

Southern Oregon Climate Action Now

SOCAN

Confronting Climate Change

<https://socan.eco>

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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 20th 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 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 28th 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 28th. 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 CO₂ 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 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 CO₂e.

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.