

Southern Oregon Climate Action Now

SOCAN

Confronting Climate Change

<https://socan.eco>

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SOCAN testimony on HB2021

Chair Marsh and members of the Oregon House Committee on Energy and Environment:

I write on behalf of the 1500+ rural Southern Oregonians who are Southern Oregon Climate (SOCAN) Action Now as Co-facilitator to support the essential principles embodied in HB2021 but also to offer a caveat and remedy. SOCAN has a mission of promoting awareness and understanding about the science of climate change and its consequences, and promoting individual and collective action to address it.

The worsening trajectory of climate chaos driven by global warming generated by greenhouse gas emissions resulting from human activity is assuredly an existential crisis. If we fail to address this problem within the next decade, we are likely to promote a trend in climate change that will compromise natural ecosystems across the planet. This includes our forests, woodlands, wetlands and grasslands and the immense biodiversity that they support. Climate change poses a profound threat to the ongoing survival of these natural systems. Our planetary core, the rocks and waters, will probably survive, but life as we know it that occupies this environment will be devastated unless we take action now. A moment of reflection will reveal that devastation of our natural systems will also impose equal devastation on our agriculture, our forestry, and our fisheries. To those who argue that we cannot afford to address climate change, that reducing emissions will compromise our economy, I ask how compromised will our economy be, along with we ourselves, if our agriculture is devastated? The contrary question to “Can we afford to rein in climate change?” is “Can we afford not to rein in climate change?” I hope the answer is obvious.

The science on global warming and its climate change consequences is as clear as has been the science on SARS-CoV-2. We understand very clearly that if we are to have a chance at avoiding devastated natural ecosystems, agriculture, forestry and fisheries across the planet, we must limit global warming to no more the 1.5°C (2.7°F) above the pre-industrial level or risk tipping points and runaway positive feedback loops.

As a result of the 2018 Intergovernmental Panel on Climate Change report (<https://www.ipcc.ch/sr15/download/#full>) and international acceptance of its targets, national and sub-national jurisdictions across the globe have elected to impose a price on greenhouse gas emissions to reduce them. As of 2020, across the globe, 12 Gigatons of Carbon dioxide equivalent emissions were covered by a pricing mechanism, accounting for some 22.3% of the total global emissions (Figure 1).

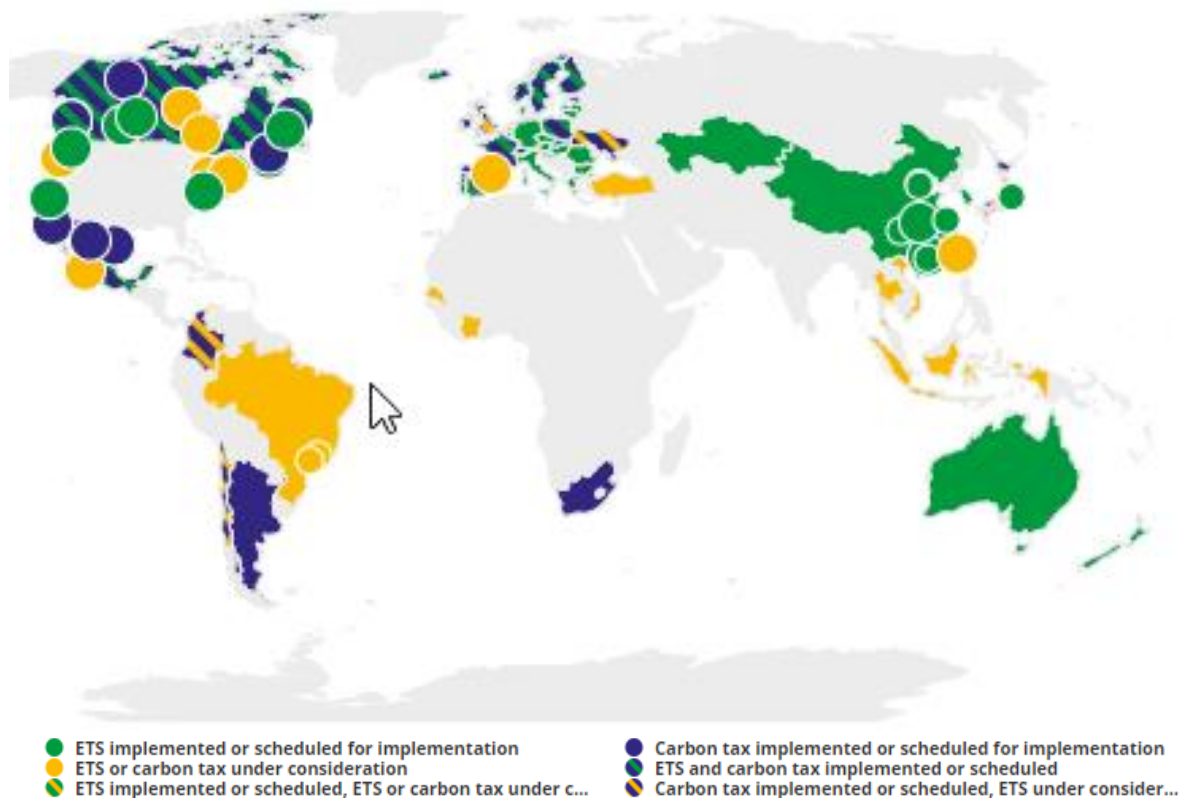


Figure 1. Global jurisdictions imposing some form of Emissions Trading System (ETS) as of 2020. <https://carbonpricingdashboard.worldbank.org/>

With the enactment in 2007 of HB3543, Oregon placed itself among the contemporary leaders in addressing greenhouse gas emissions, though with a program that was doomed to failure since it was purely voluntary. Inevitably, as the [Oregon Global Warming Commission reported](#) this January the state is not on a trajectory to achieve even the limited 2050 target of 75% below 1990 emissions.

Meanwhile, as reported in Table 1 of that [OGWC 2021 biennial report](#), many states across the U.S. have imposed or have planned substantial emissions reduction mechanisms. The following states identify a goal of net zero greenhouse gas emissions by 2050: California, Hawaii, Louisiana, Montana, Nevada, Vermont, while Washington targets 95% but ideally net zero, and Maine targets 80% but ideally net zero. Additionally, the following states identify their 2050

targets as 80% reduction or higher: Colorado, Connecticut, Maryland, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island. With a current

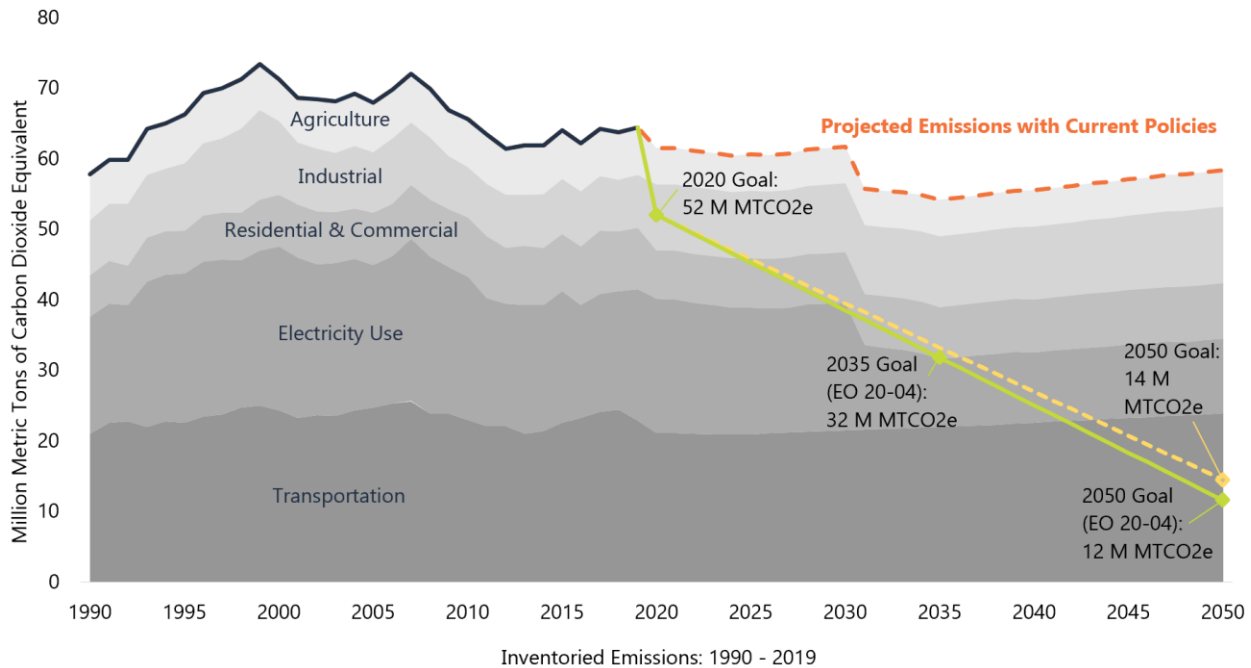


Figure 2 Greenhouse gas emissions in Oregon, historical and projected to 2050.

<https://static1.squarespace.com/static/59c554e0f09ca40655ea6eb0/t/5fe137fac70e3835b6e8f58e/1608595458463/2020-OGWC-Biennial-Report-Legislature.pdf>

goal in reduction of ‘at least 80% by 2050’ as identified in Governor Brown’s Executive Order 20-04, Oregon is no longer among national leaders unless we emphasize the two words ‘at least’ in achieving our goals. Indeed, as the [OGWC report](#) indicates (Figure 2), Oregon is far short of the trajectory needed to meet the 2007 targets. Note, parenthetically, that the value designated by DEQ as ‘Electricity Use’ should be ‘Electricity Generation’ since emissions do not result from electricity use, only from its generation if processing and combustion of the power plant fuel releases greenhouse gases. According to [DEQ data](#), among the sectors accounting for these regulated emissions the electrical utilities were responsible for 26% of regulated emissions in 2018, a value estimated to have risen to 29% in 2019.

Given the percentage of emissions resulting from electricity generation, it seems only logical that any effort to reduce emissions should include a plan to address electrical generation. While the Department of Environmental Quality is charged by Governor Brown’s Executive Order 20-04 to reduce emissions from stationary sources, the agency reports that it perceives its authority to be limited. As a result, DEQ is proposing to exempt electricity generation facilities from coverage under the Oregon Climate Action Plan (as actualization of the EO through a cap and reduce program is now called). If this decision stands, natural gas-powered generation facilities responsible for 10.8 Million Metric Tons of emissions in 2019 will be

| 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 |

exempt - see Table 1 below. Notably, the EO goal for 2050, at 80% below 1990 emissions, is 11.6 MMT. This means only 0.8 MMT remain to be emitted. This, of course, does not account either for the potential increase in electricity need resulting from the drive to electrify wherever possible or the emissions from fuel suppliers when a threshold for inclusion is determined. If that threshold is 300,000 tons of carbon dioxide equivalent emissions, another 3.74 MMT will be emitted for a total of 14.54 MMT of emissions that are exempt leaving the state mathematically unable to achieve the goal of the EO.

This, of course, brings us to HB2021. Since the authority DEQ claims to lack to target out-of-state electricity results from the absence of legislative authority, the first outcome of HB2021 would be to overcome that lack of authority because, in addition to imposing emissions reductions on electrical generation within the state, this bill imposes limitations on emissions resulting from the generation of all electricity sold to retail consumers in Oregon.

As indicated above, best available science indicates unequivocally that globally our need is to reduce greenhouse gas emissions to net zero by 2050. Happily, HB2021 achieves this goal in the electricity sector with a decade to spare. Indeed, HR2021 establishes an emissions reduction trajectory (compared to a baseline average of the years 2010-2021) passing through an 80% reduction by 2030, and 90% reduction by 2035 to achieve zero emissions by 2040.

By reducing to zero emissions from a sector that currently accounts for approaching a third of statewide emissions, HR2021 makes huge strides towards achieving our needed statewide goal

Caveats and Remedies:

It should be noted that a critical component of a plan to reduce emissions is not only to eliminate emissions from the generation facility (i.e., during the combustion of the fuel). We also need to eliminate emissions resulting from the extraction, processing and transmission of any fuel used in the power plant. Failing to eliminate such emissions would undermine the effectiveness of any plan established by the bill.

Since fossil (natural) gas combustion results in substantial greenhouse gas emissions (essentially carbon dioxide) it is only reasonable that HB2021 also forecloses on the siting certification of any generating facility that employs this or any fossil fuel as its feedstock. The problem with fossil gas is that substantial leakage (termed fugitive emissions) of methane occurs during its extraction - especially when hydraulic fracturing (fracking) is employed - its processing, and its transmission. Indeed, abundant evidence exists suggesting these fugitive emissions may make

fossil gas as bad as, or worse than, coal as a power plant feedstock. For a more exhaustive discussion of this problem, visit: [Fossil \(Natural\) Gas: A Bridge to Nowhere](#).

It is also reasonable that the bill should provide a roadblock to so-called Renewable Natural Gas (RNG). Since RNG cannot possibly replace natural gas, a shortage of RNG would likely be augmented by conventional natural gas imposing all the problems listed above attendant on natural gas usage. For a more extensive discussion of the flaws with the Renewable Natural Gas promotion by Natural Gas Utilities, visit [The Four Fatal Flaws of Renewable Natural Gas](#) and which explores the problems of Availability, Cost, Carbon Intensity, and Industry Obfuscation 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 authors argue that there are only limited situations where this product makes sense; general distribution through the pipelines and public use are not among them. Meanwhile, a [recent 2020 report](#) revealed: “RNG is not inherently climate friendly. Based on consideration of both the source of methane used to produce RNG and the likely alternative fate of that methane, and using reasonable assumptions about likely system methane leakage, it is unlikely that an RNG system could deliver GHG negative, or even zero GHG, energy at scale.”

We also note that HR2021 should not allow fuel manufactured from biomass. It is certainly the case that combustion of synthetic fuels made from biomass releases into the atmosphere carbon dioxide captured from our current atmosphere rather than its having been captured from an atmosphere hundreds of millions of years ago as is the case with all fossil fuel. However, the promotion of biofuels is based on the argument that growing biomass will subsequently recapture this carbon dioxide and remove it from the atmosphere while the carbon dioxide emitted was trapped by photosynthesizing plants from this atmosphere. The problem with this argument is that vegetation does not grow as rapidly as would be needed to remove this carbon dioxide before the catastrophic effects of global warming are imposed. We know we have but a decade to impose a substantial reduction in the atmospheric concentration of greenhouse gases. This is a particular problem when it comes to ‘cellulosic biomass’ that comprises trees. Not only do trees take a long time to grow, but also, harvesting trees itself precludes the ability of those trees to capture further carbon dioxide from the atmosphere. While there may be some circumstances under which biofuel comprises a reasonable option for generating electricity, this does not include harvested wood products. This is why 500 scientists wrote a letter to world leaders urging that woody biomass not be defined as a renewable energy source (<https://www.wwf.eu/?uNewsID=2128466>). Furthermore, encouraging investment in biomass combustion or biofuel production results in loss of investment funds for genuine clean energy sources and the risk of promoting combustion that results in the emissions of toxic co-pollutants that compromise the health of communities living near the generation facilities.

In addition to these direct concerns, it must be remembered that the production of synthetic fuel or RNG from biomass involves a process that consumes energy. The question to ask is: from where does that energy come? If the energy source for that process is conventional fossil fuel, the manufacture of that synthetic fuel may cause as many (or even more) greenhouse gas emissions than are saved when the synthetic fuel is burned in a generation facility in place of fossil fuel. The remedy to this conundrum is to include in the bill either a provision requiring that a utility wishing to use synthetic fuel demonstrate that zero emissions resulted from the manufacture of that fuel - with the burden of proof falling upon the utility to demonstrate this or a provision that precludes the harvest of trees specifically for the purpose of fueling an electricity generation facility.

Conclusion:

We support the essence of HB2021 and urge its passage with provisions that limit electricity generation 100% to fuels that are genuinely free of greenhouse gas emissions.

Sincerely,

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

Alan R.P. Journet Ph.D.