

TESTIMONY SUPPORTING H.B. 2021 WITH AMENDMENTS

Submitted by

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On behalf of Elders Climate Action, Oregon Chapter

SUMMARY.

Elders Climate Action supports legislative action to achieve zero CO2 emissions from the generation of electric power generated in, or supplied to, Oregon utility customers because—

1. The need for action to stabilize the climate is urgent as the costly impacts of a warming climate accelerate in Oregon contributing to expanding wildfire that in 2020 caused 500,000 Oregonians to be evacuated ahead of the flames, 4000 homes incinerated, 10,000 residents displaced, 23 lives lost, hundreds of millions in property losses, and an estimated 200 premature deaths from the impacts of smoke pollution on public health.
2. The science is clear: the climate will continue to warm, and the annual devastation caused by wildfire and fire smoke to forests and ag lands, homes, communities, businesses and human health will continue to double each decade until we stop adding more GHGs to the atmosphere.
3. Utilities are not acting quickly to replace natural gas fired electric generating stations with renewable sources of power.
4. DEQ is proposing a Cap and Reduce program to control GHG emissions by developing programs designed to shift the energy sources used to power transportation, residential and commercial heating and industrial processes from fossil fuels (petroleum and natural gas) to electricity, but has announced its intention not to require electric power generators to switch from natural gas zero emission renewable sources of energy.
5. Legislative action is necessary to require utilities to switch to zero emission renewable sources of energy to ensure that GHG emissions from transportation, space heating and industrial processes are eliminated by electrification, and not merely shifted to electric power stations fueled by natural gas.

DEQ's Cap and reduce program, as described to date, will fail to provide the reduction in GHG emissions needed to stabilize the climate. As long as we fail to stabilize the climate, we will fail to protect the public health of Oregonians, fail to protect natural and environmental resources being harmed by a warming climate, and will allow widespread damage to Oregon's economy, disrupt the habitability of most of Oregon during fire season, and contribute to social instability in the State.

II. Science Warns Climate Will Continue to Heat Up Until We Stop Adding More GHG s.

The science is clear: climate stability can be achieved only by reducing GHG emissions to zero.

To stabilize global temperature at any level, ‘net’ CO₂ emissions would need to be reduced to zero. This means the amount of CO₂ entering the atmosphere must equal the amount that is removed. Achieving a balance between CO₂ ‘sources’ and ‘sinks’ is often referred to as ‘net zero’ emissions or ‘carbon neutrality’.¹

We highlight this point because of the immediate devastation climate-induced wildfire caused Oregon in 2020, and the expectation that this devastation will cause massive destruction to Oregon’s environment, economy and public health as long as warming climate conditions continue to accelerate the incineration of Oregon’s forest resources.

The 2020 global temperature regime is now 1.2 C above the 19th Century baseline, with warming to 1.5 C by 2032, and 2.0 C by 2050. At 1.2 C, Oregon is experiencing severe wildfire conditions well outside the historical norm. The area burned in Oregon doubled between the 1990s and 2017, has increased another 100% from 550,000 acres in 2017 to a record 1.2 million acres in 2020.

Future warming is expected to severely exacerbate the destructive impact of wildfire in Oregon. The Oregon Climate Assessment ([OCAR5.pdf | Powered by Box](#), January 5, 2021) cites studies predicting the effects of warming on seasonal heat and a six-fold increase in hot days (>90° F) during Oregon summers (pp. 12-13), and reductions in summer precipitation (Table 2).

Hotter and drier summers are expected to increase the area incinerated by wild fires (pp. 48-54). Expected future hot, dry climate conditions are associated with severe fires:

High-severity fires dominate wet, cool forests, including remnant old growth forests, in Oregon’s Coast Range and western Cascade Range. High-severity wildfires in wet, cool forests typically are ... facilitated by extremely dry and warm springs and summers or high winds.

The Climate Assessment (p. 53) quotes a 2017 modeling analysis that “projected a 200% increase in median annual area burned in Oregon” during the 2010-2039 period compared to 1961-2004. Another 2017 study looking at fires across the American West estimates a 200-400% increase in the “annual probability of very large fires.” (p. 54).

A 200% increase above 2017 will be 2.5 million acres. Oregon could well see annual wildfires burn 2.5 million acres by 2025-30 as the climate is now warming more rapidly. This rapid annual expansion in fire affected area occurred in Australia since 2017 where the area burned during their last austral summer reached 30 million acres. In 2020 California’s burn area grew to nearly 5 million acres, and the total area burned in the 11 Western states exceeded 10 million acres: [2020 Western United States wildfire season - Wikipedia](#). Going forward, the OR Assessment (p. 53) makes clear that all “empirical models ... consistently project that the area burned in Oregon will increase.”

New research shows that wildfire in the western U.S. now accounts for half of PM_{2.5} emissions in some areas of the West.²

A warming climate is responsible for roughly half of the increase in burned area in the United States (4), and future climate change could lead to up to an additional doubling of wildfire-related particulate emissions in fireprone areas (36) or a many-fold increase in burned area (37, 38). Costs from these increases include both the downstream economic and health costs of

¹ **Global Warming of 1.5° C, Chapter 2**, FAQs. (Intergovernmental Panel on Climate Change, 2018).

² Burke, M. et al., [The changing risk and burden of wildfire in the United States | PNAS](#) (Jan 11, 2021).

smoke exposure, as well as the cost of suppression activities, direct loss of life and property, and other adaptive measure (e.g., power shutoffs) that have widespread economic consequences. Using satellite measurements of smoke plumes integrated with ground level monitored PM2.5 (fine particle) concentration data, the report estimates that between 7,000 and 14,500 deaths per year (depending on the dose/response curve used to estimate mortality from observed exposures) are attributable to fire smoke in the contiguous U.S. Scaling these results for Oregon suggest that hundreds of premature deaths occurred among Oregonians as a result of exposure to fire smoke in 2020. Fire smoke-related mortality will increase in future years as the area burned grows, the smoke plumes increase in density, and the smoke season lengthens in duration from 10-20 days to many weeks.

In addition to the economic and environmental damage, social disruption, and harm to health that will result from a longer fire season and expanded fire zones, more deadly air quality will likely make Oregon uninhabitable during the fire season, especially for the most vulnerable populations such as the elderly and children.

The data and modeling estimates presented in the Oregon Climate Assessment and other sources predict a future in which the destruction of Oregon's forest resources by wildfire will continue until either 1) the cool and wet conditions that sustained Cascadia's forests during the 8,000 years before 1980 are restored, or 2) the standing forests are reduced to ash. To preserve the quality of life in Oregon, save our forests and the wildlife and industries dependent on them, and to protect public health, the climate will need to be cooled to the levels associated with atmospheric loadings of GHG gases prior to 1980. To accomplish that result, the IPCC has provided clear guidance: the economy must first be converted to zero emission energy systems and forests expanded to extract CO2 from the atmosphere.

The Legislature must acknowledge that the failure to convert the economy and energy systems to zero emissions will contribute to the destruction of Oregon's forests, and the creation of conditions likely to prevail for decades until forests are no longer available to supply the fuel for uncontrollable firestorms and their resulting air pollution. Oregon must do its part to contribute to the global campaign to stabilize the climate to avoid rendering the State uninhabitable during most summers for at least a generation, and leave a transformed landscape devoid of standing forests.

H.B. 2021 must require that emissions from electric power generation in Oregon end by 2030 to achieve a 25% reduction in GHG emissions from Oregon in this decade.

Respectfully submitted,

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