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Southern Oregon Climate Action Now Testimony on HB2020

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Background

On behalf of over 1400 Southern Oregon residents who are Southern Oregon Climate Action Now, I write in support of HB2020 in relation to its establishment of the Oregon Climate Action Program. Specifically, I write to encourage passage of this bill, offer a perspective from Southern Oregon, and conclude with suggested amendments to strengthen it.

HB2020 for All Oregonians

The climate consequences of global warming have been affecting Southern Oregon for several decades, certainly since the 1970s. This is not surprising since almost every graph depicting regional, state, national, or global climate trends exhibits a marked deterioration starting about that same time.

Like the rest of Oregon, the Rogue Valley, has been experiencing warming temperatures, reducing snowpack and snow water equivalent, and increasing risk of wildfires spreading once initiated[1]. We are also well aware that the projected climate trends of ongoing temperature increase combined with little change in precipitation, will exacerbate the threats to the beautiful natural systems that brought many of us here, and likewise persuade us to stay. In particular, I note that the climate changes projected for the region[2] will compromise the viability of our tree species, and thus the continued existence of our forests[3]. Our agriculture, fisheries and forests are dependent on continuing climate conditions resembling those of the last few centuries. These conditions are what allowed both the initial establishment of our species and their continued survival. If we follow the future projected for us under the business as usual scenario of accelerating fossil fuel use and greenhouse gas emissions, our natural systems, agriculture, fisheries and forests will be substantially compromised. The way of life in Southern Oregon is threatened by ongoing global warming. If we wish to protect our corner of paradise, we must do all we can to promote a collective global reduction in greenhouse gas emissions, and accompany this with efforts to sequester greenhouse gases (carbon dioxide) already in the atmosphere.

While the emissions of greenhouse gases from Oregon are a relatively small proportion of national emissions, and an even smaller proportion of global emissions, it is very clear also that unless we take serious and meaningful steps to reduce our statewide emissions, we will have no credibility or moral authority to ask others to protect Oregon by reducing theirs. Suppose I argue that I shouldn't have to pay any taxes since mine are a small portion of the state or federal revenue. How much traction would that gain as a legal defense? As one of the witnesses asked at the Medford Hearing: do we really teach our children that it's acceptable to engage in anti-social and destructive behaviors when our actions have only a small negative effect?

Another witness at the Medford Hearing pointed out that, throughout our history, every time a proposal has emerged that would improve the lives of low and middle income Americans or address environmental problems (Social Security, Medicare/Medicaid, forty-hour work week, child labor laws, increased vehicle energy efficiency, for example) special interests largely from the corporate arena, mounted campaigns of fear-mongering to persuade the public that these proposals are untenable and economically devastating. Yet, when passed, these same corporations responded by accommodating to their requirements and continuing to generate a heathy profit margin. The same scenario is being played out today with HB2020

In 2007 Oregon, passed HB3543 establishing a voluntary program to reduce greenhouse gas emissions with a goal of 75% emissions reductions below 1990 levels by 2050. Unfortunately, we are far from a trajectory to achieve that goal. In fact, with our current behavior, statewide emissions will be over 4 times greater than the 2007 program's target (Figure 1)[4]. We'd all like voluntary goals to be effective, but the proof of the failure of this voluntary program in Oregon is in the data. If we are serious about placing Oregon on a path to meaningful emissions reductions, we need a more effective program.

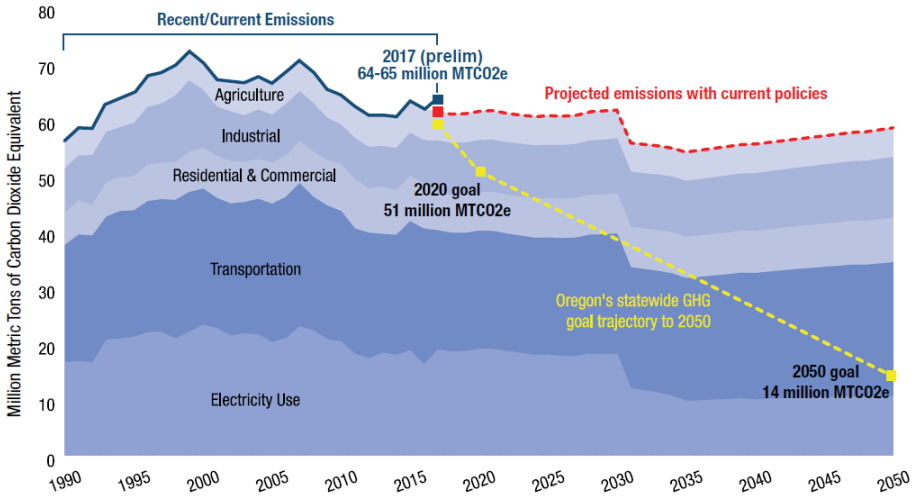

Figure 1. Oregon historic and projected greenhouse gas emissions compared to the 2007 goals. Prelim = preliminary; yellow = 2007 goal trajectory

Despite the claims of opponents about the negative economic consequences that will befall Oregon if HB2020 passes, we can evaluate the likely impacts of the proposal by reviewing what has occurred elsewhere in the U.S. where a cap and trade program has been instituted:

- When California's Cap and Trade took effect in 2012 gasoline prices fell[5]. This illustrates that fuel prices are under a wide array of price influences; an emissions cap is not the critical influence.
- Electricity prices fell 6% since cap and trade was imposed in the eastern Regional Greenhouse Gas Initiative (RGGI) states which capped utility emissions[6]. Meanwhile, prices have risen 6% in other states, realizing a net price benefit for the cap and trade policy of -12%.

- The Gross Domestic Product of California (overall and per capita) has risen while greenhouse gas emissions (overall and per capita) have fallen[7]. Meanwhile, the cap and trade states of RGGI were 4.3% ahead of surrounding states on economic growth and 15% better in emissions reductions[8].
- HB2020 demands that all revenues expenditures serve the goals of the Climate Action Program in reducing emissions or capturing and storing greenhouse gases already in the atmosphere. The program and its administration would be supervised by a House and Senate legislative committee making it accountable to our elected representatives not unelected bureaucrats.

The evidence refutes the repeated hysterical claims of opponents that gasoline and electricity prices will rise substantially causing Oregonians, and their businesses and farms, irreparable harm. The evidence also denies the repeated claims that HB2020 would cause economic disruption. The evidence, furthermore, is clear from other states imposing a Cap and Trade program that these programs stimulate economic growth; they don't suppress economic growth! Meanwhile, provisions in the bill to assist low-income Oregonians with utility costs refute the argument that HB2020 will cause low-income Oregonians immense suffering.

Funded by Associated Oregon Industries, FTI Consulting developed a report that purported to demonstrate that the 2017 Clean Energy Jobs Bill (SB1507) would impose huge economic damage to the state[9]. Despite the fact that this is 2019, and HB2020 is not SB 1507, this incompetent FTI report is being touted by opponents to undermine the bill. In modelling, output is only as good as the assumptions that are made. A common phrase used in evaluating models is GIGO, meaning Garbage In, Garbage Out. Unfortunately, this is exactly what the FTI report provides. The most egregious error concerns the identified of auctions in 2035 and 2050. The assumptions that auctions in 2035 would be $89 per ton of CO2e emissions and $464 per ton by 2050 are substantially beyond highest case scenario values anticipated[10]. Furthermore, the increases in the price of gasoline and electricity are denied by the evidence reported above from states that have imposed a cap and trade program

The Investment component of HB2020 will stimulate green jobs. Oregon's DEQ calculated that funds raised in the first year of operation at $550 million, of which $348 million will be from transportation fuel and thus constitutionally earmarked for highway projects that serve the purposes of the Climate Action Program (many of which will be in construction). Most of the remaining $202 million will be targeted for the Climate Investment Fund promoting projects that

- generate employment in areas like: clean energy;
- that capture and store greenhouse gases from the atmosphere through agriculture and forestry;
- support communities (like rural Southern Oregon) that are impacted by climate change or the transition to a clean energy economy;
- that stimulate our adaptation to climate change; forestry management
- that reduces the regional risk from wildfires through sane forestry management.

Oregon already has 55,000 clean energy jobs, ranks 14th in the nation in solar jobs, and in the top 21 for total clean energy jobs. Meanwhile, Senate District 3 already has 1,500 clean energy jobs, $9 million of private investment, and 3.1 megawatts of clean generation capacity[11]. With HB2020 we could build on this foundation, keeping our energy dollars circulating in the state and in Southern Oregon instead of leaving the state.

Finally, the 2019 economic study of HB 2020[12] predicted that a 2.5% greater economic growth would occur statewide by 2050 with HB2020 than without it, that 50,000 jobs would be created, and $2 billion in health care costs would be saved within 9 years.

Far from serving as a drag on the Oregon or regional Southern Oregonian economies, HB2020 offers the promise of assisting our economy.

While opponents focus on, and vastly exaggerate, the cost of reducing greenhouse gas emissions, an alternative question worth asking is: what would be the cost of continued unabridged global warming to Oregon? A 2016 study enumerated some of the potential costs of continued global warming and the climate change consequences it will likely bring to the state[13]. Because of the diverse bases upon which data were reported, it is difficult to estimate what the mid-century costs from climate change are likely to be for Oregonians but a conservative calculation suggests that total cost will exceed $19 billion. This would place the cost per Oregonian, assuming the 2050 population estimate of 5.8 million[14], at over $3,000 (calculations - available on request).

Recent Confirmations of Urgency

A 2019 climate science publication[15] concluded that the connection between global warming and human activities has reached a level of chance equivalent to a 1 in 3.5 million probability, a level of confidence that is indistinguishable from certainty. They conclude that: “humanity cannot afford to ignore such signals.”

The 2018 National Climate Assessment Report[16] describes clearly that global warming / climate change effects are here, now, and critical. The economic cost of not addressing global warming are already evident and will, indeed, become ever more severe as our agriculture, forestry and fisheries are disrupted, and our economic growth is impeded. To those who wonder about the cost of addressing global warming, we ask: what would be the cost of destroying our agriculture, forestry and fisheries? Put simply, the cost would be incalculable!

The 2018 Intergovernmental Panel on Climate Change report[17], meanwhile, stressed the importance of keeping global warming to 1.5 rather than 2.0 degrees Centigrade. This report concluded that we need to undertake substantial reductions in emission by 2030, to 45% below 2010 levels with achievement of net zero emissions by 2050. While HB2020 does not achieve the 2050 goal, it provides a substantial improvement over the current trajectory (see Figure 1 above)

Proposed Adjustments:

1-Life cycle assessment

HB2020 currently targets greenhouse gases emitted from the generation of electricity used within Oregon whether generation occurs inside or outside the state. This involves assessment of upstream emissions and the allocation of those upstream emissions to the in-state marketer of electricity. On the other hand, for fossil fuels, the only emissions charged against marketers and distributors of the fuel are in-state emissions. This means that, unlike electricity, where upstream emissions are targeted, upstream emissions that result from Oregonians’ use of fossil fuel are unaccounted. Instate fugitive emissions from pipelines are seemingly accounted so long as emissions from a given ownership exceed 25,000

MMT of CO_2e. However, emissions resulting from hydraulic fracturing (fracking), processing, and out-of-state transmission / transportation of fuel escape coverage. In 2016, the Oregon legislature passed SB1547[18] which requires that after 2030 electricity sold in Oregon shall not be generated from coal-fired power plants, a decision that assesses Oregon electricity sellers for the upstream emissions resulting from the generation of their product.

If we are genuinely concerned about reducing the greenhouse gas emissions that result from Oregon's energy use, it seems only reasonable that we should similarly impose an assessment against fossil fuel distributors/marketers in Oregon for the emissions occurring upstream.

While it would be inappropriate to double charge Oregon fossil fuel distributors for emissions already assessed against instate pipelines, it seems entirely appropriate to assess out-of-state upstream emissions against instate distributors just as we currently assess out-of-state electricity generation emissions to those marketing electricity used in-state.

A result of failing to assess full life-cycle emissions of fossil fuels is that the program will likely encourage the transition by users to natural gas. This, in turn, will promote further shale fracking and the fugitive emissions that result from this procedure. Natural gas is 90% methane exhibiting a global warming impact 86 times greater than carbon dioxide on a 20-year basis -and 34 times greater on a 100-year basis[19]. Because of the fugitive emissions of natural gas[20], the failure of Oregon's program to assess full life-cycle emissions will potentially have a huge and negative global warming impact that partially, at least, negates the benefits of the Oregon Climate Action Program.

Our specific recommendation is that Section 9; 2 (c through f) be amended to replace: 'the combustion of' with 'the use and combustion of.' It would then be necessary to define 'use of' in Section 8 as "full life cycle emissions of greenhouse gases from extraction, processing and transmission/transport to end use of the fuel." This would make HB2020 consistent with the approach towards greenhouse gas emissions embedded in the Federal Energy Innovation and Carbon Dividend proposal, (HR763)[21]. It would also be appropriate for the Carbon Policy Office to update its method for assessing the carbon dioxide equivalent of other gases to the latest values reported by the IPCC.

2 - Exclusions/Exemptions

The proposal includes fully 18 entities that are assigned to the Emissions Intensive - Trade Exposed category of corporations receiving free allowances. We recognize the EI-TE concern but note that it's not clear how an entity achieves EI - TE status, or how many entities are left to participate in the auction. Furthermore, this seems to pose a serious threat to the ability of the program to serve its self-defined goal: "to promote adaptation and resilience by natural and working lands, fish and wildlife resources, communities and the economy in the face of climate change and ocean acidification"; and "to provide assistance to households, businesses and workers impacted by the transition in this state to an economic system that allows for the State of Oregon to achieve the greenhouse gas reduction goal." (Section 7 c, d) If we are to promote emissions reductions, and sequestration, along with other investment goals, the number of entities receiving free allowances must be held to a minimum.

Section 10 provides an exclusion to electricity generation for delivery to another state. Since the proposal is based on 'In-Boundary' or 'Sector' assessment rather than 'Consumption' assessment[22] of emissions, this provision seems out of place. The only possible defense for this provision seems to be

that electricity generation is the exception to the In-Boundary assessment and is being evaluated via a Consumption protocol. Thus, since Oregon is assessing emissions from generation out of state, we must provide an exception for electricity that we are exporting. This, however, seems overly generous.

3 - Agriculture Offsets

Section 68 identifies the Oregon Department of Forestry as having authority to develop rules and supervise forestry offsets. Regrettably, there seems no parallel machinery established to deal with Agricultural carbon sequestration through, for example, soil reconstructive regenerative agriculture. A section parallel to 68 should be developed to address this issue.

4 - Corrections to Focus on Greenhouse Gases

While HB2020 appropriately focuses on greenhouse gases measured in terms of their carbon dioxide equivalent rather than just carbon or carbon dioxide, there remain several unfortunate and confusing references to carbon as the target. Thus, the Carbon Policy Office, should be the Climate Policy Office. Since this will be renamed the Oregon Climate Authority, I will ignore this issue. However, repeated references remain to carbon that should be adjusted to greenhouse gas(es) as follows:

p 10 §13 (2) “carbon pricing” to “greenhouse gas emissions pricing”

p. 17 §19 (4) (c) “Carbon market experts” to “Greenhouse gas emissions market experts”

p.18 §21 (6) (a) “Prevailing prices for carbon in other jurisdictions;” to “Prevailing prices for carbon dioxide equivalent emissions in other jurisdictions;”

p 19 §22 (3) (a) “Transportation Decarbonization Investments Account” to “Transportation Climate Investment Account” and

All subsequent references to the Decarbonization Investments Account. AND

p 21 §29(2) (e) “low carbon economic development” to “low greenhouse gas emissions economic development”

p 22 §31 (2) “electrical grid decarbonization efforts” to “electrical grid greenhouse gas emissions reduction efforts”

p 22 §31 (6) “low carbon infrastructure” to “low greenhouse gas emissions infrastructure”; “carbon-free infrastructure” to “greenhouse gas emissions free infrastructure”

p 39 §56 (1) line 26 “carbon dioxide emissions” to” greenhouse gas emissions”

p.39 §57 line 42 “carbon dioxide emissions” to “greenhouse gas emissions”

Appreciations:

Regrettably, the 2050 goal in HB2020 is not quite as stringent as we know we need to be (net zero emissions by 2050), and the 2035 goal of 45% below 1990 is probably a little less strict than needed. However, the bill does have the ‘at least’ language attached to these goals, which means potentially and

with incentives, we could exceed these inadequate targets. It is our hope that the state will revisit them as evidence of their inadequacy grows and becomes more widely accepted.

On behalf of Southern Oregon Climate Action Now, I would like to express our appreciation for the actions of the Joint Committee in developing a serious effort to make Oregon a leader by example in addressing greenhouse gases and global warming thereby recovering the position we achieved in 2007 with passage of HB3543. We also urge the Joint Committee to reject the efforts to promote Alternative Facts to justify weakening the legislation. The nation has spent long enough debating policies promoted by arguments based on an alternative reality. Surely Oregon is better than this!

1- Mote, P.W., J. Abatzoglou, K.D. Dello, K. Hegewisch, and D.E. Rupp, 2019: Fourth Oregon Climate Assessment Report. Oregon Climate Change Research Institute.
http://www.occri.net/media/1095/ocar4full.pdf

2- Climate projections for every county in the contiguous Unites States can be found at the U.S. Geological Survey National Climate Change Viewer Site:
https://www2.usgs.gov/climate_landuse/clu_rd/nccv/viewer.asp

3- Plant Species and Climate Profile Predictions. Currently maintained by Nicholas Crookston (ncrookston@fs.fed.us), This site provides current and future climate envelopes for western tree species under an array of modelled scenarios of future climatic conditions.
http://charcoal.cnre.vt.edu/climate/species/

4- Oregon Global Warming Commission 2018 Biennial Report to the Oregon Legislature
https://static1.squarespace.com/static/59c554e0f09ca40655ea6eb0/t/5c2e415d0ebbe8aa6284fdef/1546535266189/2018-OGWC-Biennial-Report.pdf4

5- California Average Weekly Retail Gasoline Prices 1996 - 2018
https://www.energy.ca.gov/almanac/transportation_data/gasoline/retail_gasoline_prices2.html
Timeline for California's AB32 Global Warming Solutions Act implementation
https://www.arb.ca.gov/cc/ab32/ab32.htm

6- Outpacing the Nation: RGGI's environmental and economic success, the Acadia Center, 2017.
http://acadiacenter.org/wp-content/uploads/2017/09/Acadia-Center_RGGI-Report_Outpacing-the-Nation.pdf

7- California's Greenhouse Gas reductions and economic progress graph
https://www.energy.ca.gov/renewables/tracking_progress/documents/Greenhouse_Gas_Emissions_Reductions.pdf

8- Outpacing the Nation: RGGI's environmental and economic success, the Acadia Center, 2017.
http://acadiacenter.org/wp-content/uploads/2017/09/Acadia-Center_RGGI-Report_Outpacing-the-Nation.pdf

9- OREGON CAP-AND-TRADE – An Economic Impact Analysis of SB 1574 (2016), Ken Ditzel, Scott Nystrom, Evan Klein 2017 FTI Consulting
https://olis .leg.state.or.us/liz/2017R1/Downloads/CommitteeMeetingDocument/109972

10- Luckow et al 2015 2015 Carbon Dioxide Price Forecast, Synapse Energy Economics http://www.synapse-energy.com/sites/default/files/2015%20Carbon%20Dioxide%20Price%20Report.pdf

11- District by District | Clean Energy Jobs in Oregon. E2 Analysis of.https://www.e2.org/reports/district-by-district-clean-energy-jobs-in-oregon/ ; Senate District 3: https://www.e2.org/wp-content/uploads/2019/01/3_Golden-2018.pdf.

12- Oregon's Cap and Trade Program (HB2020) An Economic Assessment. Berkeley Economic Advising and Research (BEAR) https://olis.leg.state.or.us/liz/2019R1/Downloads/CommitteeMeetingDocument/157983

13- Oregon: Changing Climate, Economic Impacts, & Policies for Our Future, An E2 report. 2016 https://www.e2.org/wp-content/uploads/2016/07/Oregon_Business_Climate_Report.pdf

14- Oregon Demographic Forecast (https://www.oregon.gov/das/OEA/Pages/forecastdemographic.aspx),

15- Santer *et al* 2019 Celebrating the anniversary of three key events in climate change science. Nature Climate Change. https://www.nature.com/articles/s41558-019-0424-x

16- Fourth National Climate Assessment Report 2018 U.S. Climate Change Research Program. https://www.globalchange.gov/nca4

17- Global Warming of 1.5°C. 2018 Intergovernmental Panel on Climate Change Special Report. https://www.ipcc.ch/sr15/

18- SB1547, the 'Coal to Clean' Bill of 2016, eliminated coal from the Oregon electricity supply whether generated in-state or out-of-state https://olis.leg.state.or.us/liz/2016R1/Downloads/MeasureDocument/SB1547/Enrolled.

19 Global Warming Potential / Carbon dioxide equivalent values for greenhouse gases Intergovernmental Panel on Climate Change Assessment Report 5m, Working Group I, Chapter 8, Table 8.7 https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_all_final.pdf

20- Recent (2019) discussion of the significance of fugitive emissions of natural gas; Studying Full Methane Life Cycle Critical to PNW Climate Policy by Tarika Powell, https://www.sightline.org/2019/02/12/study-methane-life-cycle-critical-pacific-northwest/; Earlier discussions of fugitive emissions: Howarth RL & Ingraffea T, 2015 Still A Bridge to Nowhere: Methane Emissions and the Greenhouse Gas Footprint of Natural Gas, http://www.eeb.cornell.edu/howarth/documents/2015_04_14_HowarthRL_Ingraffea_4th_Anniversary_LeLectu.pdf ; Howarth RL 2014 A bridge to nowhere: methane emissions and the greenhouse gas footprint of natural gas, https://www.eeb.cornell.edu/howarth/publications/Howarth_2014_ESE_methane_emissions.pdf

21- Energy Innovation and Carbon Dividend Act HR763 - https://www.ipcc.ch/pdf/assessment-report/ar5/wg1/drafts/fgd/WGIAR5_WGI-12Doc2b_FinalDraft_Chapter08.pdf

22- Explanation of In-boundary / Sector *vs* Consumption-based inventories. Oregon Greenhouse Gas Sector-Based Inventory Data https://www.oregon.gov/deq/aq/programs/Pages/GHG-Inventory.aspx

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