, expense and discipline it takes to be contribute to our communities.

NWPPA staff are long-standing-stakeholder participants in numerous DEQ advisory committees including groups on: establishing regulatory programs, administrative rules (RACs), agency program improvement efforts and agency fee increases.

### **Overarching comments**

Oregon's pulp and paper sector has been recognized as an essential business by state and federal governments. Without fail, our Oregon mills' essential workers have been making vital paper products we all use every day to help fight against COVID-19. Our essential paper products are used by Oregon consumers as well as being distributed within the Western US and abroad.

NWPPA's comments on the April RAC meeting held should be construed as preliminary in nature, given the enormous complexity of the proposal the many assumptions with very limited details, and the short comment turn-around time. NWPPA will provide additional comments on this rulemaking as we continue our analysis over the coming months.

While many details are unclear, pulp and paper manufacturing will face increased costs from Scope 1 (on-site combustion and process emissions and use of best available emission reduction requirements), Scope 2 (cost of energy) and Scope 3 (transportation fuels required to get our vital products to consumers). We ask the Department to keep this triple-threat cost profile in mind as you design Oregon's program.

### **Shared goals**

NWPPA member mills have been longtime leaders in minimizing GHG emissions by maximizing the use of carbon-neutral biomass as the sector's primary (57%) fuel source and the use of highly efficient combined heat and power (CHP) systems for onsite energy generation of steam and electricity. Since 2010, the Oregon pulp and paper sector has reduced emissions from anthropogenic sources by 62,000 mt CO<sub>2</sub>e. That's the same as removing over 13,400 passenger vehicles from the road for one year.

Oregon's pulp and paper mills make their products with predominantly zero-carbon emitting hydropower and other renewables for purchased electricity, carbon neutral biomass, and natural gas—resulting in one of the most environmentally responsible manufacturing methods in the world. As a result, in 2019 Oregon's pulp and paper sector emitted only about 1% of the state's anthropogenic GHG emissions.

### **Lack of EITE facility treatment**

In a total reversal in agency approach, in the April RAC meeting DEQ Director Whitman and various staff stated for the first time – that there would be no consideration of/treatment for leakage of Oregon EITE jobs and EITE GHG emissions to other states and countries.

NWPPA is shocked and extremely perplexed by DEQ's abrupt EITE policy reversal halfway through the RAC process. As noted below, DEQ has made various statements in Executive Order 20-04 scoping documents and previous RAC briefs regarding program goals to maintain Oregon EITE jobs and prevent leakage of GHG emissions.

NWPPA absolutely opposes the agency's lack of any EITE consideration and treatment. NWPPA believes that dismissing EITE policy considerations will cause leakage of jobs and GHG emissions.

Pulp and paper manufacturing is one of the most energy intensive and trade exposed sectors in the country. The Governor's 2018 study, titled *Oregon Sectoral Competitiveness under Carbon Pricing, Final Report December 2018*, prepared for the Oregon Carbon Policy Office study by Vivid Economics,<sup>1</sup> categorizes Oregon's pulp and paper sector as an EITE sector. Therefore, a primary DEQ consideration for elements of the future program must be the fact that Oregon's pulp and paper sector is vulnerable to regulatory programs that increase production costs relative to producers in other jurisdictions because these costs typically cannot be passed on to consumers. Carbon regulation increases the cost of energy (a major cost component of pulp and paper production) and therefore has the potential to cause production to "leak" to other jurisdictions. As discussed in more detail below, such leakage to locations that likely have higher GHG emissions intensities would in fact increase the greenhouse gas emissions for an equivalent amount of pulp and paper or wood products produced, which works against the clear intent of Executive Order 20-04 to reduce carbon emissions.

### Leakage

In Governor Brown's 2018 *Oregon Climate Agenda: A Strong, Innovative, Inclusive Economy While Achieving State Climate Emissions Goals*, it recognizes the need for protection of trade exposed industries at page 18.<sup>2</sup>

**A well-designed cap-and-trade program will take preventative measures to protect manufacturers in certain trade-exposed industries from competition in markets where climate emissions are not currently regulated. Once identified, sectors such as cement, pulp-and-paper, and steel could receive some free allowances to level the playing field with their competitors.**

Some utilities could also receive allowances to maintain competitive and affordable rates for customers. The distribution of allowances from within the state's allowance budget does not change the cap and the level of emissions reduction required economy-wide; it simply eases compliance while maintaining economic incentives to innovate and find ways to lower emissions. [Emphasis added.]

In DEQ's June 2020 *Program Options to Cap and Reduce Greenhouse Gas Emission Final Report* submitted to Governor Brown, the Report discusses DEQ's work to develop the program and recognizes trade exposure on page 4. The concept and risk of leakage along with solutions for leakage is addressed on page 20.<sup>3</sup>

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<sup>1</sup> <https://www.vivideconomics.com/wp-content/uploads/2019/08/Oregon-Industrial-Sector-Competitiveness-Under-Carbon-Pricing-1.pdf> Downloaded March 25, 2021.

<sup>2</sup> <https://www.oregon.gov/gov/Documents/Governor%20Kate%20Brown%20Climate%20Agenda.pdf> Downloaded April 29, 2021

<sup>3</sup> <https://www.oregon.gov/deq/ghgp/Documents/ghgCapRedf.pdf>. Downloaded April 29, 2021.

Furthermore, if the EQC were to regulate the emissions from electric generation in Oregon, there is a risk that energy suppliers (particularly those with obligations to supply power at least cost) would shift their resource utilization out of state. This form of leakage is a major policy issue in program design, particularly in the electricity sector. As a result, other programmatic approaches may be needed to effectively address greenhouse gas emissions associated with the electricity sector.

Program design elements regarding coverage and thresholds may vary across the program in response to leakage concerns, as well as differing considerations for the potentially regulated entities, trade-exposed industries, and covered sectors.

Another example of DEQ's own policy work to address cost containment and avoid leakage is found in DEQ's *Greenhouse Gas Emissions Program 2021 Rulemaking: Background Brief*<sup>4</sup> states there could also be costs for consumers and businesses. NWPPA believes there will be significant cost increases for consumers and businesses and that the program should be designed to ensure Oregon business may thrive. Regarding leakage, the Brief also states at page 4,

**DEQ also seeks to minimize leakage, which is the shifting of greenhouse gas emissions outside of Oregon or outside the scope of the program's regulation. This may result in emissions in areas or sectors where there are no emissions regulations or there are less strict emissions regulations. [Emphasis added.]**

Leakage of a small percentage of Oregon's pulp and paper sector's production related emissions to nearly any other part of the world has the potential to increase the GHG emissions, both in areas with and without GHG emission regulations. Another key factor to consider is that Oregon has one of the lowest state-based GHG emission factors associated with purchased electricity of any major pulp and paper producing state in the US. Production shifts outside of the state would increase purchased electricity GHG emissions as well as increase transportation related GHG emissions by shifting production from local mills to facilities outside of the state or country. Production shifts outside Oregon would also bring the devastating effects of the loss of family-wage essential worker jobs in rural areas within the state.

The pulp and paper industry is an energy intense industry and is sensitive to carbon policy programs that increase the cost of energy which can cause production to shift to other jurisdictions without the added carbon costs. Due to the sector's extensive utilization of

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<sup>4</sup> [Climate Protection Program, Greenhouse Gas Emissions Program 2021 Rulemaking: Background Brief, dated Dec. 18, 2020](#). Downloaded April 29, 2021.

biomass for energy needs (the industry derives approximately two-thirds of its fenceline energy needs from biomass), the pulp and paper industry has a larger energy intensive footprint than GHG intensive footprint. As when federal cap and trade was being considered in the American Clean Energy and Security Act of 2009 (Waxman-Markey cap and trade legislation), it is important that EITE eligibility criteria be defined on a basis of energy intensity or GHG intensity.

### **Lack of key details on Climate and other air programs do not allow facility-level analysis**

There is still a lack of DEQ rule “framework” documents and information – as advertised in the DEQ Rulemaking Work Plan – for the April 22 RAC meeting. Consequently, it is nearly impossible to analyze the Climate Protection Program’s effects without key details. For large Oregon EITE manufacturers the regulatory landscape on air regulatory issues is even more complex.

NWPPA thanks Director Whitman for his statement in RAC #4 that various agency air programs regulate facilities from different regulatory perspectives including the Climate Protection Program, Cleaner Air Oregon and the Regional Haze review. For Oregon EITE manufacturers, the April announcement of recognition of the interactions of these two additional regulatory programs and the Climate Protection Program increases regulatory burden on sources regarding timing, program alignment, cost considerations and cross-media effects of pollution control technology.

NWPPA seeks clarification for how each program affects each other program’s goals and regulatory requirements so EITE manufacturers may effectively plan their compliance pathway. Many years of air regulatory program timing are being proposed for change within a short amount of time and no ability to forecast or plan into year 2022 or 2023 . Without details on how and when EITE’s will be regulated, EITE facilities face increased leakage risks.

Therefore, NWPPA seeks clarification on the following:

- What specific Oregon law, administrative rule or other Executive Authority policy statement is DEQ basing its “no EITE consideration” statement on April 22, 2021 – when DEQ has made statements that electrical generation, landfill gas emissions, utility transport gas and process emissions are excluded from under the proposed “cap” and will not be subject to any price signals. Why then do similar facilities within certain sector’s face increased natural gas prices from local distribution utilities?
- How does DEQ consider the three perhaps four exclusions with no EITE consideration or treatment to be a level playing field and the policy not become an Oregon Executive branch policy choice to pick winners and losers?

- NWPPA believes regulating natural gas emissions at the at the local distribution utility level will result in increased risk of job and GHG emission leakage – so we are curious and ask why does DEQ believe that no job and GHG emission leakage will occur?
- Will there be an economic analysis by the Oregon Public Utility Commission of the overall cost impact of the proposal?
- What are the program’s cost containment mechanisms and when/how will they be triggered?
- It appears that there will be a volumetric charge on natural gas delivered by local natural gas distribution companies. Will EITE’s see a cost estimate/projected cost curve from the DEQ or the Public Utility Commission estimating cost increases for all natural gas customer classes?

### **Necessity of Alternative Compliance Mechanisms**

NWPPA still believes that mitigating the risk of leakage for Oregon’s EITE pulp and paper sector should be a major program design consideration. NWPPA’s preferred way to protect our essential pulp and paper manufacturing base and our highly-trained essential workers is to exclude Oregon mills and our energy supply from the program. However, if the rule moves forward including the pulp and paper mills and our forest products supply chain in the program, there must be multiple compliance pathways *thoughtfully and carefully built into the core of the program*.

Thank you for the opportunity to provide written comment on DEQ’s Oregon Climate Protection Program Rulemaking Advisory Committee (RAC) Meeting 4, held April 22, 2021.

May 4, 2021

*VIA ELECTRONIC MAIL*

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RE: NW Natural Comments- DEQ Climate Protection Program Rulemaking Session #4

NW Natural (“NW Natural” or “we”) appreciated the opportunity to provide comments during the April 22, 2021 Rules Advisory Committee (RAC) meeting to implement Governor Brown’s Executive Order 20-04. As mentioned in our comments from previous RAC meetings, NW Natural continues to strongly support the development of effective programs to address the existential crisis of climate change. This guided our support of proposed Cap and Invest legislation, HB 2020 and SB 1530. We are working vigorously to decarbonize our pipeline by 2050. It is critical that DEQ design a Climate Protection Program in a way that complements and accelerates the work already underway. We also agree that it is critical that impacted communities are meaningfully engaged in program design.

That being said, we continue to have significant concerns around the scenarios, compliance instrument design, and transparency of the modeling process. Our comments on the content discussed in the 4<sup>th</sup> RAC meeting are listed below by topic area:

#### Regulation of Natural Gas for Large Stationary Sources

NW Natural does not agree with DEQ’s proposed leaning to regulate natural gas emissions from large stationary sources at the natural gas utilities. Shifting the point of regulation from the stationary source to the utilities does not encourage reductions at the source of the emissions. NW Natural would like to reiterate that the customer is in control of the amount of gas consumed. Regulating this program at the end user provides a direct relationship between the emissions generated and the limits presented by the program. If all natural gas use is regulated at the utility level and certain industrial customers have technical limitations on their ability to reduce their emissions, then all customers will bear the increased cost of these emissions.

#### Best Available Emissions Reduction Assessment

As presented in the RAC meeting, DEQ is proposing another form of compliance for large stationary sources of greenhouse gas emissions using a best available emissions reduction assessment. NW Natural would like to voice its concerns about this new compliance process. This proposed process removes emissions from the statewide cap, does not guarantee emissions reductions, and provides a compliance and cost advantage to those sources.

By removing these sources of emission from the cap, DEQ is treating these facilities differently than all other facilities in the program. The cap provides a limit on statewide emissions from covered entries.

Removing these emissions from the cap would likely weaken the program and makes technical feasibility a DEQ decision-making process for only select facilities. DEQ stated that this new process is to allow for the assessment of specific circumstances at these facilities that may make decarbonization difficult, however, the same consideration is not being given to other stationary sources that may also have technical limitations on their ability to decarbonize.

During the RAC meeting, DEQ described this proposed compliance mechanism as similar to the existing Best Available Control Technology (BACT) assessments used in other regulatory programs. If this program is similar to other BACT assessments, a cost per ton of emissions reductions will be applied as a screening tool to determine if the technology being assessed will meet the cost feasibility criteria. If the technology does not meet the cost criteria in the assessment process, the technology will be declared as infeasible and therefore emission reductions from that technology will not be realized. This presents two issues: no guarantee on actual emissions reductions from this process and a cost advantage to these sources over other sources complying with the cap.

Facilities complying with the cap are not provided the ability to assess whether their required emissions reductions are feasible based on cost. For emissions reductions that cannot be achieved, sources complying with the cap may only have the option of buying Community Climate Investments (CCI) for the remainder of the emissions. Therefore, the Best Available Emission Reduction Assessment compliance mechanism provides a financial advantage to large stationary sources that is not afforded to other covered entities regulated under the cap. NW Natural feels that all stationary sources should be treated the same under this program.

#### Community Climate Investments

NW Natural is concerned about the lack of cost containment and the types of projects that might be funded through the CCI program. The CCI program, as originally presented, was intended to support all three goals of the rulemaking: emissions reductions, equity, and cost containment. As rulemaking has progressed the focus on cost containment and actual emissions reductions and seems to have been lost. Cost containment is important for all those that will be impacted by this rulemaking, including our residential customers. Cost containment needs to remain a focus of this portion of the rule.

Projects that are funded by the CCI must have proven emissions reductions. If NW Natural customers are going to pay for these investments, they should see some benefits. Funding electrification projects is shifting emissions to outside of the cap and could increase the energy cost burden on our customers.

#### Modeling Data Transparency

The details and assumptions used in the modeling can have a profound effect on the results. Without seeing the specifics of those inputs, it is difficult to truly evaluate the analysis performed by ICF. While some discussion of high-level assumptions has taken place, the actual modeling inputs have not been made public or provided to RAC members. NW Natural is concerned that we have still not seen what emissions reductions would be expected of us and what activities the modeling shows we would employ to meet that reduction and at what cost. NW Natural would like to see this modeling data before this rulemaking process proceeds any further. Asking RAC members to provide feedback on modeling exercises that remain private does not allow for thorough and honest evaluation of the potential impacts of the program.

#### Health Based Modeling

NW Natural appreciates DEQ's desire to evaluate not only the emission implications of the Climate Protection Program but also the health, economic, and equity implication of this program. We would ask that more detail be provided to the RAC members on the sources of the health risk assessed in the health analysis model. Discussion of this modeling during the previous RAC meeting described criteria pollutants as though they are linearly related to all greenhouse gas emissions. This may have resulted in skewed interpretation of the results. This program is being designed as a greenhouse gas reduction program, the sole health risk modeling focused only on criteria pollutants is misleading. While NW Natural understands that the reduction of greenhouse gas emissions will lead to a reduction of some criteria pollutants, we feel that more discussion surrounding the sources of these criteria pollutants and how they are regulated is important for a better understanding. We feel that it is important to note that these pollutants from stationary sources are already regulated under the Air Contaminant Discharge Permitting and Title V permitting programs.

#### Economic Analysis

Economic analysis for a rulemaking as large as the Climate Protection Plan is extremely important for understanding the full extent of the impact of this program on the citizen of Oregon. While DEQ and ICF were clear that the economic modeling was completed on a holistic basis, NW Natural feels that this does not do a good enough job of highlighting the implications of this rule on certain portions of the state. DEQ should provide the details of the analysis, not just a high-level summary, so that RAC members and members of the public understand how the rule will impact them and what assumptions were used in the modeling. For example, the assumed cost of electrification could have a large impact on the affordability and economic impacts of this program. It was unclear from the material presented who was expected to pay for the investments in electrification. These details are important for assessing the cost burden on Oregonians.

NW Natural is concerned that the economic analysis, presented at such a high level, does not address the equity focus of this rulemaking. Assuming that individuals will choose to make the capital expenses to electrify their homes or vehicles does not account for the disproportionate affect this will have on those who choose not to or cannot afford to make those capital investments. Looking at all consumers as one group does not reflect cost burden of this program to different income levels. The program is not equitable if the changes to consumer bills and job loss are borne unequally. This doesn't represent a just transition.

#### Co-Benefits and Equity Analysis

This section of the meeting moved quickly. Time is certainly constrained, but due to the importance of this topic we are hopeful that more details and assumptions included in Cascadia's analysis will be shared moving forward. Energy security and protections to customers who will be impacted by direct and indirect increases to energy cost are important inputs. The nexus between these considerations and the design of the CCI program is deserving of a great deal of attention and we are hopeful that we will have greater opportunity to engage with the data and possibly the consultant.

#### 4<sup>th</sup> Scenario Modeling

We appreciate that the 4<sup>th</sup> modeled scenario presented in this meeting was created to be responsive to RAC member concerns and comments, however we continue to have the same reservations about this modeling process. The details matter and transparency is key to allowing all RAC members to have

meaningful and engaged commentary. If the inputs are not accurate, the outputs cannot be properly assessed. For example, in meeting materials and discussions we still have not seen as a regulated party what emissions reductions would be expected of us and what activities the modeling shows we would employ to meet that reduction and at what cost- and whether the assumptions that drive that result are appropriate. We know to expect the draft rules as soon as later this month (May). It would be most effective for all RAC members to able to provide meaningful engagement in advance of the draft rules. We wish to do so on behalf of the customers we serve and are hopeful that further disclosure is eminent.

Conclusion

Thank you for the opportunity to provide these comments. We are open to further discussion and providing any data that will help DEQ and ICF International analyze the impacts of different Climate Protection Program designs on the majority of Oregonians who are natural gas utility customers. We look forward to producing additional input as DEQ provides more information about the continued modeling results and program element design and as DEQ proceeds through this rulemaking process.

Sincerely,

*/s/ Nels Johnson*

Nels Johnson

Enclosures

cc: Colin McConnaha, DEQ  
Nicole Singh, DEQ  
Kristen Sheeran, Office of Governor Kate Brown

Colin McConnaha  
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**Comments on Oregon Climate Protection Program: Modelling Approach and Results**

Thank you for the opportunity to comment after DEQ’s 4<sup>th</sup> Climate Protection Program Rulemaking Advisory Committee meeting and the additional Modeling Q&A session. We are submitting these comments as a group to express concerns with DEQ’s presentation to date of the modeling approach and initial modeling results.

Unfortunately, the presentation of the modelling approach and the model results has created more questions than answers. For example, the modeling approach shows that several national level models (IPM and Vision) interact with a demand sector module to provide results to the IMPLAN econometric model and the health and equity assessments. However, how the components interact and whether each component uses optimization, accounting or simulation to produce results has never been fully explained. Such an explanation, although highly technical, is needed for a full understanding of the results.

Regarding the modeling results presented so far, the emission results overview is too qualitative, and there is little explanation as to why certain results are seen, or indication of the relative impacts of different policy options. Modeling is a quantitative framework for consistently comparing the impacts of alternative policy options. Much more of the quantitative modelling results need to be shared and examined, and they would provide much more insight into the policy differences between the scenarios.

Typical energy system metrics that have been used in similar analyses include overall results such as those listed in Table 1. Note that these metrics focus on the cumulative impacts of the policies over the 2022 to 2050 planning horizon, and do not focus solely on any particular year.

<b>Table 1: Overall Cumulative 2022-2050 Metrics</b>	<b>Reference Case</b>	<b>Policy Scenario 1</b>	<b>Policy Scenario 2</b>	<b>Policy Scenario 3</b>
Regulated emissions (Million metric tons – Mt CO <sub>2e</sub> )				
Emission Reductions in regulated sectors (Mt CO <sub>2e</sub> )				
Emission Reductions in non-regulated sectors (Mt CO <sub>2e</sub> )				
CCI allowances purchased (Mt CO <sub>2e</sub> )				
PV of CCI Funds Invested (M\$)				
Energy system investment (M\$)				
Energy system O&M and distribution costs (M\$)				
Energy system fuel expenditures (M\$)				
Net Investment or savings (M\$)				

These metrics should also be disaggregated to the sector-level, such as shown in Table 2, where the sectors would include natural gas supply, transportation fuels (with breakdowns by vehicle class), commercial and residential buildings, and electricity supply. Subsector data should be provided when useful to clarify specific results, and where available, the marginal costs (or change in marginal cost from the reference case) for regulated fuels should be provided.

<b>Table 2: Sector-Specific Cumulative 2022-2050 Metrics</b>	<b>Reference Case</b>	<b>Policy Scenario 1</b>	<b>Policy Scenario 2</b>	<b>Policy Scenario 3</b>
Regulated emission reductions (Million metric tons – Mt CO <sub>2e</sub> )				
CCI allowances purchased (Mt CO <sub>2e</sub> )				
PV of CCI Funds Invested (M\$)				
Capital investment (M\$)				
Sector O&M and distribution costs (M\$)				
Sector fuel expenditures (M\$)				
Marginal fuel costs (\$/GJ)				
Sectoral net investment or savings (M\$)				

The modeling results should show what’s happening in the electricity supply sector. Even if this sector is not covered by the program, it is impacted by the changes in the other sectors, and those changes are important to giving a fuller understanding of the overall program impacts and some assurances that these impacts are being properly accounted for.

Finally, the new technology limitations imposed on the modeling analysis are inconsistent with the 2050 time frame for the analysis. A typical modeling approach for new technology options is to include them using projected cost curves that will be initially very high, but come down over time, or as a function of learning through increases in production capacity. To ignore technologies like green hydrogen, or to limit technologies, such as off-shore wind to current cost data will significantly overestimate the cost of achieving the target reductions by 2050. This lack of technology innovation is one more limitation of the modelling approach that should be highlighted, along with the facts that the economic analysis does not consider the cost of inaction, and the health assessment only considers risks from particulate emissions.

Thank you for your consideration,

**RAC member signatories:**

Nora Apter, Oregon Environmental Council

**Organizational signatories:**

Environmental Defense Fund, Kjellen Belcher, Senior Analyst, U.S. Climate Policy

Climate Solutions: Meredith Connolly, Oregon Director

Metro Climate Action Team Steering Committee: Brett Baylor, Rick Brown, Pat DeLaquil, Dan Frye, Debbie Garman, Mark McLeod, KB Mercer, Michael Mitton, Rich Peppers, Rand Schenck, and Jane Stackhouse

Southern Oregon Climate Action Now (SOCAN): Alan Journet, Co-facilitator

350Deschutes: Diane Hodiak, Executive Director

350Salem: Prof. Janet Lorenzen

Rural Oregon Climate Political Action Committee: Hogan Sherrow, Director

Bill Harris

Kathy Moyd

Helen Kennedy

May 4, 2021

VIA EMAIL

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**Re: Comments on Cap and Reduce Rule Advisory Committee Meeting 4, April 22, 2021**

Dear Mr. McConnaha:

Thank you for the opportunity to comment on the Department of Environmental Quality's (DEQ) third Cap & Reduce Rules Advisory Committee (RAC) meeting. I am writing on behalf of Oregon Business & Industry (OBI), Oregon's most comprehensive statewide business association, representing more 1,600 businesses that employ more than 250,000 people across our state.

OBI first adopted climate change policy principles in 2019 that have guided our efforts. We restate these principles below as a framework for our concerns about the proposals being contemplated by DEQ for the Cap & Reduce rulemaking.

OBI recognizes that climate change is real, and the business community plays an important role in leading a lower-carbon economy and we support state greenhouse gas emissions reduction policies that:

- Result in actual global greenhouse gas reductions
- Are not used as a general revenue source
- Are focused on positive environmental and economic outcomes
- Are fair and affordable for all Oregonians
- Do not result in a competitive disadvantage to Oregon businesses
- Do not focus on a single sector of the economy
- Address the unique challenges of Oregon's diverse business sectors
- Are commensurate with the state's emissions relative to global emissions and goals
- Nurture Oregon-based innovation
- Include adaption and mitigation strategies for long-term planning
- Provide regulatory and compliance certainty for businesses

We do not believe that the current direction of the rulemaking adequately balances environmental and economic factors and we urge DEQ to address these concerns prior to the next RAC meeting. OBI offers the following comments on the materials presented and discussion at the April 22 meeting.

## Cost Containment Has Not Been Adequately Addressed

We continue to be extremely concerned that DEQ is disconnecting lives from livelihoods—they are integrally connected and policy choices must reflect that connection. While we see Community Climate Investments as a way to achieve some objectives, we remain extremely concerned that this singular approach paints the program into a corner that could result in very high costs for reducing emissions.

Executive Order 20-04 directed agencies to reduce GHG emissions through an equity lens while controlling costs. The current approach does not balance the EO's objectives in a way that controls costs. Cost effective options must be accessible to regulated entities to achieve reductions that do not compromise the competitiveness or viability of Oregon businesses. In the same way that Community Climate Investments are an option for reducing emissions that address impacted communities, other compliance alternatives will be more effective in controlling costs for businesses.

The program should specifically allow for additional types of compliance instruments to effectively reduce GHG emissions and control costs. It is critical that DEQ not take rigid approaches at the outset that could result in winners and losers down the road. OBI believes the best policy is to provide for a variety of compliance instruments if indeed the goal is to reduce GHG emissions, control costs for regulated entities and allow Oregon businesses to remain competitive in a global economy.

There are *many* moving parts in this and other climate programs in the region that could result in steep and sudden price shock for consumers and businesses. These regional climate programs will essentially be competing with each other for ways to comply with their respective policies. DEQ is leaving itself no flexibility or even a safety valve in the event of acute economic impacts. DEQ must design a program that plans for uncertainty when the consequences could be grave.

## Best Available Emissions Reduction Assessment

We appreciate DEQ's proposal to use best available emissions reduction assessment (BAERA) to address unique circumstances on a site-specific facility basis and believe the idea is worthy of further discussion. At this stage, however, there are many outstanding questions about how this more traditional regulatory approach would work. Until these questions are addressed, OBI is unable to indicate support or opposition for the proposal.

As DEQ has noted, there are several facilities in Oregon that have unique emissions profiles or may be connected to an interstate pipelines that DEQ's Climate Protection Program regulatory framework would not capture. Overall, our apprehension with respect to the BAERA proposal is the uncertainty about what reductions would be considered adequate, how much it would cost and whether some facilities or sectors could be required to do much more than others in a way that would damage their competitiveness in Oregon and cause them to curtail or shutdown their Oregon operations.

- We see significant opportunity for subjectivity in what constitutes best available control technology at a particular source. What standards would DEQ follow to establish an objective process for BAERA evaluation? How would reduction goals be established?
- Can the reductions or control technology be phased in over the program duration? If so,

what would the timeline be? Would BAERA be re-evaluated more than once over the program duration? If so, how often?

- It is essential that emission reduction strategies be technically feasible, commercially available and economically viable to be considered as a BAERA option.
- Both economic and environmental costs versus benefits must be evaluated. Reducing GHG at the source but creating additional off-site GHGs associated with increased energy needs to operate the emissions equipment should be carefully examined. DEQ should include other cost effective options beyond on-site reductions.
- Regarding community engagement, what role would the public play in deciding a source's emissions reductions or the approach selected?
- Depending on how the BAERA process is designed, there could be significant budgetary and expertise implications for DEQ. How many FTE and additional funds would be required for DEQ to carry out this program element? Would it be funded through a General Fund appropriation or would sources be required to pay DEQ for the assessment? What expertise does DEQ have or would need in order to make determinations about BAERA?
- A site-specific regulatory program is likely to look very different between facilities and sectors. BAERA is also a very different regulatory mechanism than the way other stationary sources would comply through a price signal from a natural gas utility. Would DEQ evaluate the regulatory costs to ensure that some facilities, sectors or regulatory approaches are not more heavily burdened than others?

OBI agrees that DEQ should be paying close attention to the interplay between regulatory programs and aware of the intricate connections that will likely result in more complex and costly implementation for the agency and regulated entities. We see opportunity for conflicting regulatory objectives and requirements between the Climate Protection Program and other regulatory programs such as Cleaner Air Oregon, Regional Haze and permitting requirements.

However, given the major increase in rulemaking unfolding at DEQ, ever expanding regulatory programs, stringent application of regulatory requirements, and the costs of permitting and compliance that escalate every year, we are extremely fearful that "collaboration" between regulatory programs could practically evolve into something resembling a "mega" regulatory program with less flexibility and more stringent application across all programs.

As stationary sources face huge regulatory uncertainty related to dozens of programs and are subject to increasing new rulemaking, it is incumbent upon the agency to be cognizant of the layering effects, additive consequences and connections between programs that are likely to produce negative impacts on sources, particularly on their ability to remain competitive with businesses out of state and across the globe. At this juncture, we see little recognition from DEQ of the toll these big picture impacts could have on stationary sources, particularly when DEQ has indicated that no consideration will be given to energy/emissions intensive trade exposed businesses and leakage has not been addressed in a concerted way through the modeling exercise.

Finally, we stress that any BAERA should not impact the fuels sectors in a way that forces reductions for those sectors to compensate for alternative compliance strategies provided for stationary sources. As DEQ has noted, process emissions are not an overall significant source of GHGs and the program design must hold other sectors harmless.

### **Energy/Emissions Intensive Trade Exposed Businesses**

Given the state's recognition that energy/emissions intensive trade exposed (EITE) businesses have unique vulnerability in GHG reduction programs, we are extremely concerned and also perplexed about why DEQ is choosing to ignore the economic realities around EITEs. As we learned in the modeling Q&A on April 28, ICF did not evaluate the impacts of EITE leakage, which skews the modeling results significantly as it applies to manufacturing and points to major deficiencies in the modeling exercise. It is essential that DEQ address EITE treatment prior to the next RAC meeting, particularly in light of the EO's mandate that the development of this program be designed to achieve reductions in a manner that does not compromise the competitiveness or viability of Oregon businesses.

### **Modeling Concerns**

We appreciate DEQ making ICF available to answer questions about the modeling exercise. While we are unable to comment substantively on the modeling without more information, it was clear during the session that many factors were not addressed by ICF. It is very unfortunate that we are learning of these deficiencies late in the rulemaking and that opportunities were not provided earlier to assess the sufficiency of the inputs to obtain a more accurate picture of the results. It is critical that DEQ direct ICF to address these deficiencies before moving forward.

### **Impacts to Small Business, Residential, Renters**

Thus far, discussion of the economic impacts has been limited to the sectors regulated by a future program. The impacts extend far beyond regulated entities to others who are not at the table. Fuel costs will rise impacting the cost of sending and receiving goods. Energy costs will rise for all classes of ratepayers. Residential and commercial energy consumers who rent will be particularly vulnerable as they will not have control over decisions to upgrade to more energy efficient systems, yet will shoulder the cost of the decisions if building owners and landlords choose not to invest in energy efficiency. We urge DEQ to consider the major economic implications of these circumstances by restructuring compliance mechanisms in a way that will control costs and prevent significant impacts to these parties.

### **Conclusion**

OBI appreciates the opportunity to offer comments on Cap & Reduce Meeting 4 and we look forward to engaging in this rulemaking as it moves ahead. As always, please contact me should you have any questions.

Sincerely,



Sharla Moffett  
Director  
Energy, Environment, Natural Resources & Infrastructure

April 30, 2021

**RE: Climate Protection Program - RAC Meeting #4**

DEQ's Office of Greenhouse Gas Programs,

Thank you for the opportunity to comment on the Department of Environmental Quality (DEQ)'s fourth Climate Protection Program Rulemaking Advisory Committee meeting. We submit for your consideration the feedback regarding the materials and conversation from the RAC meeting, including several recommended changes to strengthen the proposed program design components. Thank you in advance for your consideration.

**Stationary Sources**

We think the strongest approach to achieve both our greenhouse gas targets and the programmatic goals would be to ensure coverage of both combustion and process emissions from stationary sources under this program. Given that there are currently no greenhouse gas regulations on industry, it is critical that DEQ use the opportunity to hold these sources accountable for their significant climate pollution under the Climate Protection Program. With that in mind, we think the best approach would be to regulate stationary source combustion emissions at the industrial facility level and not *exclusively* regulating stationary sources' process emissions using a best available emissions reduction approach separate from the cap.

Process emissions from industrial sources are not insignificant (in fact, some even have major global warming potential like HFCs)--and holding these sources accountable matters in protecting both community health and the climate. Ensuring emissions reductions from these sources is also important to maximizing economic benefits under the program. Exempting those sources from the cap would not only weaken the climate potential of the program but will also hurt incentives for technological innovation and advancement--especially if DEQ does not plan to update the best available technology determination on a frequent basis. What we have seen in other jurisdictions where industry is brought under the cap (or a similar dynamic with carbon pricing regimes) is innovative responses that help incentivize changes from the status quo and a bigger focus on decarbonization solutions (not just efficiency) that go further, faster. It is not clear that BAT alone would have this similar effect.

While a best available technology ("BAT") approach can be an excellent complementary tool to reduce emissions onsite, we are concerned that--absent the cap itself and strong sideboards to ensure effective implementation--this approach lacks regulatory teeth. Specifically, we are concerned that regulating industrial emissions with a site-specific BAT approach only for process emissions--rather than requiring industrial emissions under the cap--could effectively exempt sources from mandatory declining emissions limits. Industry taking a holistic approach to decarbonizing would bring all the tools and solutions at their disposal in a more direct way: what upgrades make sense to reduce their energy use, their fossil fuel use AND their process emissions? From other states and countries' experiences in applying a declining cap on industry - that's when upgrades like electrification and super efficient boilers make sense. That's when

innovations to manufacture in cleaner, less carbon intensive ways happen. In order to ensure effectiveness of applying a best available technology approach, these emissions must also be covered under the cap.

The value of a BAT depends on how it is designed and enforced. The BAT should be rigorous and updated regularly. A BAT should be assessed every 3-5 years to stay abreast of innovation. We believe DEQ should require use of a qualified third party auditor for each entity, creating a pollution reduction evaluation that covers both greenhouse gases and pollutants that impact local health. A third party auditor can also help ensure that entities prioritize on-site reductions, and identify and consider local air pollution impacts and expected health benefits when determining what technologies are “available.”

We urge DEQ to maximize community, economic, and climate benefits by covering stationary sources’ process emissions under the cap, and then requiring best available emissions practices to maximize onsite emissions reductions.

### **Modeling/Fourth Policy Scenario**

As our organizations have expressed previously, without the underlying data--including sector-specific quantitative data--it remains difficult to fully assess and study the modeling results. However, we would like to share some comments and concerns about the modeling results and assumptions presented at last week’s RAC meeting and the recent modeling Q&A session.

First, we are very pleased to see that the modeling attempts to quantify the health benefits and jobs benefits of emission reductions over the life of the program. However, we also know that the data underestimates these health and jobs benefits, given that it does not capture industrial process emissions changes or potential benefits from CCIs. Likewise, we are concerned that the economic results do not account for the value of health improvements nor do they account for any economic value from the CCIs--and therefore fails to fully represent the health benefits and associated economic improvements.

In addition, we have questions around some of the assumptions in the modeling. In particular, we are confused by the assumption that 50% to 75% of needed gas supply would be renewable natural gas (i.e., RNG or biomethane) by 2050. Clarity on what level of natural gas is assumed to still exist in the state at that time is needed to know if this level of replacement with RNG is feasible. The Oregon Department of Energy has identified the maximum potential that even exists in Oregon to replace existing levels of natural gas use (in 2018) to be 22%. However, as ODOE notes in their RNG report, “not all of this potential is feasible as 79 percent is derived from thermal gasification potential – a technology that is not operational anywhere in the U.S.”<sup>1</sup> As the ODOE RNG report makes clear, the total potential RNG from anaerobic digestion in Oregon could only replace 4.5% of existing natural gas use in the state as of 2018, not the higher level of natural gas that is growing every year. The report also makes clear that there isn’t enough RNG to replace fossil gas in a growing gas system either: “The state’s current CNG transportation needs could consume 100 percent of the RNG potential available from anaerobic digestion.”

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<sup>1</sup> ODOE, RNG Inventory Report, 2018:  
<https://www.oregon.gov/energy/Data-and-Reports/Documents/2018-RNG-Inventory-Report.pdf>

At the same time, leading deep decarbonization studies for West Coast states confirm it is more cost effective to electrify most current uses of natural gas (coupled with deep energy efficiency), particularly for reducing these emissions in residential and commercial buildings.<sup>2</sup> For example, as Washington’s Commerce Agency has found in their first draft of the Washington State Energy Strategy, released in November 2020: “Analysis...shows that electricity is the lowest cost option to decarbonize Washington’s space and water heating end uses when high efficiency heat pump technologies are used.” Similarly, E3 modeling for the California Energy Commission has found that the lowest-cost pathway to eliminate direct emissions from commercial and residential buildings is to electrify. An electric heat pump would cost \$34 to \$53 per month to operate while RNG in a gas furnace would cost **5 times** as much, \$160 to \$263 per month to operate.<sup>3</sup> Therefore the Oregon model assuming this high percentage of existing fossil gas will be replaced with a more expensive (and unrealistic) level of reliance on renewable natural gas instead of cost-effective electrification could likely have negative implications for the economic results.

We had hoped that DEQ would use the fourth policy scenario to model what the program will look like--and, importantly, to model targets following the best available science (which call for reductions above the EO goals). Instead, the fourth policy scenario presented included the EO targets-- 45% by 2035 and 80% by 2050--but, to our surprise, used 2010 as a baseline rather than 1990. While we understand DEQ’s desire to use greenhouse gas reporting data for the modeling, we have concerns about using 2010--a year with 8 million metric tons of emissions more than 1990, the year prescribed in EO 20-04.

Using 2010 as the baseline represents a significant increase in emissions baked into the system compared in 1990. We would strongly urge DEQ to establish 1990 as a baseline year for the program, consistent with the EO targets and existing state GHG goals, or else choose a baseline year (or years, averaged) with emissions comparable to 1990 levels, to provide certainty that the program will at minimum meet the goals set in the executive order. If DEQ chooses to go with a baseline other than 1990, we would strongly urge DEQ to provide data on the difference in baseline emissions to demonstrate how the program will achieve those goals. It also means, if DEQ chooses a 2010 baseline, that DEQ should either start the cap below BAU in year 1 of the program or adjust the downward trajectory of the cap decline factor to achieve similar emission reductions with the additional 8 MMT baked in.

## **Community Climate Investments**

Our organizations continue to be interested in hearing the potential benefits of Community Climate Investment projects, and continue to seek assurance as to how DEQ will maintain both equity and strong environmental integrity. With that in mind, we are pleased that DEQ has indicated that all of the projects will be intended to reduce or remove emissions, and strongly support DEQ setting a price for CCI’s that at least reflects the social cost of carbon. Further, we are very pleased that DEQ is now planning to prioritize projects in environmental justice and impacted communities for the majority of funds.

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<sup>2</sup> WA Commerce Agency, “Washington State Energy Strategy,” First draft released in Nov. 2020: <https://www.commerce.wa.gov/wp-content/uploads/2020/11/WA-2021-State-Energy-Strategy-FIRST-DRAFT-2.pdf> E.g., “Analysis...shows that electricity is the lowest cost option to decarbonize Washington’s space and water heating end uses when high efficiency heat pump technologies are used.”

<sup>3</sup> California Energy Commission, “Final Project Report: The Challenge of Retail Gas in California’s LowCarbon Future,” 2019: <https://ww2.energy.ca.gov/2019publications/CEC-500-2019-055/CEC-500-2019-055-F.pdf>

While the above leanings provide greater clarity around how DEQ will ensure equity and environmental integrity under the program, we continue to urge DEQ to commit to a 1:1 reduction of emissions for each alternative compliance instrument, and to ensure alternative compliance does not allow pollution to occur above the cap or persist unabated in communities. Further, we continue to strongly urge DEQ to ensure that the program: requires onsite emissions reductions first; incorporates air quality impacts and considerations like transitioning off combustion of fossil fuels; and requires that investments happen in and directly benefit Oregon communities, prioritizing investments in frontline/impacted communities.

### **Non-Natural Gas Fuel Suppliers**

As our organizations have expressed previously through written and verbal comments, our bottom line is that the threshold for regulation and distribution of compliance instruments should be set to hold non-natural gas fuel suppliers (e.g. oil companies) responsible for their pollution – no exemptions.

DEQ's most recent (4/20/21) brief on fuel sector considerations continues to raise the question of the threshold for regulation, as well as how to determine whether an entity meets a given threshold and how to distribute compliance instruments. While we generally support DEQ's proposal to use a three year historical average to determine which entities meet or exceed the threshold, we continue to be concerned that DEQ appears to be considering anywhere from no threshold (i.e. zero) to a 300,000 MT threshold. Wherever the threshold is set, those companies above the threshold would be regulated, while those below would be given a free pass. At 300,000 MT, only 6 companies representing 86% of transportation emissions would be covered. At zero, about 90 companies would be regulated and 100% of emissions.

Placing the threshold at zero or near zero would ensure oil companies are not let off the hook for their pollution. Setting the threshold at or near zero could also help address the concern around market volatility, as entities falling in and out would likely not be as big an issue. A threshold of zero could still allow for differentiated treatment between large and small entities (e.g., longer compliance windows for smaller entities). Lastly, we continue to have strong concerns with direct distribution to oil companies -- essentially, free allowances -- and would again urge that, if that is how DEQ proceeds, that there at least be safeguards in place. As outlined in our previous comments, these safeguards could include:

- The initial allocation of compliance instruments should be substantially less than the baseline emissions calculation for the entity so oil companies do not receive 100% free allowances and would have to reduce emissions from day one. And, the compliance instruments allocation should decline substantially every year thereafter.
- Ideally, DEQ would also put conditions on the distribution of compliance instruments – e.g. oil companies would need to have an emissions reduction plan in place to receive direct distribution and/or demonstrate emissions reductions to receive compliance instruments.

Again, we urge DEQ to use this program to maximize emissions reductions from Oregon's largest polluting sector, by holding all oil companies and other fuel suppliers responsible for their pollution. Other jurisdictions are proposing setting a zero threshold for fuel suppliers (e.g. the Transportation Climate Initiative draft model rule for the RGGI states) and other jurisdictions have established thresholds that are well below 300,000 MT.

Thank you for your consideration, and we look forward to continuing to work with you to ensure a healthy future and a stable climate for all Oregonians through the establishment of a strong and just Climate Protection Program.

Nora Apter, *Climate Program Director*  
**Oregon Environmental Council**

Meredith Connolly, *Oregon Director*  
**Climate Solutions**



May 3, 2021

Richard Whitman  
Director, Oregon Department of Environmental Quality  
700 NE Multnomah Street, Suite 600  
Portland, OR 97232

Re: Oregon Climate Protection Program

Director Whitman,

Thank you for the opportunity to respond to the slide deck presented by the Oregon Department of Environmental Quality (“DEQ”) at the fourth RAC meeting of the Oregon Climate Protection Program (“CPP”). As a reference, the Oregon Farm Bureau Federation (“OFB”) is the state’s largest general agriculture association representing nearly 7,000 families engaged in production agriculture.

OFB remains concerned about the impacts of the CPP to Oregon’s farm and ranch families. We are strongly opposed to DEQ’s proposal for costly and inflexible community climate investments (“CCI”) as the sole mechanism for alternative compliance with the CPP. As currently envisioned, CCIs will not contain costs for everyday users and consumers, and will instead drive up the cost of compliance with this program. DEQ should offer regulated entities a variety of alternative compliance instruments, including those available in the global marketplace at a cost of \$15 to \$20 per metric ton of carbon sequestered and those available through voluntary agricultural practices, in order to allow entities to meet the stated goal of the program: the reduction of global greenhouse gas emissions.

The proposal for \$76 CCI’s (or the current social cost of carbon) will result in significant increases in the cost of fuel, propane and natural gas, three critical inputs for farmers and ranchers, and products for which there are not credible alternatives on the market today for agricultural equipment or machinery. We are also concerned that DEQ’s proposed CPP could actually result in the rationing of fuels that are necessary for the production of food and fiber. Without a diversity of cost-effective pathways available for compliance with the CPP, fuel suppliers could be in the position of rationing those supplies in order to comply with the program. Rural Oregon businesses and families will ultimately be the ones to lose out if there is rationing, and this outcome must be avoided.

OFB is concerned that the CPP will make fuel considerably more expensive than most of the rest of the country. There has been no discussion about price off-ramps or the cost considerations needed to keep Oregon agriculture competitive. We encourage DEQ to adopt a

threshold for regulation of fuels of no less than 300,000 metric tons of carbon, which would capture the overwhelming majority of emissions while limiting the regulatory burden of the program on smaller businesses and the cost impacts to their customers. We also urge DEQ to develop program off-ramps in the event the agency's aggressive cap trajectory cannot be met with existing technologies.

We are unsure whether new fuels entering the marketplace, as a result of the cap, will be compatible with existing farm machinery. For many family farms, used equipment may be the only option for planting and harvesting crops. New equipment is simply cost prohibitive for many family operations. Requiring small farmers to transition to these newer machines is simply not realistic and should be taken into account as the agency models the economic impact of fuel switching.

Finally, public safety has not been discussed under this program. Many of our members rely on back-up natural gas, propane, gas and diesel generators in the event that there is a disruption in electricity. This happened several times to farmers and ranchers over the last 12 months—during the 2020 wildfires and the 2021 ice storms. These back-up generators not only allow the farm to continue to operate, sometimes during critical times, but also pump water to homes. Without these fuels, many populations could be removed from their homes with few places to go. We need to better understand the public safety and emergency management implications that could result from the fuel restrictions under this program, given that the point of the program is to remove these fuels from the marketplace completely.

It is clear that DEQ has prioritized emissions reductions and equity in its proposal. However, the CPP falls short of effectively controlling costs that will ultimately be paid by Oregon businesses and families. For farm and ranch families, these costs could be significant, as agricultural production is both fuel and energy intensive. This is a critical flaw in the program design, and one that falls short of DEQ's stated goal at the first RAC meeting of balancing emissions, equity, and cost controls. OFB respectfully urges the agency to reconsider its approach to compliance and build in cost controls to ensure that local farms and farm families do not bear a disproportionate burden under the program.

Sincerely,

A handwritten signature in black ink, appearing to be 'JD', with a long horizontal flourish extending to the right.

Jenny Dresler  
Lobbyist  
Oregon Farm Bureau



May 5, 2021

Colin McConnaha  
Nicole Singh  
Office of Greenhouse Gas Programs  
Oregon Department of Environmental Quality  
*Sent Via Email: [Colin.McConnaha@state.or.us](mailto:Colin.McConnaha@state.or.us); [Nicole.Singh@state.or.us](mailto:Nicole.Singh@state.or.us)*

**RE: Oregon Fuels Association RAC #4 Comment Letter**

Dear Colin and Nicole:

Thank you for an opportunity to provide comment following the Cap-and-Reduce / Climate Protection Program rules advisory committee meeting. The Oregon Fuels Association (OFA) is the voice of Oregon's small, locally-owned fuel stations, fuel distributors and heating oil providers. It is important to understand that OFA members are not national or multinational businesses or major oil companies that navigate complex climate regulations daily. In fact, today our members are making difficult decisions on how to comply with Oregon's existing regulatory structures designed to reduce GHG emissions, all of which have a direct expense on these small businesses. Adding yet another new, complex regulation will unnecessarily add significant expense on these local businesses – an expense that can be avoided without hurting the state's GHG reduction goals. Without more justification, as explained below, our members cannot and should not be expected to manage a complex regulatory program competing with large businesses in the fuel sector – especially since it will not deter the state from meeting its GHG reduction goals.

OFA members have demonstrated that they are at the forefront of environmental stewardship. For example, OFA members have made significant investments in infrastructure to enable fuel blending that lowers the carbon intensity of fuels, thereby lowering the state's GHG emissions. The same Clean Fuels Program (CFP) carbon intensity targets are expected to more than double pursuant to the Governor's EO 20-04. In short, investments by our members have helped eliminate millions of tons of greenhouse gas emissions since the Clean Fuels Program (CFP) was implemented in 2015.

Combined with the CFP, the Climate Investment Program (CIP) being discussed could create significant burdens on OFA's small businesses and produce little to no environmental benefits.

During the rules advisory committee (RAC) meetings, we have heard concerns with the 300,000 MtCO<sub>2</sub>e threshold due to fears of GHG leakage that would result if fuel distributors gamed the system by changing business practices to avoid the cost of this regulation (there seems to be broad acknowledgment that there will be a significant cost or there would not be an incentive to change business practices). However, as described below, there are a number of barriers that make any significant leakage unlikely. And with the adoption of Washington’s cap-and-trade program, we believe that GHG leakage is even more unlikely.

Importantly, because we believe leakage risk is low, DEQ’s designed threshold for the transportation sector should reduce the complexity of this **new** program on the agency, recognize the benefits of limited fluctuations to entrance/exit from the program, and mitigate the costs on small and medium sized businesses – all while maintaining the goals outlined in the Governor’s Executive Order (EO 20-04). EO 20-04 provides that agencies must “[p]rioritize actions that reduce GHG emissions in a cost-effective manner.” **Consistent with that approach, OFA strongly supports a 300,000 MtCO<sub>2</sub>e threshold for the following reasons:**

- *Lowering the threshold for fuel under the program will have little to no climate impact.* Nearly, 100% of transportation fuels is currently regulated under the CFP and nearly 90% of transportation fuel will be regulated under a 300,000 MtCO<sub>2</sub>e threshold for Cap-and-Reduce, allowing Oregon to meet its GHG reduction goals. Because two of our borders (California and Washington) have cap-and-trade programs that cover transportation fuels at the source (refiner), it is likely that more than 90% of fuel sold in Oregon will capture the price of carbon, based on market dynamics. Consequently, the state can still meet its stated goals outlined in EO 20-04.
- *Cap-and -Trade programs in the States of Washington and California regulate oil refiners, not local distributors.* Oregon should do the same, capturing likely more than 90% of fuel sold in Oregon. Oil companies will be regulated in multiple carbon markets and they will create efficiencies, maximizing carbon reduction at a reasonable price. Locally owned fuel distributors cannot compete with large multinational corporations when it comes to complying with complex regulatory programs. The cost of compliance is far more expensive for a local fuel distributor than for a multinational company. The regulations and burdens on small and medium sized businesses should be recognized and mitigated by the DEQ in the CPP.
- *Gaming the system in the fuel market is impractical.* Oregon fuel distributors purchase fuel from major oil companies under 10-year to 15-year, long-term contracts. OFA members have little to no ability to change the detailed terms of that relationship with their supplier and are simply price takers in the fuel marketplace. For example, a branded fuel station *must* pickup their fuel at a specific location as specified in the contract by the oil company. It cannot then choose to pick up different fuel, at a different location without breaching its contract.

Moreover, due to the significant compliance costs with the Clean Fuels Programs (CFP), many distributors have decided to purchase obligated fuel in-state (fuel already compliant with the standard). This means that any changes in business practices for many

distributors would also mean significant new CFP requirements. Meaning, becoming a fuel importer in order to avoid cap-and-reduce direct regulation would subject a company to new regulations under Oregon's CFP program. Again, these changes for OFA member businesses are substantial and thereby mitigate the threat of gaming the program.

- *The state should set the threshold at 300,000 MtCO<sub>2</sub>e and simultaneously, study the potential for GHG leakage that would justify a lowering of the threshold in the future.* Small and medium sized businesses are stuck in long-term contracts and they have little ability to absorb major changes in regulatory compliance costs. Setting a climate-relevant threshold balances the need to both regulate a majority of GHGs, without unnecessarily hurting small, locally owned businesses. In the event that DEQ identifies lost GHG emissions as a result from a 300,000 MtCO<sub>2</sub>e threshold, DEQ may adjust that threshold as appropriate to meet the state's GHG goals and balancing the burdens on small business.
- *A lower threshold will be a significant burden on DEQ and other regulated sources.* A lower threshold would add 3-6 times the number of directly regulated entities. Many of the regulated entities are large national or multinational corporations with sophisticated regulatory and legal departments. OFA members are smaller, locally-owned businesses that are less equipped to handle a complex new regulatory program as is being envisioned. It would be patently unfair to include these smaller businesses in this new complex regulatory program.

Additionally, OFA members' GHG emissions can fluctuate dramatically. Examples over the last five years show GHG emissions fluctuating between 50% to 200%. It is unclear how the state will allocate permits or allowances to all regulated entities and sectors under a declining cap if these businesses are moving into and out of the regulated threshold. This will make administering the program difficult for DEQ and create significant uncertainty to all other regulated entities. In order to develop some consistency and stability for sources, especially as this one-of-a-kind program begins implementation, DEQ should avoid setting a threshold so low that regulated entities would move in and out of the program.

This is a program that will evolve and change over time once it is implemented. We strongly recommend that DEQ start with the 300,000MtCO<sub>2</sub>e threshold and revisit this issue if necessary, over the course of the program.

Thank you,

Mike Freese  
Oregon Fuels Association



## MEMORANDUM

To: Richard Whitman, Director, Oregon Department of Environmental Quality  
Sent via email: [GHGCR2021@deq.state.or.us](mailto:GHGCR2021@deq.state.or.us)

From: Oregon Manufacturers and Commerce  
Shaun Jillions, [sjillions@oregonmanufacturers.org](mailto:sjillions@oregonmanufacturers.org)

Date: April 30, 2021

Re: Feedback on Oregon Climate Protection Program: Rulemaking Advisory Committee Meeting 4

Thank you for the opportunity to provide feedback on the topics presented by the Oregon Department of Environmental Quality (“DEQ”) at the fourth meeting of the Oregon Climate Protection Program: Rulemaking Advisory Committee (“RAC”). As a reference, Oregon Manufacturers and Commerce (“OMC”) is an association dedicated to promoting, protecting, and advancing Oregon manufacturers and their allied partners.

OMC writes to reiterate concerns shared in response to previous RAC meetings regarding the proposed Climate Protection Program (“CPP”), specifically the lack of compliance pathways for energy intensive, trade exposed facilities and the high cost of proposed alternative compliance options. Regardless of the point of regulation, the leakage risk does not change, and in fact, when there is not a compliance pathway, the leakage risk increases under the CPP.

OMC also urges the agency to revisit its leaning to regulate all emissions associated with the combustion of natural gas upstream at the local distribution company (LDC). Energy intensive facilities have repeatedly requested that the agency provide flexible and affordable compliance pathways, such as allowances, to facilities that are at risk of leakage due to energy consumption and market conditions. As proposed by DEQ, the costs of compliance with the CPP will ultimately be borne by ratepayers, and initial estimates shared by LDCs reveal a rate impact of 2 to 4 times the current price of natural gas for industrial consumers. Energy intensive facilities whose energy consumption is regulated upstream have no compliance pathway under the agency’s recommendation, other than to pay a higher price for the consumption of natural gas or possible curtailment. Without a pathway to address anticipated compliance costs under the CPP, this regulatory approach will ultimately result in leakage and the closure of Oregon-based energy intensive, trade exposed facilities.

Memorandum  
Richard Whitman, DEQ Director  
Re: Climate Protection Program RAC 4  
April 30, 2021

We provide additional comments in response to the questions posed by DEQ at the fourth RAC meeting.

*What are your thoughts on regulating stationary source emissions with a site-specific best available emissions reduction approach instead of the use of compliance instruments? What do you see as the potential benefits and the challenges to using this approach for stationary sources?*

Regulated stationary sources should be given the choice to receive compliance instruments (i.e. allowances) under the CPP or to comply through a site-specific best available emissions reduction approach. Under the proposed framework, facilities with emissions from the combustion of natural gas and those with process emissions of > 25,000 metric tons will be challenged to identify methods to reduce those emissions and still remain competitive in the marketplace, especially if alternative effective processes or ingredients are not available.

*What might DEQ need to consider when determining whether a source has met best available emissions reduction assessment?*

As identified in the agency's slides, there is no one-size-fits-all approach to the reduction of greenhouse gases across all facilities or sectors. As such, DEQ should provide regulatory flexibility for a best available emissions reduction assessment based on production volume/ intensity or on a mass basis. While a production volume/ intensity assessment was considered by the legislature in 2019 and 2020, a mass-based approach is important for facilities with diverse production lines that do not vary based on changes in production volumes. DEQ should provide facilities with the option to choose the pathway that best fits their operations.

It is also important that DEQ implement the assessment on a reasonable timeframe to provide flexibility to regulated stationary sources. The adoption of emissions reduction technology does not happen overnight. These technologies, if they even exist, take time to identify, purchase, and permit within the state. OMC encourages DEQ to work with stationary sources to identify a multi-year compliance period that is achievable and provides Oregon-based companies with sufficient flexibility to weather economic downturns and unstable market conditions as well as make investments in greenhouse gas reduction technologies if they are available. We also encourage DEQ to consider a longer compliance/ assessment period at the outset of the program.

*What factors should be considered and evaluated as part of the assessment?*

Whether directly regulated or regulated upstream, entities should only be responsible for emissions associated with the specific facility, not emissions accounted for through other aspects of the program. Those emissions that are regulated through a different construct, such as a best available emissions reduction assessment, should not be then double counted under the broader emissions reduction cap proposed for the CPP.

DEQ also needs to reorient the focus of the CPP to align with Governor Brown's executive order 20-04, which applies specifically to the management of greenhouse gases. Slide 18 recommends collaboration with existing air quality programs for criteria

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Memorandum  
Richard Whitman, DEQ Director  
Re: Climate Protection Program RAC 4  
April 30, 2021

pollutants. However, the CPP is specific to global greenhouse gas reduction, and the agency should focus on analyzing and reducing greenhouse gas emissions through the best available emissions reduction assessment, not co-pollutants.

With regard to policy scenario 4, OMC provides the following comments.

*What are your thoughts on the cap trajectory?*

OMC is concerned that the CPP goal of 80% reduction of greenhouse gases in Oregon by 2050 is not achievable with today's technology. The feasibility or cost effectiveness of this approach was not addressed in the modeling. DEQ's modeling for policy scenario 4 should outline existing technologies and approaches to achieve compliance with this aggressive reduction trajectory.

*What are your thoughts on the assumptions on who is regulated/regulated sectors?*

As outlined above, OMC is concerned that DEQ's proposal for upstream regulation will ultimately result in the leakage of emissions to jurisdictions with a less favorable electricity profile than Oregon's relatively clean electric grid.

While we support compliance pathways for stationary sources that are directly connected to the pipeline, OMC is concerned that the best available emissions reduction approach may not always be the best pathway for compliance with the CPP. DEQ should consider a flexible regulatory framework that allows for the provision of allowances/ compliance options or best available emissions reduction assessment, whichever best suits the facility and emissions profile.

OMC encourages DEQ to model the economic costs associated with these assumptions, including the price of natural gas for residential, commercial, and industrial ratepayers, as well as the impacts to employment for those sectors at risk of leakage. As currently constructed, we are concerned that policy scenario 4 is not in alignment with DEQ's stated goal of balancing emissions, equity, and costs as the proposed policy fails to contain costs for businesses and consumers. We also request that DEQ invite the PUC to the next RAC meeting to discuss their interpretation of upstream regulation and the mechanism by which the value of compliance instruments would be passed to consumers.

*What are your thoughts on the allowable percentage of Community Climate Investments (CCIs)?*

OMC does not support limiting the use of alternative compliance options to a percentage of regulated entities' compliance obligation. That said, given the agency's leaning to cap the use of CCIs at an "allowable percentage," the agency should consider a percentage that provides maximum flexibility to regulated entities to both sequester global greenhouse gases and provide an affordable pathway to compliance with the CPP.

With regard to the proposed framework for CCIs on slides 22 and 23, OMC remains concerned that DEQ has selected the highest cost approach to alternative compliance.

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Memorandum  
Richard Whitman, DEQ Director  
Re: Climate Protection Program RAC 4  
April 30, 2021

Certiifiable offsets and allowances are available at a market price from \$15 to \$20/metric ton of carbon, not \$76 (or the current social cost of carbon) as the agency proposes on slide 23. DEQ's proposed CCI price will subject regulated entities to compliance costs that are much more costly than those currently available for the same carbon reduction in the global marketplace. The agency has yet to provide data to show that this price will be feasible in the outyears of the program. And in contrast, several RAC members have raised the concern that CCIs are not cost effective as currently structured and could, in fact, result in leakage. DEQ should allow for additional alternative compliance options in addition to the CCIs, which will not only facilitate greater global greenhouse gas reductions, but also provide regulated entities with a diversity of affordable compliance pathways.

Additionally, OMC does not support the agency's proposal to allow a third party to determine where CCI investments are made. Regulated entities should be able to choose what carbon reduction projects they are investing in, as is common with other environmental credit trading programs.

Thank you for the opportunity to provide the agency with feedback during the public comment period. OMC looks forward to future engagement with the DEQ.



April 30, 2021

RE: Greenhouse Gas Emissions Program RAC #4 – Comments

To:

On behalf of the Oregon Trucking Associations (OTA), the following are our comments and questions from the GHG RAC #4.

- 1) Transportation is cited as the largest source of GHG emissions and the focus on the regulatory approach is significant to OTA. DEQ has premised reductions in the transportation sector on expanding the Clean Fuels program from a goal of 10% goal to 25% by 2035 through “fuel switching and electrification”. After 2035, the data indicates a substantial load demand increase from electric vehicles. For the trucking industry, this creates the following questions:
  - a. What is the consultant’s analysis for the transition to electric for medium-duty and heavy-duty trucks? Today’s Class 8 diesel truck has a range of 2000+ miles versus the new electric versions being introduced that are limited to 200 miles per charge. Range, along with load capacity, will limit the use of electric trucks in the near future so are the numbers provided based on a combination of fuel sources for the trucking industry? If so, what is the balance between fuel sources that these estimates are premised on?
  - b. Do these estimates include energy efficiency improvements with newer, cleaner diesel engines? Will this policy encourage OEM’s to continue their efforts to improve miles-per-gallon with both petroleum-based and renewable diesel engines?
  - c. If the assumptions are based on a broader acceptance of electricity as the power source for medium-duty and heavy-duty trucks, will the power grid be able to handle this largely increased demand? Is the vehicle load growth modeled in VISION (slide 18) attributable to electric passenger vehicle adoption or does it include large-scale adoption in the trucking industry?
- 2) Fuel costs will undoubtedly become significantly more expensive under this program. OTA supports the application of the regulations at the 300,000 level which will reduce redundancy and confusion by smaller fuel providers. State fuel taxes are applied at this level and ODOT has a tracking system that would be more effective than any system that DEQ would create for tracking from a regulatory standpoint. Additionally, the cost of the program raises the following questions:
  - a. What will the fuel cost increase of raising the standard to 25% be? Are there off-ramps built into the program to balance these cost increases?

- b. Has the modeling looked at what these fuel cost increases mean from a consumer perspective? Increased transportation costs will be reflected in higher food costs and has that economic dislocation been reflected in this policy analysis? How will this affect the cost of goods from a manufacturing and transportation perspective?
  - c. Will there be access to new fuel sources in all communities in Oregon or will this policy create regional inequities?
  - d. What is the calculation cost for the disposal of batteries used to power electric vehicles? Since there is currently no widely adopted recycling for these power sources, have these disposal costs been part of the calculation?
- 3) The analysis shows that while the overall economic impact to Oregon from this policy will be minimal, their data reflects job losses in both the agricultural and transportation sector.
- a. What are the details of these job losses? What are the assumptions?
  - b. The largest costs in the trucking industry are fuel and labor. How will this policy affect those costs and has there been an economic analysis done that reflects this impact in the job loss projections provided at RAC #4?

Thank you in advance for your consideration of these questions.

Sincerely,



Jana Jarvis  
President & CEO  
Oregon Trucking Associations (OTA)



April 30, 2021

Steven D. Smith  
Director, Climate & Regulatory Affairs  
Phillips 66  
1075 W. Sam Houston N., Suite 200  
Houston, TX 77043  
Steven.d.smith@p66.com

Ms. Nicole Singh  
Oregon Department of Environmental Quality  
Office of Greenhouse Gas Programs  
700 NE Multnomah St., Suite 600  
Portland, OR 97232

Submitted Electronically to: [GHGCR2021@deq.state.or.us](mailto:GHGCR2021@deq.state.or.us)

**Re: Comments on Oregon Climate Protection Program - RAC Meeting #4**

Dear Ms. Singh,

Phillips 66 appreciates the opportunity to comment on the materials and discussion from the fourth Oregon Climate Protection Program RAC meeting on April 22, 2021. We appreciate the opportunity to be a RAC member and are hearing important viewpoints from other stakeholders.

**Community Climate Investments (CCIs)**

Phillips 66 directionally supports the CCI feature subject to further details. CCIs could add value to the program in at least these ways:

- Fund projects to reduce emissions in disadvantaged communities
- Strengthen Oregon's natural and working lands
- Provide alternative compliance options for sectors where emission reductions are very high-cost and/or take time to develop
- Protect Oregon consumers from unreasonable cost increases

The CCI program should be structured and balanced to address all four of these goals. We offer these perspectives:

**CCI Supply, Demand and Price:** For the CCI feature to be successful, there must be reasonable supply, demand and price for the emission credits. The price must be able to support the necessary funding for real community greenhouse gas emission reduction projects. This is the supply component. On the other hand, price cannot be too high or obligated parties may not use the CCI feature. This is the demand component. It would be unfortunate if the CCI option was underfunded, underutilized or not used at all.

**CCI Price:** It is premature to decide that the price of CCIs should be established at the Social Cost of Carbon (SCC). The April RAC presentation showed a potential CCI price of \$75/tonne CO<sub>2</sub>e in 2020\$. This is far higher than most other alternative compliance options in other Cap-and-Trade programs. For example, the February 2021 joint California/Quebec auction price for allowances was \$17.80/tonne CO<sub>2</sub>e and offset credits are currently available at similar cost. The SCC was a consideration in the design of the California Cap-and-Trade program cost containment features but was used to inform how that program's auction price ceiling was established. The RAC should have expanded discussion on the price basis for the CCI feature and the implications of a potentially severely underutilized CCI feature.

**CCI Supply:** We strongly recommend the addition of CCI options for natural and working lands. These projects could provide significant supply of CCIs to the program. We are concerned that there will be adequate supply of CCIs without the inclusion of projects in natural and working lands. These could include projects to enhance forest carbon sequestration, grassland improvement, soil improvement and agricultural options. This ODEQ consideration should include some use of offset project protocols already established by national offset registries.

**Program Cost Containment:** To round out the discussion, the CCI feature should be viewed with a lens to both delivery community reductions but also provide program cost containment. This feature can and should be a tool to control compliance costs for obligated parties, which results in corresponding cost control for Oregon citizen consumers of natural gas, transportation fuels and consumer products.

**Thank you for this opportunity to submit comments. You can reach me at 832-765-1779 or [steven.d.smith@p66.com](mailto:steven.d.smith@p66.com).**

**Best Regards,**

**Steven D. Smith**

To: ODEQ GHG reduction taskforce

From: Ralph M Cohen, PE

Subject: Rulemaking Session #4 (04/22/21) comments

Date: 04/24/21

Thank you for the opportunity to participate in the Cap and Reduce program. I am submitting these comments or concerns related to the material presented at the meeting.

I am currently an independent engineering consultant/concerned citizen with many years of experience across a wide range of industries in mechanical and facility design, energy conservation, and pollution control. As a board member of Professional Engineers of Oregon (PEO), I am keeping them apprised of the workshop proceedings, but views and comments I provide are strictly my own and have not been vetted or endorsed by PEO.

Each meeting demonstrates the quality of the ODEQ effort in completing milestone tasks, keeping to the agenda, and presenting the information clearly with adequate opportunity for RAC and public input. Attending is time well spent.

**Comments concerning regulating Stationary Sources (slides 13 – 19):**

Based on my engineering knowledge of stationary sources, the approach suggested in the presentation is reasonable but with some concerns:

1. “Best Available Emissions Reduction” is not always economically viable; I do not think that ODEQ is necessarily implying “best available” will be stipulated, but I can see where members of the RAC could easily. As I stated in my public testimony at the meeting, removing the last metric ton of GHG/CO<sub>2</sub> emission will be infinitely expensive. “Best Available” needs to be balanced with “reasonable cost” considering a cost that is equitable compared to the contribution to reduction from all regulated segments and/or possibly compared to the CCI value or an amount greater than the CCI.
2. An easy way to look at the cost effectiveness of reduction would be in terms of the metric: capital cost per MT/year GHG/CO<sub>2</sub> removed. When the cost exceeds some “to be determined” value, removal would be considered a bad corporate investment, but one that may still need to be made for the public good. But, at an even greater cost, it would become an unreasonable requirement with negative ramifications (leakage, job loss, etc.). I believe the role of ODEQ, the regulated stationary sources, and third party engineering resources will be to define “Best Available”, estimate the capital cost per MT/year GHG/CO<sub>2</sub> removed, and then strike the right balance. And, I think that the presentation has implied as much.
3. By looking at the metric: capital cost per MT/year GHG/CO<sub>2</sub> removed for each stationary source, the more economically viable opportunities will become apparent. Normally, a reduction in CO<sub>2</sub> emission has a related economic benefit, especially if it involves natural gas or non-green electricity; that is not always the case for other GHG’s.
4. It may be worth considering allowing a higher percentage of CCI to be used for stationary sources once the cost of abatement becomes too expensive.

Ralph M Cohen, PE  
Ralph M Cohen Consultancy

As an aside, generalizing to residential and commercial properties, houses and office buildings are comparable to a mini stationary source but with different ages, different heating/cooling equipment efficiency, different levels of insulation upgrade, etc. Yet in the end, the expectation will be that each mini stationary source will need to reduce GHG by what metric? Equal percentage of natural gas? Equal quantity of natural gas? Equal quantity per square foot? I haven't heard a ODEQ proposal for how this will be done equitably.

### **CCI (slide 32)**

I am in general agreement with the current proposed concept. However, since some investments have a useful life less than 30 years (or whatever duration was assumed in the proposed CCI price, especially mechanical equipment) the CCI likely needs to be adjusted dependent upon the investment's viable life if it is to net out to the social cost of CO<sub>2</sub>.

### **Modeling**

#### **GSP and Income (slides 58 - 60)**

1. The first reported result is for 2035 and is mostly positive; can one assume that at the outset of the cap, the GSP is impacted significantly negatively due to investments that have not yielded any cost savings? If so, that would be useful information to share.
2. First bullet on slide 60 states: "small changes to economy but positive for GSP and income"...reviewing the table on slide 59 indicates income is negative in 2035 and 2050.

#### **Co-benefits and Equity (slides 61 – 68)**

3. Very effective summary of the modeling

#### **Initial reflections (slide 69)**

4. I agree with the slides optimism, but until the impact is expressed as monetized cost and tangible benefits for individuals and/or on a per family basis, I do not think ODEQ will be able to make a compelling and convincing argument swaying public opinion that this program is in everyone's best interest since some of the public thinks in terms of how changes impact them or their family unit.

[END of COMMENTS]



April 30, 2021

Oregon Department of Environmental Quality  
Office of Greenhouse Gas Programs  
700 NE Multnomah St., Suite 600  
Portland, OR 97232

*Sent Via Email To: [ghgcr2021@state.or.us](mailto:ghgcr2021@state.or.us)*

**RE: Climate Protection Program 2021 – RAC Meeting #4**

Dear members of the Environmental Quality Commission, Director Whitman, DEQ staff, and members of the Rulemaking Advisory Committee,

Thank you for the opportunity to submit comments on the issues discussed in the fourth meeting of the Rules Advisory Committee (RAC) for Oregon’s new greenhouse gas emissions rulemaking. Below are our reactions to the central topics of discussion and new policy ideas that DEQ introduced at meeting #4.

One recurring theme of our comments is that RAC members do not receive sufficiently detailed or granular information from DEQ about its policy proposals to analyze and react to them. Another recurring theme is that DEQ seems to be making decisions about what sources of greenhouse gas emissions to exclude from the Climate Protection Program on the basis of assumptions about what will be accomplished through other regulatory programs, some of which do not yet exist or have not yet been expanded in the way contemplated by DEQ.

In light of these recurrent concerns, we ask you to consider extending the RAC process so that RAC members have more time to engage with DEQ on an informed basis and after the close of legislative session, when we will hopefully have a clearer picture of the other programs aimed at reducing greenhouse gas emissions and how the Climate Protection Program can complement them.

## **I. REGULATION OF LARGE STATIONARY SOURCES OF POLLUTION**

As we understand DEQ’s latest proposal, DEQ is considering exempting 10-15 large stationary sources of pollution<sup>1</sup> from the cap-and-reduce program and instead directly regulating these sources’ GHG emissions as a separate part of the Climate Protection Program.

Directly regulating large stationary sources of pollution could potentially produce benefits for environmental justice communities, provided that DEQ adopts sufficient sideboards. While we support the idea of prohibiting large polluters from using the “alternative compliance instruments” that DEQ has outlined for the cap-and-reduce portion of the program, whether we would support a rule that exempts these large stationary sources from the cap altogether and directly regulates these sources instead will turn on the details of the regulatory program.

### **A. Large Polluters Should Not Be Permitted to Buy Alternative Compliance Instruments Instead of Reducing GHG Emissions.**

We support the idea of not allowing large stationary polluters to use alternative compliance mechanisms (CCIs, banking, and trading). We are glad DEQ has realized the environmental injustice inherent in allowing large stationary polluters to continue polluting as long as they buy offsets or trade emissions credits. As many RAC members have pointed out, pollution from these facilities disproportionately affects already overburdened communities of color and Indigenous communities, and allowing these polluters to pay in lieu of actually reducing GHG emissions could result in sacrifice zones that deny the surrounding communities the health and welfare benefits of reductions in GHG co-pollutants.

### **B. DEQ Should Include Emissions from Combustion of Natural Gas in the Direct Regulation Program.**

As you know, a few plants that generate electric power from fossil fuels are responsible for more than half of all of Oregon’s GHG total emissions from facilities that hold air quality permits.<sup>2</sup> We remain concerned by DEQ’s decision to exempt these electric plants’ emissions from the Climate Protection Program.<sup>3</sup> This is a troubling indicator that DEQ appears to be caving to industry pressure.

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<sup>1</sup> It is our understanding that these directly regulated stationary sources would include entities that generate greenhouse gas emissions from industrial processes, solid fuels combustion, and combustion of natural gas directly from pipelines, but not emissions from stationary sources from combustion of liquid fuels or combustion of natural gas that flows through natural gas utilities. *See* Oregon DEQ, Greenhouse Gas Emissions from Facilities Holding Air Quality Permits (2019), <https://www.oregon.gov/deq/air/programs/Pages/GHG-Emissions.aspx>.

<sup>2</sup> *See* Oregon DEQ, Greenhouse Gas Emissions from Facilities Holding Air Quality Permits (2019), <https://www.oregon.gov/deq/air/programs/Pages/GHG-Emissions.aspx>.

<sup>3</sup> *See* Oregon DEQ, Regulating Stationary Source Emissions (Apr. 20, 2021), <https://www.oregon.gov/deq/Regulations/rulemaking/RuleDocuments/ghgr2021ConsidStation.pdf>.

As DEQ expands its vision of how the Climate Protection Program could function and considers regulatory structures other than cap-and-reduce, we hope that DEQ will consider at least modeling a program that would directly regulate electric plants' greenhouse gas emissions or offer RAC members a cogent reason why it believes it cannot do so. Folding electric plants into the direct regulation portion of the Climate Protection Program would allow DEQ to work with these plants to devise and implement site-specific control strategies. By exempting these plants altogether, DEQ is foregoing the chance to even explore whether there are additional control practices these plants could be adopting to cut back on their overwhelming emissions of greenhouse gases.

Exempting combustion of natural gas emissions is a decision that will powerfully constrain the scope of the Climate Protection Program, and DEQ should, at a bare minimum, study the impact and equity of that decision, and share that analysis with RAC members.

**C. DEQ Must Set Clear, Transparent Benchmarks to Reduce Gross GHG Emissions from Directly Regulated Entities Exempt from the Cap.**

***1. DEQ must set out transparent goals and criteria for its direct regulation program and identify sideboards to ensure that the direct regulation program plays a significant part in reducing Oregon's GHG emissions.***

In designing a direct regulation program to allow DEQ to establish site-specific limits on greenhouse gas emissions, DEQ must ensure ongoing transparency around its decision-making and set forth clear sideboards to guide DEQ's exercise of discretion. DEQ has not yet offered any details about the benchmarks it would set for these facilities in lieu of subjecting them to a cap on GHG emissions or the criteria it would use to set emissions restrictions on directly regulated facilities under DEQ's newest proposed scenario. Nor has DEQ explained how it will hold regulated facilities accountable for meeting whatever benchmarks DEQ sets.

RAC members need a clear articulation of DEQ's specific goals for this portion of the program and criteria for site-specific decisions, as well as access to granular information about DEQ's assumptions and accounting in order to offer an informed analysis of DEQ's proposals. Just as we have previously urged DEQ to release more information and hard data to allow RAC members to assess DEQ's proposed cap-and-reduce scenarios (and we continue to urge this), we ask DEQ to please share more detailed information about the proposed direct regulation program.

**2. DEQ must require aggressive reductions in gross emissions as a condition of operating in Oregon and build in protective sideboards and accountability mechanisms.**

In lieu of subjecting large stationary sources of pollution to a cap, DEQ must require them to aggressively pursue all available strategies for reducing their actual gross emissions of greenhouse gases.

A growing chorus of voices has been underscoring the need for bold action to avert global disaster brought on by greenhouse gas emissions. Failing to do everything possible to ensure that Oregon meets its greenhouse gas reduction goals will affect us all, but not equally. Please listen to the communities that are currently—and will continue to be—hardest hit by climate change, and make the most of this rare opportunity to change the course of history for the better.

We exhort you to use the full extent of your authority to catalyze aggressive GHG emissions reductions by the regulated sectors. In particular, we encourage DEQ to create mechanisms for ensuring compliance with its benchmarks for reducing Oregon’s greenhouse gas emissions.

DEQ must also identify accountability measures for itself. DEQ needs to explain how it will remain accountable to Oregonians for the individualized decisions it makes in deciding what control measures to require—or not require—of each directly regulated facility. We look forward to hearing how DEQ will measure and analyze whether its decision-making is sufficiently tailored to meet Oregon’s greenhouse gas reduction goals.

**D. DEQ Should Require the Best Performing Control Technologies in Addition to Other Control Strategies, Such as Reductions in Operating Capacity,**

At a minimum, DEQ should require every sector exempted from the cap to use control technologies on par with the best performing existing facilities and as well as other operating strategies to reduce greenhouse gas emissions. Control technology alone is insufficient. DEQ should ensure it has tools at its disposal beyond requiring the adoption of existing control technologies to reduce greenhouse gas emissions from these facilities.

Requiring facilities to adopt the best performing currently available control technology while exempting them from a GHG cap does nothing to incentivize high-pollution sectors to develop *better* control strategies. And requiring the best-performing existing technology alone won’t produce *any* reduction in GHG emissions in high-polluting sectors where the best available technology is already widespread and in use. Some industries simply do not have good control technologies that are conducive to combatting climate change or protecting human health and

welfare. The most effective currently available technology in many sectors will almost certainly fall short of being the best regulatory solution for the planet or for human health and welfare.

DEQ should consider reductions in operating capacity as one potential control practice that could be required of directly regulated sources in addition to requiring the best available control technology. Many stationary sources in Oregon already operate below the maximum levels at which they are permitted to operate; requiring them to further reduce operation levels and taking away the option of operating at full permitted capacity—in other words, eliminating the “headroom” in their permits—could be one way to ensure these facilities help meet Oregon’s climate protection goals. If DEQ required new control technology alone without any additional control strategies, some of these facilities might have an incentive to *increase* their operating levels to compensate for the cost of the new control technology.

#### **E. DEQ Should Require Directly Regulated Entities to Help Fund the CCI Program in Addition to Requiring Gross Reductions in Emissions and Other Control Strategies.**

DEQ should also consider requiring facilities exempted from the cap to fund the Community Climate Investment program in addition to adopting the best available control technology and control strategies. While CCIs should not be a *substitute* for strong emissions control technologies and strategies, requiring directly regulated facilities to adopt the best available control technology and control strategies *and also* to fund community climate investments could help make large polluters responsible for contributing meaningfully to GHG reductions that benefit overburdened communities.

## **II. COMMUNITY CLIMATE INVESTMENTS (CCIs)**

### **A. The Social Cost of Carbon Is a Helpful Conceptual Framework for Pricing CCIs, but EPA’s Rates May Undervalue the Particular Harms Suffered by Oregonians.**

We support DEQ’s proposal to price Community Climate Investment (CCI) credits based on the social cost of carbon. The social cost of carbon is a helpful conceptual framework that reflects the health costs of greenhouse gas emissions.

And EPA’s calculations of the current social cost of carbon are a convenient data point. However, EPA’s numbers may not account for regional cost differences and regional differences in harms. We encourage DEQ not to discount environmental justice communities’ qualitative descriptions of the harms they are or may be burdened with for the sake of convenience.

## **B. DEQ Should Empower Impacted Communities to Play a Central Role in Deciding What CCI Projects to Prioritize.**

We appreciate the ongoing dialogue about how to ensure that any Community Climate Investment (CCI) component of the program serves to correct environmental injustice.

We would support a CCI program model that allowed impacted communities to play a leading role in prioritizing CCI projects. Overburdened communities are the ultimate authorities on which projects will address their most pressing needs—whether that is for carbon sequestration projects, electrification, or pollution-reducing measures.

But DEQ needs to equip communities with sufficient resources to meaningfully participate in the decision-making process, to fully understand the options and the potential impact of each proposed CCI investment, and to guide DEQ’s decision-making.

We agree with many of the comments made during meeting #4 about what is necessary in order for the CCI program to center impacted communities. First, DEQ needs to establish clear goals for the CCI programs and criteria for CCI projects to ensure that CCI investments translate into direct and significant reductions in greenhouse gases. Second, DEQ must use its resources to study a broad range of possible investment options and to share that analysis with impacted communities in a variety of formats. DEQ’s analysis should include an assessment of the GHG reductions the project would generate and additional project benefits such as new green jobs, cost, any potential negative impacts of the project, and the identity and track record of any entities that would be involved in the project. Third, DEQ must invest in engagement with community-based organizations to ensure that CCI decision-making is inclusive of all of the communities that should be driving the decision-making. DEQ’s engagement should not only give impacted communities a seat at the table, but also enable them to help design the program. Fourth, DEQ needs to establish mechanisms for oversight and accountability once CCI projects have been funded to ensure they are accomplishing what they were intended to accomplish.

## **III. DEQ MUST ACTIVELY ENGAGE OREGON TRIBES IN THIS RULEMAKING.**

We want to lift up ATNI’s comments during RAC meeting #4 about DEQ’s failure thus far to meaningfully engage the nine Tribes of Oregon in the rulemaking process.

Oregon Tribal leaders’ voices need to be heard during conversations about how to ensure that DEQ’s rulemaking is targeted to aggressively combat climate change and protect the health and welfare of the most vulnerable Oregonians. We implore DEQ to rethink its approach and to do more to engage Oregon Tribes in this rulemaking process.

Sincerely,

Allie Rosenbluth, Campaigns Director, Rogue Climate, RAC Member

Taren Evans, Environmental Justice Director, Coalition of Communities of Color, RAC Member

Oriana Magnera, Energy, Climate, and Transportation Manager, Verde, RAC Member

Haley Case-Scott, Climate Justice Grassroots Organizer, NAACP Eugene/Springfield, RAC Member

Erin Saylor, Staff Attorney, Columbia Riverkeeper, a member of the Power Past Fracked Gas Coalition

Molly Tack-Hooper and Amanda Goodin, Staff Attorneys, Earthjustice



## LMI Environmental, LLC

April 28, 2021

VIA EMAIL

Colin McConnaha  
Manager, Office of Greenhouse Gas Programs  
Oregon Department of Environmental Quality  
700 NE Multnomah Street, Suite 600  
Portland, OR 97232

**Re: Comments on DEQ's Cap and Reduce Rule Advisory Committee April 22, 2021 Meeting**

Dear Mr. McConnaha,

Thank you for the opportunity to comment on DEQ materials presented at the April 22, 2021 Cap and Reduce Rule Advisory Committee (RAC) meeting.

Initially, I would like to express my appreciation for the effort DEQ has taken to break down GHG emissions by sector. That breakdown helps in understanding how the substantial portion of emissions are generated. It is apparent that manufacturing process emissions are a very small portion of the total.

Director Whitman's pre-meeting comments are always welcome and helpful. During his discussion, he mentioned that DEQ cannot consider EITE facilities in this rulemaking. Can we obtain the reasoning behind that decision? Some additional information surrounding this issue would be very much appreciated.

Beyond the notes above, I offer the following comments:

1. Community Climate Investments:
  - a. Via these comments I would like to reiterate my comments made on this subject that were contained in the March 26, 2021 submittal.
  - b. DEQ should allow for additional alternative compliance options (ACO) in addition to the Community Climate Initiatives (CCI). Having more options rather than fewer will result in greater overall reductions of GHG. Additionally, having additional choices will help contain costs associated with purchasing ACOs.

- c. There is concern among the regulated community regarding how CCI projects will be identified and scoped. DEQ should take precautions to ensure CCIs do not become a slush fund for projects that may not result in meaningful reductions. Accordingly, third party(s) who will be overseeing these projects should have numerous projects already identified along with the scope and resulting number of ACO credits generated prior to receiving investor funds. Additionally, facilities should be able to choose the specific third party-managed CCI projects in which they will invest. Facilities should also be allowed to identify their own projects for investment and choose appropriate communities where those investments will occur.
- d. CCI pricing needs to be predictable and not inflated compared to ACOs that are available elsewhere. DEQ currently is considering basing CCI prices on the social cost of carbon. Setting the price using this approach may result in very subjective and unpredictable pricing. Facilities need the ability to plan for future operations and will need predictability.
- e. Regulated entities should be allowed to satisfy a substantial amount of their compliance obligation through the use of ACOs or CCIs. This approach should be available indefinitely. The goal of the program is to achieve GHG reduction, not penalize regulated entities for engaging in their business and trying to remain competitive. Therefore, facilities should be allowed to satisfy at least 20% (if not more) of their compliance obligation through ACOs or CCIs.

2. Process Emissions:

- a. As DEQ is aware, facility process emissions vary considerably between industries and it is difficult to identify a one-size-fits-all approach to regulating those GHG emissions. DEQ should consider not including those emissions in this regulatory program at this time.

3. Best Available Emission Reduction Assessment (BAER)

- a. The BAER approach is an interesting concept that deserves significant analysis and input prior to possible adoption. Due to the differences between manufacturing operations, there will be some facilities that would be better able to manage the program by implementing BAER, and others whose processes would better be managed with compliance instruments, or potentially some other alternative. Since facilities in this subset are limited in number, DEQ should work closely with these facilities prior to drawing any conclusions and possibly identify more than a single option or a combination of options to achieve compliance.
- b. Regarding any possible BAER approach, DEQ would need to maintain its focus on the goals of the cap and reduce program in order for facilities to effectively implement and manage for GHG reductions. Specifically:
  - i. A BAER option should focus on the specific GHG emitting unit.

- ii. A BAER option should address how best to analyze and minimize GHG emissions and not complicate the process by including other pollutants. Requiring facilities to analyze and/or minimize co-pollutants will quickly become overwhelming and may result in counterproductive and/or conflicting conclusions. Facilities are currently required to comply with numerous other air programs that are intended to address these other co-pollutants and doubling up in this program will likely cause confusion and difficulty in achieving compliance with the cap and reduce program.
- iii. DEQ's GHG program staff will be best equipped to assess any possible BAER submittals. The various air regulatory programs all have varying goals that often do not align. Therefore, since the goal of this program is to address GHG emissions, the DEQ GHG staff should perform the analysis and work with manufacturing representatives to make the associated decisions rather than looking to other programs within DEQ.
- iv. Regarding the assessment factors and whether a source has met a BAER approach, each facility will be unique and each assessment will need to reflect those unique characteristics.

#### 4. Modeling:

- a. Previous modeling scenarios do not appear to have recognized or included leakage when analyzing economic and employment (direct and indirect) outcomes. These outcomes have the potential to significantly impact the modeled conclusions. Accordingly, the upcoming fourth modeling scenario should include those potential impacts.
- b. Previous modeling also did not differentiate between geographic locations. It is extremely important to recognize and account for the stark difference between rural Oregon, where a community may be economically dependent on one industry (or even one company), and the more urban Oregon communities that have a far more diverse economic base. The impacts to rural communities will be much more dramatic than what would be realized in the urban areas. While it is understandably difficult to break the model into numerous geographical areas, the model should at least attempt to analyze impacts to rural Oregon communities as well as urban Oregon communities.

#### 5. Cap Trajectory:

- a. Should be gradual at first while markets and technology are developed. Facilities need time to plan, engineer and implement necessary changes.

#### 6. Identifying covered entities and compliance instrument distribution:

- a. Representatives from the fuel sector are probably best equipped to address the questions addressed with this topic so I will not add much here.

- b. Regarding the years to include relative to a compliance period, DEQ should be sensitive to the anomalies we have experienced during COVID. Specifically, many manufacturing facilities were not fully operational during this time so fuel use data for those years are likely not representative to what we would have seen had COVID not been a factor. Accordingly, DEQ should not include the years 2020 or 2021 in its analysis of fuel use.

Again, thank you for the opportunity to provide these comments. I look forward to continuing working with you.

Sincerely,

A handwritten signature in blue ink, appearing to read "Ellen Porter", is positioned above the typed name.

Ellen Porter



May 4, 2021

Mr. Colin McConnaha  
Manager, Office of Greenhouse Gas Programs  
Oregon Department of Equality  
Lloyd 700 Building  
700 NE Multnomah Street #600  
Portland, OR 97232  
Email: Colin.McConnaha@state.or.us

**Subject: Shaver Transportation Comments Regarding Cap & Reduce Program Development and Regulation of Transportation Fuels**

Dear Mr. McConnaha,

Thank you for the opportunity to provide input as Oregon DEQ develops their draft rules to reduce greenhouse gas emissions in the State. Shaver Transportation Company (Shaver) recognizes that climate change is an important challenge, and one that needs to be addressed in a collaborative way to both reduce environmental impacts and ensure businesses in the state can continue to operate safely, efficiently and responsibly.

Shaver is a 6<sup>th</sup> generation family-owned tug and barge company located in Portland, Oregon and operating on the Columbia-Willamette-Snake River System for more than 140 years. Since 1880, we have proudly provided a growing number of family wage jobs throughout the region, and currently employ 150 skilled workers. Our company consists of 15 tugs and 20 grain barges, and focuses on three lines of business: ship assist, grain barging, and harbor/specialty towing.

Shaver continuously reinvests to provide the safest, most efficient and environmentally sound equipment for our employees and customers. In the last 16 years, we have invested millions of dollars in cleaner technology, with over 75% of our vessel engines repowered, replaced or otherwise updated to reduce emissions. We work proactively to reduce our impacts on the environment and our community, including investing in shore-power idle reduction technology at all three of our moorage locations, ultimately reducing our fuel consumption and greenhouse gas emissions. And when we look at the transportation industry as a whole, barging remains the most fuel-efficient mode with the smallest carbon footprint compared to rail and truck.

While Shaver recognizes the need to address climate change, we believe the ability of both DEQ and the EQC to regulate the maritime sector is limited due to the fact that we are a federally regulated industry

operating primarily in interstate waters. While Shaver is based in Portland and purchases fuel in the State of Oregon, nearly 95% of our operations take place on the Columbia and Snake Rivers, which are federally authorized for interstate commerce and global trade.

As such, we believe that the maritime sector, specifically the towboat industry, should be exempt from DEQ's Cap & Reduce program. We believe there are multiple reasons, but three stand out:

(a) Tug and barge transportation is a much lower greenhouse gas emitter relative to other transporters. In Shaver's barge transportation service, each individual grain barge moves the equivalent amount of cargo as 35 Jumbo Hopper rail cars or 134 semi-trucks. Each four-barge flotilla of grain carries the equivalent of 1.4 unit trains or 538 trucks. Barging is the most fuel efficient with the lowest emissions relative to these other transporters. Barges move 1 ton of cargo 576 miles per gallon of fuel consumed, compared to 413 miles per gallon per ton for rail and 155 miles per gallon per ton for trucks. Each year, barging on the Columbia River keeps 700,000 trucks off the highways through the Columbia River Gorge air shed and that number continues to grow.

(b) EPA rules are already ratcheting the industry's greenhouse gas emissions down. Shaver's new tug construction has met EPA's requirements for Tier 3 compliance. All new construction after 2016 must meet Tier 4 standards phased in for new engines that require the use of high-efficiency catalytic after-treatment technology and ultra-low sulfur fuel, which is the only marine diesel fuel Shaver uses. Given EPA's attention to emissions in the marine transportation industry, exempting marine fuels in Oregon in deference to the federal approach for the interstate marine transportation mode promotes efficiency and is still consistent with the goals of Oregon's approach to Cap & Reduce.

(c) DEQ taking an Oregon-only approach results in leakage, not greenhouse gas reductions. This is one of the reasons we've seen both the Oregon and Washington legislatures exempt marine vessels in previously proposed cap & trade legislation.

Additional detail regarding our perspective is below.

#### 1. Fees on Fuel Purchases Disincentivize Investments in Cleaner Technology

It is widely understood that for diesel engines, fuel consumption increases as engines are modified to burn cleaner. For example, in-cylinder exhaust emissions improvements in EPA-certified Tier 3 engines have come at a direct fuel consumption penalty. This is due to internal modifications in the engine such as valve timing and cleaner combustion burning. It simply takes more fuel to reduce emissions with this technology.

Despite the increased fuel costs, Shaver has been committed to decreasing our carbon footprint and continues to invest in cleaner technology. We have just recently submitted a U.S. EPA Diesel Emissions Reduction Act (DERA) grant application, which was supported by DEQ, to replace five

older diesel engines with EPA-certified Tier-3 models. The total cost to replace the two main engines and three auxiliary engines is \$1.46 million, a significant amount of money for a small business like Shaver. The proposed project would provide nearly \$1.1 million in annual public health benefits and would reduce over 25 tons of particulate matter, 1,400 tons of NOx, and 55,000 tons of carbon over the life of the project.

This project is a proactive and voluntary effort on our behalf, and we are proud to make these investments. However, if we are strapped with additional fees at the fuel pump, we may simply have to make the difficult choice of continuing to repower older model, lower tiered engines rather than replace these engines with newer, greener models. Even a small increase in fees at the fuel pump could impact our ability to make these environmental improvements. We strongly request that companies like ours are not forced to make these difficult choices.

## 2. Oregon Regulations Could Create a Significant Competitive Disadvantage Compared to Washington State Businesses

The Washington State legislature is currently considering cap & trade legislation (WA HB 1091) that was introduced at the behest of Governor Jay Inslee and is aimed at lowering greenhouse gas emissions. This bill has a significant amount of traction, as it passed handily through the Washington State House of Representatives, and is expected to move through the State's Senate Chamber and make its way to Governor Inslee for signature in the coming year. Fuels used in marine vessels, characterized in **WA HB 1091 Section 5(1)(b) as "fuels used for the propulsion of all aircraft, vessels and railroad locomotives"**, are exempt from this legislation for many reasons including those referenced above.

Over the last several years, the Oregon legislature has also considered legislation to reduce carbon emissions in the State. In each version, the legislature exempt marine vessels and marine fuels from the process. We strongly encourage DEQ to consider the intent of past legislation, and exclude marine vessels and fuels used for marine vessels, from their Cap & Reduce regulations. This will ensure that tugboats and other marine vessels operating on Oregon-Washington interstate waters are dealing with the same regulations and that companies like Shaver can continue to remain viable and competitive operators. Taxing fuel in the State of Oregon that is used for marine vessels, when our competitors located directly across the Columbia River will be free from this additional fee, puts a significant burden on our company and on the interstate commerce and global trade that we are involved in.

## 3. The Tugboat Industry is Subject to Federal Air Emissions Requirements

The tugboat industry is governed by a comprehensive federal air emissions scheme that achieves reductions nationwide without imposing undue or inconsistently applied burdens on vessel operators. The 1990 Clean Air Act amendments required the U.S. Environmental Protection Agency (EPA) to reduce emissions from marine engines, including tugboats and towboats. In 1999, EPA established emission standards for new marine engines at or above 50 horsepower (hp). In 2004, EPA finalized a rule decreasing the allowable levels of sulfur in diesel fuel used in marine engines. In 2008, EPA set more stringent emission standards for new marine engines, establishing "Tier 3"

standards that were phased in for new engines starting in 2009. Beginning in October 2016, “Tier 4” standards were phased in for new engines over 800 hp that require the use of high-efficiency catalytic after-treatment technology and ultra-low sulfur fuel, a significant technological change that is expected to yield significant emissions reductions across the entire domestic towing vessel fleet in a nationally consistent timeframe.

The robust federal regulatory framework outlined above ensures a balanced approach for all operators to make progress towards the reduction of greenhouse gas emissions. The federal regulations are yielding effective results by decreasing emissions of the tugboat and barge industry throughout the country. As federal “Tier 4” standards continue to phase in for all new engines, operators are afforded a critical level of regulatory certainty with being able to adequately plan for the increasingly stringent federal standards.

4. The State of Oregon’s Cap & Reduce Program is inconsistent with Federal Primacy for Regulating Interstate Commerce

The Commerce Clause provision of the U.S. Constitution (Article 1, Section 8) authorizes U.S. Congress “to regulate Commerce with foreign Nations, and among several States” and was designed to eliminate intense rivalry between States. While states have an inherent and reserved right to regulate domestic commerce, it must be done so in a way that does not interfere with or place a burden on, interstate commerce. If the Cap & Reduce program includes the marine industry in Oregon, this would place a significant burden on companies like ours that are exclusively involved in interstate commerce and global trade. While the program may not directly violate the Commerce Clause for local activities in Oregon, it nevertheless would be inconsistent with the federal regulatory scheme for interstate marine transportation evidenced through the EPA’s program for reducing emissions from marine engines, through phasing in Tier level engine improvements and adopting low sulfur fuel requirements. Shaver supports and complies with the EPA’s programs addressing marine industry fuel use and emissions, because they apply consistently across the interstate marine transportation industry.

5. Federal Preemption of “Non-road Engines”

Under the Clean Air Act, the definition of “non-road engine” may exclude certain mobile sources such as aircraft, locomotives, and marine vessels from emissions control measures in state and regional jurisdictions, as these types of mobile sources are engaged in interstate commerce. Section 209(e) of the Clean Air Act conditionally prohibits state action relating to the control of air emissions from non-road vehicles including vessels. In addition, the federal government preemptively reserves the authority to regulate interstate commerce, including for vessels subject to international and federal air quality regulations. We recognize that federal preemption leaves room for the states to regulate air quality and energy use that is purely local to a State. But that is simply not the case for marine towing companies like Shaver. Shaver engages almost exclusively in interstate barge transportation of agricultural products in Oregon, Washington and Idaho, and ship assist towing of foreign ships engaging in foreign commerce, primarily transporting agricultural commodities produced by Oregon, Washington and Idaho farmers.

Thank you for the opportunity to comment. In addition to our perspective, we would like to note our support of the comments submitted by the Columbia River Steamship Operator's Association on behalf of the broader shipping industry. Due to the collective reasoning in both comment letters, we strongly and respectfully urge DEQ to exclude marine vessels and marine fuels from their Cap & Reduce program.

We look forward to working with you and your team at DEQ as the agency moves forward in developing important programs to address the needs of our environment in the State of Oregon.

Sincerely,



Steve Shaver  
President

Southern Oregon Climate Action Now

**SOCAN**

Confronting Climate Change

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## **SOCAN Comments General and RAC 4**

I write again as co-facilitator of Southern Oregon Climate Action Now, an organization of rural Southern Oregonians concerned about current and future climate chaos to express opinions and concerns about the developing Climate Protection Program.

I will offer several general points, and a few specific points relating to RAC 4 and the modeling discussions.

### **General:**

- 1) For some two and a half centuries we have all enjoyed the benefits of advancing mechanization and technology born of the invention of the steam engine and the subsequent industrial revolution. Although early warnings about the climate consequences of our burning fossil fuels were sounded some 200 years ago, warnings from scientists that persisted through the latter years of the 20<sup>th</sup> Century, during the last three to five decades our understanding of the science of global warming and its climate consequences has grown to a point where denial is no longer sane. We have all benefitted from the fossil fuel era some call the 'Carbocene.' Now that we know the consequences of fossil fuel use, it is incumbent upon us all to act to reverse the cause of the climate crisis we are experiencing. If we fail to respond, life as we know it will not be possible for our children and grandchildren because our natural systems, our forestry, our agriculture, and our fisheries will be devastated. It is no longer acceptable for us, either individually or via our industry or industrial organizations, to seek reasons why we should be exempt from reducing emissions. If we care about future residents of our planet, we absolutely must simply buckle down and both reduce our greenhouse gas emissions and capture and store greenhouse gases already in the atmosphere. As we undertake the needed transitions in our daily lives, our energy economy and our industrial processes, we must stop seeking reasons why we cannot do that which is necessary, but commit to discovering how to achieve the necessary changes. Life on the planet as we know it is at risk!
- 2) Our need to address the climate crisis is not a partisan issue; it is a non-partisan moral imperative. It is also urgent! If we have not already crossed critical tipping points, we have but a few years to

make substantial changes in our behavior before we do. Those arguing minimalist responses are simply driving us closer to the precipice and making achieving the necessary reductions more difficult. Our climate does not care what the limitations are for this or that person or industry. We are all responsible for the problem; we must all take responsibility for solving it.

- 3) The main cause for the crisis in which we currently find ourselves is no mystery: it is predominantly our use of fossil fuels in which we transfer greenhouse gases trapped from an atmosphere during the Carboniferous Period some three hundred million years ago into today's atmosphere. All fossil fuels are responsible for causing the problem. There is no 'clean fossil fuel!' To argue that there is a clean fossil fuel demonstrates either a lack of understanding of the problem or a conscious effort to obfuscate and deceive. We simply do not have the time to play around with this kind of argument; all fossil fuels must be phased down to the point of net zero emissions. To achieve the necessary target of net zero emissions by 2050, we must acknowledge that there is no room in our energy future for fossil fuels. Representatives of the energy industries must accept this reality and respond accordingly by transitioning away from fossil fuels and into renewable fuels. The longer we cling to the cause of the problem, the more difficult will be overcoming it. We must transition away from coal, oil and fossil (natural) gas and stop pretending that any of these represent some kind of bridge fuel to the future. Individuals who cling to fossil fuels are not contributing to the solution and prolonging the problem. Industries and agencies that do likewise are similarly prolonging the problem; they are not solving it.
- 4) Two realities explain why switching to electricity wherever possible is beneficial; (1) in transportation, electrical engines are far more efficient than internal combustion engines so they represent an improvement even when the electricity is produced in a fossil fuel powered generation plant, (2) electricity can be generated from renewable resources, so fossil fuels are totally dispensable and almost certainly will be eliminated from the electricity sector within a few years. The argument we heard during RAC 4 that the proposed exemption by DEQ of electricity generation from the Climate Protection Plan means we should not encourage electrification is founded seemingly on irrational efforts to maintain fossil gas in the energy economy. While I will argue below that the electricity sector should not be exempt from the program, this is not the reason. Fossil gas has no place in a sane energy future. While fossil gas companies repeatedly promote their product as 'the clean-burning fossil fuel' or words to that effect, they equally consistently (consciously and conspicuously) ignore the fugitive emissions of methane from the extraction, processing, and transmission of the gas. Since methane is 86 times worse than carbon dioxide as a global warming gas, this can totally negate the reduced carbon dioxide emissions resulting from burning fossil gas as opposed to burning coal or oil. Furthermore, it is reported (<https://www.straitstimes.com/world/halting-the-vast-release-of-methane-is-critical-for-climate-un-says>) that a forthcoming U.N. analysis will urge greater focus on reducing methane emissions because they are becoming ever more important. While carbon dioxide remains the dominant warming gas, other greenhouse gases contribute substantially. Indeed, the article reports: "A growing body of research has shown that these oil and gas emissions are larger than previously thought." Again, to reiterate, any program that is serious about reducing greenhouse gas emissions, must involve phasing out coal, oil, **and** fossil gas. Efforts to keep fossil gas in the system by promoting the questionable oxymoron Renewable Natural Gas should also be rejected (see below).
- 5) While it is certainly true that plants capture carbon dioxide through photosynthesis, it is not equally true that plants grown by nurseries are significant contributors to solving the climate crisis. A

moment's reflection will reveal that meaningful carbon sequestration requires that plants survive many years during which their sequestration (carbon capture and storage) continues. This means that long-lived trees, and maybe shrubs, could contribute to carbon sequestration. Annual crops, however, will grow, die (or be consumed as food) and largely decompose returning to the atmosphere within a year any carbon they have captured. According to the Agriculture Marketing Resource Center, broadleaf evergreen, shrubs, deciduous shade trees, and coniferous evergreens combined accounted for but 57% of U.S. nursery sales in 2006

(<https://www.agmrc.org/commodities-products/forestry/nursery-trees>). Maybe this has changed during the intervening years but I found no data to suggest that. While nurseries certainly can provide seedlings that individually sequester carbon from the atmosphere, to make the case that nurseries contribute extensively to addressing the climate crisis it will be necessary to demonstrate that a large percentage of nursery sales comprise species that can and do sequester substantial carbon for many years. Claiming that nurseries grow and sell plants, and these plants photosynthesize, does not demonstrate a significant contribution is being made by nurseries to solving the crisis. It is critical that we all understand what is causing the problem, and what constitutes a solution. Let's avoid pretending an activity that burns fossil fuel and emits greenhouse gases is a solution.

- 6) Opponents of climate action frequently argue that the cost of taking steps to reduce emissions is too great. The arguments against this perspective are at least two-fold: (1) the evidence suggests that reducing greenhouse gas emissions is actually economically beneficial, and (2) the comparison should not be between potential costs of action and the current situation but between reducing emissions and the cost of climate chaos. This is because inaction will result in substantial disruption to the life system on which we depend. Thus, business as usual is likely to result, in the devastation of our natural systems (forests, woodlands, grasslands, deserts, etc.) along with our agriculture, fisheries and forestry. And this doesn't account for the devastating impact of carbon dioxide emissions driving ocean acidification and warming on our marine ecosystems and fisheries. What price, I wonder, can we attach to destruction of our agriculture system? If there is no food, there is no cost that can be identified as making it available. While they ignored or underestimated the devastating impact of climate change on agriculture, Jaeger and Saha (2020) reported, via the World Resources Institute (WRI) (<https://www.wri.org/insights/10-charts-show-economic-benefits-us-climate-action#:~:text=A%20range%20of%20studies%20estimate,of%20GDP%20at%20the%20most.&text=Even%20if%20the%20additional%20investment,well%20within%20the%20historical%20range>), that a 4% temperature increase in the U.S. is likely to result in between a 1.6% and 5.8% (mean 3.7%) drop in Gross Domestic Product. This represents a minimal measure of the economic impact of no action. Meanwhile, renewable energy and storage is already cost-competitive with fossil fuels making investments in any fossil fuel a risky prospect. In terms of employment, they show that in 2019 renewable energy (solar, wind, hydro, other) employs twice as many workers as fossil fuel energy (482,894 : 214,425). If we add energy efficiency jobs, the renewable arena generated over twice the number of jobs per million dollars of investment to those generated in fossil fuel arena. Meanwhile, in a another WRI report (<https://www.wri.org/insights/ranking-41-us-states-decoupling-emissions-and-gdp-growth>) focused on how reducing carbon dioxide emissions related to Gross Domestic Product trends, Saha and Jaeger (2020) demonstrated how 41 U.S. states and Washington DC are decoupling GDP and GHG emissions reductions, such that substantial carbon

dioxide reductions have been achieved as GDP has increased. Ignoring the cost of inaction is based on the naïve assumption that the choice is between the cost of a Climate Protection Program and current costs. It seems many folks don't compare the cost of action with the cost of climate chaos. In assessing the future economic impact of climate programs, DEQ and its contracted modelers must include avoided costs. Failing to do so will inevitably produce distorted model outcomes that overestimate the cost of climate action compared to the cost of inaction. Such models are essentially meaningless in terms of economic projections.

- 7) In terms of discussing the cause of the climate crisis, I urge everyone to understand and focus on the problem. While the focus is often placed on carbon / carbon dioxide (as some studies reported above have unfortunately done), it is critical to understand that some 30% or more of the warming is due to other gases (<https://www.esrl.noaa.gov/gmd/aggi/>). This is presumably why the Governor's Executive Order, along with the 2015 Paris Agreement before it, is couched in terms of greenhouse gas emissions. Please remember that we must reduce greenhouse gas emissions as measured over the full life cycle (cradle to grave) of a fossil fuel use or an industrial process in terms of their carbon dioxide equivalent. The most important other gases are methane - resulting substantially from fossil gas usage, and nitrous oxide, resulting from fossil fuel combustion. The point is that the problem is not just carbon released from combustion/end-use of fossil fuels, the problem comprises greenhouse gases released over the full life cycle of resource extraction, processing, transmission, and combustion. Models must acknowledge the full life cycle of emissions if they are to reflect accurately the impact of greenhouse gas programs. Failing to do so will produce models that fail to reflect accurately the greenhouse gas impacts of programs. During RAC 3 we were informed that modeling only included combustion emissions. Meanwhile, Slide 6 in the Modeling presentation following RAC 4 specifically stated under the heading Emissions Accounting that "Emissions occur at end-uses (e.g., point of fuel combustion or industrial processes)." This restriction seems to be imposed despite the data in the slide 7 Table depicting 'Natural gas distribution and production' as contributing to emissions in the Industrial sector with 'Natural Gas Distribution' appearing in the Transportation sector.
- 8) In discussing the Social Cost of Carbon, referring to the absurd value of \$1 per ton is nonsense. Anyone paying attention during the last four years knows that the Trump Administration designation of the Social Cost of Carbon was based on the conspiracy hoax argument that there is no global warming so greenhouse gas emissions cannot be identified as having a cost. Anyone suggesting that reasonable estimates of the Social Cost of Carbon should be evaluated or assessed by considering the Trump Administration value as meaningful is succumbing to QAnon hoax conspiracy promotion.

## **RAC 4 Comments:**

***The Model Baseline and Goal:*** We have been discussing modeling future outcomes according to scenarios for a couple of months now. Prior to RAC 4 there was absolutely no indication that the modeled futures assumed a 2010 baseline. Indeed, in previous discussions and on supporting slides, no baseline was indicated. This was true for the slides representing Scenarios 1, 2, and 3 in RAC 4 (Slide 30). Then, suddenly, Scenario 4 is proposed with a baseline clearly indicated as 2010. Since all previous references have related to achieving the goals in the Executive Order, the assumption participants would reasonably make is that the baseline is also that identified in the EO: i.e., 1990. Since the legal authority under which the Climate Protection Program is being developed remains the Executive Order,

we can only assume that the goal is 'at least 80% below 1990' by 2050. If the baseline in the DEQ plan is to be shifted to 2010, the percent reductions have to be adjusted accordingly. The EO goal for 2050 is at least 80% below the 58 MMT of 1990 meaning 11.6 MMT. Thus, the DEQ 2050 goal should remain 11.6 MMT. If the baseline is to be adjusted to 2010, the reduction should be adjusted to 82.4242% below 2010 level by 2050 to achieve that designated 2050 goal. The justification offered by DEQ for shifting the baseline to 2010, that the data are more accurate and credible, may be reasonable. However, this adjustment demands a commensurate adjustment in the reduction percentage so the goal is what the Executive Order states it should be. Failure to adjust accordingly would mean DEQ is ignoring the EO. This concern is underscored by Slide 9 in the presentation during the Modeling session on April 28<sup>th</sup> by Nicole Singh. This identified the DEQ goal as "Achieving significant emissions reductions." Governor Brown's charge was designated as an Executive Order, not an Executive Suggestion and the charge was at least 80% below 1990. This is very clear. What DEQ identified as its goal is inadequate and clearly contradicts the EO.

If someone thinks the shift from 1990 to 2010 as the baseline was previously stated, I'd appreciate identification of the actual point where that was stated. At no point during the discussion of the modeling do I recall the shift from 1990 to 2010 mentioned or justified. Indeed, this was not mentioned during the discussion of the model results on April 28<sup>th</sup>. Apologizing for this not having been previously made clear is inadequate. Like many viewers, I have no recollection of this being mentioned until the response to a query from Zach Baker. The act of shifting the baseline without making it crystal clear and so stating in the slides creates the impression that we are victims of a 'shell game' as we try to figure out what the starting point for projections really is. If 2010 is chosen, then the reductions must be adjusted accordingly to meet the 'at least 80% below 1990 by 2050' goal.

***The proposed shift to Best Available Technology for some industries:*** As I argued in the public comment period, an essential component of the thinking that leads to placing a price of some kind on greenhouse gas emissions has been the principle that proposed programs should essentially offer a 'free-market' approach. This is true for the tax/fee approach and the cap, trade, and invest approach where agencies are not charged with determining how polluting entities reduce emissions. Rather, polluting entities are either charged for emissions via a tax/fee or have their emissions capped and reduced. The polluters are then free to determine exactly how they can reduce costs or meet the reducing cap by reducing emissions. This is the free market principle in action.

The stationary source approach being proposed by DEQ for some polluters seems not only to add an unnecessary level of complexity to the program but also, as we have heard acknowledged by DEQ representatives during the RAC 4 session, compromises the free market principle by placing the onus on DEQ to judge what constitutes the Best Available Technology (BAT) by which entities will reduce emissions. In addition, by imposing a BAT approach on an entity, the program would effectively exempt such an entity from an ongoing requirement to reduce emissions for the duration of whatever the BAT review cycle is.

On top of this, the BAT approach either requires a resource- and staff-strapped DEQ to become expert in what comprises the BAT for each industry or it assumes that each entity exhibits a good-faith assessment of what constitutes the BAT for that industry. A dose of reality is in order here. We are experiencing a widening shortfall in actual GHG emissions reductions compared to those established by the 2007 voluntary program precisely because polluting entities have failed to reduce their emissions to

date. It therefore seems illogical to assume a good-faith effort on the part of those same polluting entities will suddenly emerge with this program. Using BAT as the basis for generating emissions reductions will lead to a massive number of lawsuits from industries as they claim what they are undertaking is their BAT.

The beauty of the cap and reduce approach is that it inevitably imposes emissions reductions on the economy, evades the need for DEQ staff to become technical experts in every industrial technology, and provides entities with an incentive to improve BAT themselves rather than simply rely on what is done elsewhere as the criterion for what constitutes BAT. The fear, for example, is that an industry may simply claim there is no BAT better than current behavior and effectively completely exempt itself from the program.

Such entities may still nominally be “in the program,” but *de facto* once BAT is installed or its absence justified, polluters are exempted from the entire cap and reduce effort until some future BAT becomes available. The need for them to upgrade their emissions control procedures would then depend on the length of the review cycle.

Encouraging industries to install BAT is a critical component of a successful program but this can and should be undertaken within the cap and reduce program. The best mechanism for achieving this seems likely to be a Cap and Reduce program where entities are permitted to engage in any Alternative Compliance Instrument / Community Climate Investment component of the program only if they have demonstrated the installation of BAT or have firm plans and contracts in place for undertaking that installation. We strongly support the CCI program through which both emissions reductions and carbon sequestration in our forested and agricultural lands can be incentivized. We do not support the principle of *de facto* exempting entities from the cap and reduce program because they claim it is difficult to reduce emissions.

In the case of the cement industry, often identified to exemplify this need, I am reminded of a recent webinar offered through ‘Electrify Now’ (<https://www.youtube.com/watch?v=MBIZEU82qBE>) where emissions reductions in the cement industry were discussed. We learned that there are well-established methods by which these can be achieved. The program featured contributions from Max Benert (Wilsonville Concrete Products), Alana Guzetta (Research Lab Manager with U.S. Concrete), and Alex Boetzel (Green Hammer). Boetzel noted that 7 - 8% of global anthropogenic carbon emissions result from cement use but that an emissions reduction of more than 50% can be achieved with current technology. Among other activities, he suggested the use of Supplemental Cement Materials (CSMs) could reduce emissions substantially. For further discussion, see Holland and Kahn 2016 Supplementary Cementitious Material <https://www.sciencedirect.com/topics/engineering/supplementary-cementitious-material>. No doubt many industries would like to persuade DEQ that they simply cannot reduce emissions. Such claims should be taken with a grain of salt and rejected. Such claims absolutely must not influence the design of the statewide emissions reduction program. The goal of the Executive Order is to reduce statewide emissions. No sector of the economy, nor any industry, should be granted a free pass or reduced requirement since doing so simply increases the requirement for reductions that must be imposed on other industries and renders achieving the EO goal more difficult.

**Renewable Natural Gas (RNG):** According to a 2018 ODOE report the capacity for RNG production increase was equivalent to 22% of the fossil gas consumed at the time (<https://www.oregon.gov/energy/Data-and-Reports/Documents/2018-RNG-Inventory-Report.pdf>).

Indeed, on a national scale, it is estimated that only 4 - 7% of present-day natural gas consumption could be replaced by RNG resulting from anaerobic digestion from landfills and manure (<https://www.wri.org/insights/7-things-know-about-renewable-natural-gas>). This report notes: "...[R]enewable natural gas derived from organic wastes has relatively modest potential to reduce emissions compared to these strategies, and on its own cannot displace enough fossil fuels to fully decarbonize any one sector of the economy." Yet, in the modeling, DEQ offers an option in which RNG becomes 50 - 70% of the state's gas usage. The only ways this can be achieved are (1) by dramatically reducing fossil gas use so that the small RNG potential becomes a higher proportion of total gas usage. But note the troubling reality that currently the electricity sector is highly fossil gas dependent and the current proposal is to leave this sector unregulated, **or** (2) by increasing production of RNG beyond the capacity in that 2018 analysis. If the route assumes reduced gas usage, the question becomes: "how is that gas reduction to be achieved especially in an unregulated sector such as electricity?" Then, during the modeling discussion, we learned that the modeled expectation was for RNG production to increase well beyond what the ODOE study indicated was technically possible. Yet, we were offered no justification for how this apparently impossible feat was expected to be achieved. The obvious question that demands an answer is: "from where will that RNG come?"

RNG is currently largely produced via biogas collection resulting from anaerobic decomposition. The most likely sources for the RNG seem to be landfills and Confined Animal Feedlot Operations (CAFOs) or mega-dairies. The implication seems to be that the DEQ program will encourage consumption, waste production, and landfill proliferation or consumption of cattle products with an accompanying increased need for CAFOs. If the latter approach is the anticipated route, we are confronted with an unconscionable proposal from DEQ that reduces GHG emissions by promoting socially undesirable behaviors - that, in turn, increase greenhouse gas emissions.

One element of the justification by IFT representatives for the high RNG percentage was SB98 (2020) which elevated the RNG limit to 30% by 2050, nowhere near the 50 - 75% modeled. Other items cited seemed to be fossil gas company sources rather than independent third-party analyses. The models, thus seem to assume increased RNG production not reduced fossil gas use. If the IFT study is correct, the assumption is that fossil gas will continue in the state energy economy or increase in use with continued or increased methane emissions from leakage upstream. Meanwhile, producing the RNG will require expanded landfill capture and potentially expanded CAFO or mega-dairy capture. However, if the ODOE assessed maximum RNG production is credible, then for RNG to achieve 50 - 75% of gas usage, a reduction in overall gas usage to some 25% - 45% of current use is necessary.

This issue is particularly important since switching to RNG was suggested by the models as a major contributor to GHG reductions, a conclusion that would be invalidated if the modeled RNG capacity is simply unachievable.

In addition to the issue of limited RNG capacity, we need an analysis of the full life cycle greenhouse gas emissions resulting from the production of RNG compared to genuine renewable energy sources (wind, solar, geothermal, including hydroelectric sources). Undoubtedly the greenhouse gas emissions from RNG are lower than conventional or hydraulically fractured fossil gas, but this is an irrelevant comparison for most purposes served by fossil gas. This is because electricity can replace most purposes and electricity can be generated from genuine renewable sources that have a much lower life cycle impact than RNG.

From the discussions so far, it is not clear how the RNG, being described as the savior of the program, will be produced. The only way the RNG can possibly serve as a means of reducing greenhouse gas emissions is if there are few to no emissions resulting from its manufacture. Since the models include only combustion emissions, it must be inferred that emissions resulting from the manufacture of the RNG are ignored. This, again, renders the models meaningless. If the RNG is produced by a process that employs fossil fuel use, then the emissions reductions resulting from the combustion of the RNG rather than some other fuel could be completely negated. If this is the case, RNG would be no better than fossil gas since the entire justification of its 'renewable' designation relies on the assumption that CO<sub>2</sub> emitted on combustion was captured from our current atmosphere and thus results in zero additions. This argument raises two questions: (1) What GHG emissions result from RNG production as RNG use increases? (2) To what extent are investments in RNG diverted from genuinely low greenhouse gas technologies?

Given what we know about RNG, it remains difficult for those of us in the informed and concerned climate arena to understand how this product has apparently garnered so much support. For brief discussions of the RNG issue, I recommend: "THE FOUR FATAL FLAWS OF RENEWABLE NATURAL GAS: Gas utilities are telling tall tales about RNG" (<https://www.sightline.org/2021/03/09/the-four-fatal-flaws-of-renewable-natural-gas/>) and "THE SMOKE AND MIRRORS DEFENSE OF RNG: The gas industry is writing checks that RNG alone can't cash." [https://www.sightline.org/2021/04/19/the-smoke-and-mirrors-defense-of-rng/?utm\\_source=Sightline%20Institute&utm\\_medium=web-email&utm\\_campaign=Sightline%20News%20Selections](https://www.sightline.org/2021/04/19/the-smoke-and-mirrors-defense-of-rng/?utm_source=Sightline%20Institute&utm_medium=web-email&utm_campaign=Sightline%20News%20Selections) both by Laura Feinstein and Eric de Place. The evidence is growing that RNG is simply a scam dreamed up by fossil gas companies to maintain their 'profits over the planet' business model.

### ***Combustion Emissions:***

As noted above, during the RAC 4 discussion, we were told that only fossil fuel combustion emissions of greenhouse gases were modeled. This was repeated in Slide 6 of the Modeling presentation set which stated under the heading: "Summary of Emissions Accounting" that "- Emissions occur at end-uses (e.g., point of fuel combustion or industrial processes." But we know that the main problem with fossil (natural) gas, for example, is the fugitive emissions of methane that result from its extraction, processing, and transmission. Focusing only on the combustion products in a study of greenhouse gas emissions is flawed methodology and renders the studies completely meaningless.

### ***Electricity Sector Exemption***

I reintroduce here comments modified slightly from my previous RAC 3 response.

Oregon Natural Gas Electricity Generation		
PGE	Boardman	2543943
Hermiston Power LLC		1700894
PGE	Coyote Springs	1364781
Klamath Cogeneration		1350083
Hermiston Generating CO		1154924
PGE	Carty	1152211
PGE	Port Westward I	1027716
PGE	Beaver	274905
PGE	Port Westward II	186666
Klamath Energy LLC		49,735
TOTAL		10805858

DEQ has identified as a strong 'leaning' in its proposed Climate Protection Plan exempting the electricity sector. This means that electricity generation facilities fueled by fossil (natural) gas will be exempt from the program. This creates a serious flaw in the program because: (a) natural gas extraction, processing and transmission result in substantial emissions of the potent greenhouse gas methane thus potentially generating phenomenal leakage of emissions out-of-state, and (b) because these facilities themselves (see adjacent table) emit huge amounts of greenhouse gases as CO<sub>2</sub>e.

Oregon's estimated total greenhouse gas emissions for 2019 stands at 65 Million metric tons. Of that, as can be seen in the adjacent table from DEQ facility data for 2019, the total emissions from Oregon's natural gas-powered generation facilities are 10,805,858 MT of carbon dioxide equivalent

greenhouse gases. This amounts to 51% of source emissions for which DEQ issued permits that year and nearly 17% of the state's total emissions. This, alone, should indicate we cannot afford **not** to cap and reduce these emissions.

Notably, total GHG emissions for 1990 are listed by DEQ at 58 MMT. If the state is to achieve emissions 80% below the 1990 level, that target is 11.6 MMT. If the 2050 goal is to be taken seriously, clearly the electricity sector exemption suggested by DEQ means there is almost no opportunity to exempt any other emitters beyond that sector (but see Fossil Fuel Supplier Threshold below).

**Fossil Fuel Supplier Threshold:**

In terms of the threshold for fossil fuel suppliers, we can see from the adjacent table (from RAC 4 Presentation, Slide 77) that 2019 greenhouse gas emissions totaled 24.1 Million Metric Tons. Meanwhile, a 300,000 threshold would capture just 86% of these total emissions and exempt 14%. Of the 2019 24.1 MMT total 14% represents an exemption of 3.4 MMT. If we add these emissions to the exemption for the electricity sector (2019 data), which accounts for another 10.8 MMT of exemptions, the developing proposal offers 14.2 MMT of exemptions. This means that, in terms of 2019 emissions, the proposed plan already exceeds the 2050 emissions goal of 11.6 MMT (80% below 1990 emissions).

Total: Fuel Supplier Emissions 2019 = 24.1 MMT

Threshold	Share of Emissions	# of entities
5,000	99.8%	58
25,000	99%	38
300,000	86%	6

We heard during the previous RAC 3 meeting from a representative of the fossil fuel industry her expectation that fossil fuel corporations will 'game the system.' The expectation seems to be that whatever the threshold for inclusion is, corporations will adjust their behavior such that they remain below that threshold and completely defeat the entire purpose of the program. It will obviously be very easy for fuel suppliers above the threshold to sell their fuel to suppliers below the threshold before that

fuel crosses the Oregon state line and thus drop themselves below the threshold. The only solution to this conundrum is to drop the threshold either to zero or close enough to zero to allow the exclusion of *de minimus* emitters.

Thus, rather than expend time debating which threshold should be enacted, we recommend zero.

### **Modeling:**

On behalf of SOCAN, I have endorsed general comments on the modeling submitted by Pat DeLaquil and will not reiterate them here. In addition, several comments and concerns about the modeling are scattered throughout this discussion. In total, these amount to a profound indictment of the adequacy either of that process, or of its presentation. Absent substantial revisions to these models to include the omitted emissions and the underestimates benefits, and a clear presentation of the data themselves, it is impossible to place any confidence in what the models suggest. The flaws in the models are so extensive that my takeaway is that we can place no confidence either in projections that offer encouragement nor those that are less positive.

While it was encouraging to be told that all three model scenarios project achievement of at least 80% emissions reductions by 2050, this announcement was compromised by the graphs on slides 18, (Scenario 1), 20 (Scenario 2) and 22 (Scenario 3) which clearly indicate that Scenario 1 does not reach 11.6 MMT. Meanwhile, the graph for Scenario 3 is not clear in its ending value relative to 11.6 MMT. Only Scenario 2 seems likely to have an ending value of 11.6 MMT. What remains confusing, however, is that the 2022 values for total emissions is depicted in all graphs as between 30 and 35 MMT. The 2019 value for statewide emissions was reported as 65 MMT. It appears that DEQ has decided that the goal of 11.6 MMT only applies to the sectors of the economy that the agency has decided to include.

The fact that electricity emissions are excluded from the models implies that we can have no expectation that the Climate Protection Program will even remotely achieve the goal established in the Executive Order since we are not even considering electricity. Maybe emissions from electricity generation will decline as a result of events outside the Climate Protection Plan such as HB2021 in the current session, but this is certainly not inevitable and DEQ should not assume these will occur. Thus, to the ending 2050 values depicted in the graphs, we must add whatever emissions are resulting from electricity generation. Since these are outside the program, we have no idea what they will be.

### **Concluding Remarks:**

Eleven years ago, my wife and I retired from years of teaching at Southeast Missouri State University. After scoping out potential locations, we elected Southern Oregon, in part, at least, because of the reputation Oregon had earned for being one of the more environmentally conscious states. Since there was no grassroots climate activist organization in Southern Oregon at the time, along with a number of equally concerned residents, we formed Southern Oregon Climate Action Now and currently serve as its co-facilitators. Almost immediately following the organization's inauguration, we become engaged with the statewide coalition of climate activists seeking a legislative remedy for the failure of the voluntary program to achieve emissions reductions resulting from HB3543 from 2007. Over the years, a series of bills proposing meaningful action to reduce Oregon's emissions were proposed, but all were thwarted in one way or another. When Governor Brown signed Executive Order 20-04, we judged that, at long last, there was hope for Oregon to reawake its environmental consciousness and undertake meaningful emissions reductions. By the time that EO was signed, we knew that the 2050 global goal must be net

zero emissions - and include negative emissions if we are to have any hope of limiting warming to a manageable problem.

Since several other states and nations, have already identified net zero emissions by 2050 as their goal, disappointingly Oregon's goal would not restore us to the top tier of environmentally conscious jurisdictions. However, it would restore some sense of environmental credibility to the state and provide a launching pad for further action as its necessity becomes even more evident.

It is doubly disappointing, after the Governor's laudable effort to remedy the legislative failure by establishing a meaningful program through Executive Order, to find the Department of Environmental Quality seemingly committed to a program which will simply not achieve even the goals stated in the Executive Order. As the nations across the globe join in an international effort to reduce greenhouse gas emissions to the greatest extent possible, it is really disturbing to find that Oregon cannot even become a leader among states within the U.S. Despite the disappointing place we find ourselves, we will remain engaged and continue to urge upon DEQ a reversal in the trends that are leading the Climate Protection Program away from achievement of the goals it was established to achieve.

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.  
Co-facilitator,  
Southern Oregon Climate Action Now

**Addendum:**

Please make it clear if the policy for public comment has changed to limit each person to one comment. Such a policy compromises the concept of having public comment periods after sections of the presentation since it precludes public participants from offering early comments on early segments of the session from returning to comment on later content.

I also note that the format for public comment during the modeling session was totally inadequate. The decision to combine RAC and public comments/questions after RAC members had already had substantial time to offer comments resulted in an inordinate excess of comments/questions from industrial representatives and a completely inadequate representation from climate and environmental justice representatives. Frankly, the impression that this created was that the proceedings are being turned over to industry to determine how the Climate Protection Program is constructed. This is disturbing not only because these are the entities that failed to act over the last 14 years, but also because many of these representatives seem committed less to reducing emissions than to protecting their industrial sector of company from any responsibility to reduce emissions.

To: Colin McConnaha, Manager, Greenhouse Gas Program  
Department of Environmental Quality

RE: Public Comment on Climate Protection Program RAC Meeting #4

Dear Mr. McConnaha,

As a long time climate activist who has been involved in all the town hall meetings and RAC sessions, I would like to offer the following comments not only on the recent modeling presented at RAC #4 but also the previous policies forwarded by DEQ.

As the World leaders at the recent Climate Summit pledged to accelerate their commitment to reduce greenhouse gas emissions, it is clear the DEQ has moved in the opposite direction and is abdicating its moral and legal responsibility to address the climate crisis consistent with the best science. Specifically, I note the following:

#### A Baseline Of 2010

Contrary to the Executive Order and prior understandings with the DEQ, the baseline year has been switched to 2010 from 1990. This decision alone undermines the amount of greenhouse gas reduction needed as recommended by the best science. It is incumbent on DEQ to increase the percentage of reductions to compensate for this ill-advised decision so we can adequately meet our emissions goals. Based on the recent modeling offered by DEQ, it is clear that these steps have not been taken.

#### Best Available Technology

The decision to remove a number of industries from the cap and substitute the criteria of Best Available Technology further compromises the effort to meaningfully reduce emissions. Not only does this serve as an escape hatch for industry to avoid a full commitment to reduce emissions but it also opens the door to an administrative nightmare when disagreements occur and lengthy and protracted lawsuits arise. If you are to retain this criteria, it must be done in the context of retention of the cap and mandated CCI's.

#### Embracing Renewable Natural Gas

To be perfectly blunt, RNG is a scam by the Natural Gas Industry to avoid the responsibility of ultimately getting rid of this climate polluting fuel. I have enclosed an article by the Sightline Institute which persuasively points out the flaws in embracing RNG as an acceptable alternative to natural gas. I will not repeat the points raised here except to note that DEQ is charged with REDUCING methane and landfills which is a key source of RNG. By factoring in RNG in the modeling, you have provided an incentive for both the natural gas industry and DEQ to expand landfills to meet the quantities required, to fulfill their obligation under RNG. Further, the use of RNG is still basing our infrastructure on a dirty fuel and every kilowatt of RNG is one that is not generated by a truly clean fuel such as wind or solar.

#### A Flawed Economic Analysis

By concluding that the Climate Protection Program will result in job losses, DEQ has handed to the fossil fuel industry a false narrative that will be used to undermine efforts to address the climate crisis. The modeling fails to include as part of the economic benefit the monetized avoided costs of increased health benefits. Worse still, DE does not include the consequences of inaction. In the context of a recent report issued by Swiss RE which forecasts a dramatic decrease in GDP by

2050 if we continue on our present course, such a decision to exclude the price of inaction cannot be justified and undermines the credibility of the model.

### No Analysis of CCI

The model's accuracy is also predicated on the assumption that payment by climate polluters for CCI will adequately fund projects to offset their emissions on a one to one basis. Using the social cost of carbon, no matter what number is selected, has not been empirically demonstrated to cover the cost of CCIs to fulfill this requirement. Unless this is established, it is an assumption without proof. Since the model assigns 20% to CCI offsets, such an accurate determination is crucial to the credibility of any model. Thus far, DEQ has not shown this to be the case.

### Exclusion of the Electricity Sector

In spite of repeated requests by the climate community, DEQ refused to consider including the electricity sector as part of their regulatory powers to control emissions. This exclusion, which favors natural gas, further weakens the ability to reach the needed climate goals.

### A Flawed Process of Public Engagement

Early on, the climate community voiced their objections to the over representation of industry on the RAC. The reality of the consequences of doing so was brought home by the recent Q and A session held by DEQ in regard to the latest model. DEQ announced that the first forty minutes would be devoted solely to the RAC and voices would be balanced. The entire forty minutes was taken up by industry voices designed to lessen effectiveness of efforts to control emissions. DEQ then announced that the remaining time would be open to both the RAC and the public for additional questions. The dominance of industry's RAC voices continued and only one public comment was entertained.

### CONCLUSION

It's clear the Climate Protection Program is spiraling toward an Industry Protection Program and that DEQ is abdicating its charge to reach meaningful and obligatory emission reduction goals in the face of a dire climate crisis. There is no need to point out the urgency of this crisis. It is there for all to see.

We cannot depend on the Federal Government to adequately address the climate crisis while climate deniers in Congress are capable of blocking any effort in this direction. Therefore, it is essential that meaningful action take place on the State level. The future of the planet rests on your shoulders and all those whose decisions impact the future of the climate. We are chastened by the words of the inspirational young Climate activist, Greta Thunberg, who warned that those in power who fail to act on the climate crisis will be held accountable by her generation. DEQ must do the right thing. It is long past time to do so.

Sincerely,

Stuart Liebowitz  
143 SE Lane Avenue  
Roseburg, Oregon 97470  
Ph- 541-672-9819

## THE FOUR FATAL FLAWS OF RENEWABLE NATURAL GAS

Gas utilities are telling tall tales about RNG



Author: **Laura Feinstein and Eric de Place**  
(@sightline) on March 9, 2021 at 10:09 am

Avoiding the worst impacts from climate change will require throttling back on fossil fuels. While many electric utilities in the Northwest are beginning to understand that clean, renewable power is their only possible future, the gas utility sector is taking a different tack with a new pipe dream: renewable natural gas (RNG). These utilities aim to position RNG as the answer to decarbonization. It's an answer that would allow them to continue to grow their customer base, lock in profits from new infrastructure investment, and green up their image. Unfortunately, their RNG strategy rests on faulty assumptions and fuzzy math, plus a bit of deception. In the next article in this series, we'll explore some of the deceptive tactics that utilities are deploying. But first we'll dive into the fundamentals of RNG.

### What is RNG, and where does it come from?

RNG is methane gas, chemically identical to fossil natural gas but sourced from decaying feedstocks. Nearly all available RNG is siphoned off landfills, sewage treatment plants, or livestock manure ponds on large industrial farms. These places are rich sources of RNG because when animal waste and trash decay, the microbes that break down the waste produce gases that contain methane, which can, in turn, be captured, cleaned up, and pumped into a pipeline. Today, many waste facilities already capture their methane gas and use it on-site to generate heat or electricity. Farms also sometimes capture the gas for on-site heat and power, though it is more common for them to release the gas from manure ponds into the air, where it becomes a greenhouse gas in the earth's atmosphere.

Another flavor of RNG is synthetically manufactured, either from inciting chemical reactions between molecules of water and carbon dioxide or from thermal gasification of biomass like crop residues or debris from logging operations. Synthetically produced RNG is still in the early stages of commercialization, as developers have completed only a handful of demonstration projects, with a few larger-scale plants in the European Union online or in construction.

### RNG's Four Fatal Flaws

On the surface, RNG seems like a promising solution, one with enviable branding: it's both renewable and natural! But a closer look reveals that RNG is hardly a panacea.

Although it may play a niche role for a few select purposes, even large-scale RNG deployment would not allow us to keep up business as usual while decarbonizing. RNG has four fatal flaws: availability, cost, carbon intensity, and industry obfuscation.

**Fatal Flaw 1: Availability.** There simply isn't enough RNG to replace our current consumption of natural gas—not even close. In 2019, gas usage in the Northwest states of Idaho, Oregon, and Washington totaled 710 million BTUs of gas of the 27 billion BTUs of gas consumed throughout the United States. These quantities far outstrip even the rosiest projections for RNG development. Industry-influenced studies by ICF estimate that RNG could fill in as much as 16

percent of current gas usage nationwide, if all sources were developed. Unfortunately, that's only about half of what's currently used by the hard-to-decarbonize industrial sector, which accounts for 30 percent of the nation's gas consumption. (In Cascadia, industry uses a somewhat smaller proportion of the total amount of gas used: 32 percent in Idaho, 24 percent in Washington, and 20 percent in Oregon.) To the extent that any RNG is commercially available, it should probably be reserved for industries that cannot easily replace gas with electricity and have no other cost-effective alternatives for decarbonizing. In fact, studies by Energy Transitions Commission and Rocky Mountain Institute suggest that using RNG for residential or commercial purposes would be misallocating a "precious" resource because these sectors can be transitioned to all-electric clean power relatively easily.

**Fatal Flaw 2: Cost.** RNG is very expensive relative to other energy sources. Today, a million BTUs (MMBTU) of natural gas costs \$3.67. According to a 2019 study prepared for the American Gas Foundation, about 44 percent of prospective RNG projects can be developed at a cost of \$7 to \$20 per MMBTU, with a median cost among those of approximately \$18. The remaining 56 percent of potential projects exceed \$20 per MMBTU. Many of the lowest-cost RNG projects (those developed from waste streams that are large, centrally contained, and conveniently located near existing pipelines) have for the most part already been developed. What remains are the costlier projects: smaller facilities farther away from pipelines, and biomass that is dispersed and therefore costly to gather and process. Even if we were to replace fossil gas with RNG and continued to use combustion appliances, they would cost a mint to operate. Monthly bills could easily increase fivefold. It would not take too many months of sky-high bills to justify replacing gas equipment with efficient electric alternatives.

**Fatal Flaw 3: Carbon intensity.** RNG has a big carbon footprint. All told, the emissions from natural gas account for nearly a quarter of greenhouse gas emissions nationwide. A clean fuel, it is not. RNG is chemically identical to conventional natural gas, which means that it, too, is largely composed of greenhouse gases. It travels through the same leaky distribution pipelines as conventional natural gas, sending small amounts of super-warming methane into the atmosphere. And when RNG is burned in our appliances, it produces exactly the same amount of carbon that conventional natural gas does.

*On the surface, RNG seems like a promising solution, one with enviable branding: it's both renewable and natural! But a closer look reveals that RNG is hardly a panacea.*



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The emissions savings from RNG, such as they are, come from preventing the release of the “renewable” methane from decaying feedstock sources like landfills, sewage, and manure lagoons. Yet alternatives to generating this methane in the first place abound, and there is a risk that commercializing RNG could actually increase its impacts on the environment. According to a report by California Climate and Agriculture Network, a profitable market for manure-based RNG likely increases localized pollution by reinforcing industrial livestock farming practices that result in liquid-based manure storage and crowded feedlots. If farms pasture-raised their livestock, they could avoid generating much of the methane to begin with. Similarly, diverting landfill-bound waste to recyclers or composting facilities—or simply curtailing the sources of trash—could significantly decrease methane production from landfills.

In all fairness, a full accounting of the emissions from substituting RNG for conventional natural gas or diesel shows that it results in a net decrease. In fact, all told, emissions from RNG are likely to be 55 to 60 percent of conventional natural gas when it is sourced from a landfill or sewage treatment plant, as is most common. Therefore, it may make sense to substitute RNG for natural gas where a net-zero carbon solution doesn't exist (as is the case for some industrial processes), but from a decarbonization perspective, it does not make sense to use RNG where gas could be simply replaced with net-carbon zero electricity.

**Fatal Flaw 4: Industry obfuscation.** The gas industry is using RNG to greenwash its image while obscuring its real objective: growth at the expense of the climate. By marketing RNG as a “renewable” solution to greenhouse gas emissions, the gas industry is drumming up excitement for a product it cannot deliver. The industry aims to create the illusion that our gas system can be decarbonized by introducing a new fuel that can offset today's gas demand, when in reality, it would offset only a small portion of that demand. If the public buys the pitch, it will enable gas companies to invest millions more dollars into new infrastructure that would lock in decades of profits. The result would be consumers paying higher prices for a façade of greenhouse gas reductions.

The tall tales about RNG don't stand up to scrutiny. Although there may be some modest climate benefit for a few niche applications like heavy industry, it cannot be a replacement for the way we use natural gas now. There isn't enough of it, it's too expensive, and it's bad for the climate. Worse yet, it lets the industry get away with spinning yarns that will benefit gas company bottom lines at the expense of everyone else. In a follow-up piece, we'll take a closer look at the tactics Cascadia's gas industry is using to weave these pipe dreams.

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Tagged in: Energy, Energy industry, Natural Gas, Renewable Natural Gas, RNG



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April 30<sup>th</sup>, 2021

Comments on DEQ Climate Protection Program Rulemaking

Submitted by: Ryan Haugo, Director of Conservation Science

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To the Department of Environmental Quality and Members of the Climate Protection Program RAC:

Thank you once again for the opportunity to provide comments to the Climate Protection Program Rulemaking Advisory Committee. We believe that climate change is one of the defining challenges of our time and that as Oregonians we have a responsibility to address our contributions to climate change. The work of the Committee is critical to developing a Climate Protection Program that helps our state meet the GHG emissions reduction goals identified in Governor Brown's Executive Order 20-04 of 45% below 1990 levels by 2035 and at least 80% below 1990 levels by 2050 and that promotes just transitions in Oregon's frontline communities.

We appreciate the work the Department of Environmental Quality and the Climate Protection Program RAC and would like to share these comments, building on our March 25, 2021 comments.

- 1) **DEQ Engagement with Tribal Governments & Communities:** During the April 23 Rulemaking Advisory Committee meeting for the Oregon Climate Protection Program, Don Sampson, Affiliated Tribes of Northwest Indians, spoke forcefully about the need for DEQ to have meaningful and sustained engagement with the 9 federally recognized tribes in Oregon. Mr. Sampson also noted that DEQ's outreach to date with Tribal governments and communities has not been adequate. TNC strongly supports DEQ specifically focusing on Oregon's Tribal governments and Indigenous communities for additional outreach and consultation. It is critical that Oregon's Climate Protection Program fully integrate tribal voices and respect and promote treaty rights.
- 2) **Community Climate Investments:** As we expressed in our March 2021 written comments, TNC strongly supports Community Climate Investments (CCI's) in frontline communities to support just transitions while helping Oregon meet a rigorous GHG cap. Dedicated state funding for Community Based Organizations to identify and develop CCI's will be critical to the success of the program. We also believe that the US EPA Social Cost of Carbon provides an important starting point for determining the price of CCI's. However, DEQ should also have the ability to deviate from the EPA Social Cost of Carbon if the price goes below a predetermined threshold. If CCI's are priced too low, we are concerned about undercutting real reductions in fossil fuel emission – even with set % of CCI's of the overall GHG cap. Again, we also support the ability for communities to identify CCI projects focused on sequestration / natural climate solutions on natural and working lands that that provide both climate mitigation and community resilience benefits. Examples may include floodplain and riparian area reforestation or urban tree planting and maintenance.

- 3) **Stationary Source Emissions:** We are concerned about the proposed direction for regulation of stationary source emissions through case by case determinations of best available emissions reductions technology. We are encouraged that DEQ is proposing to cover both combustion and process emissions from stationary sources. However, we are concerned that subjective determinations of best available emissions reductions will be complicated and time consuming, and consequently, hinder the progress of meaningful reductions of these emissions. The estimated 1.8 MMT CO<sub>2</sub>e from stationary sources above the 25,000 MT CO<sub>2</sub>e threshold are a not insignificant contributor to Oregon's overall GHG emissions. We also echo the more in-depth comments in the multi-party letter addressing the proposed best available technology approach (which we have signed).
  
- 4) **Oregon Deserves a Rigorous Program:** Finally, as we noted in our March 2021 comments, we remain concerned that exempting electricity generation and non-natural gas fuel suppliers below a set threshold undermines Oregon's ability to meet our goals of reducing GHG emissions 45% below 1990 levels by 2035 and at least 80% below 1990 levels by 2050. We recognize that the Climate Protection Program rulemaking is not dependent upon the authority of Executive Order 20-04. Nevertheless, it is critical that we work towards a rigorous climate protection program that will at least meet these goals across all sectors of Oregon's economy.

Again, thank you for the opportunity to provide comments. We look forward to continuing discussions with the Committee as you refine this important work to develop a strong and comprehensive Climate Protection Program.