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Testimony supporting SB1187

Chair Jama and members of the Senate Committee on Rules

As I have noted previously, Southern Oregon Climate Action Now is a grassroots climate organization of some 2,000 Southern Oregonians. We are concerned about the climate crisis and seek federal, state and local action to address it. We are rural and coastal Southern Oregonians who live on the frontlines of the warming, reducing snowpack, heatwaves, drought, rising sea level and the increasing wildfire risk that these trends conspire to impose on us. Because of our concern, we pay close attention to efforts nationally, statewide, and locally that impact our collective efforts to address the climate crisis. As our logo above indicates, the focus of SOCAN is to promote action through science.

Regrettably, there exist pockets of individuals who have been convinced by campaigns of denial, orchestrated largely by the fossil fuel companies, into maintaining substantial willful ignorance in rejecting the evidence that climate science provides. This evidence offers a clear understanding for anyone applying themselves to diligent exploration of the message that

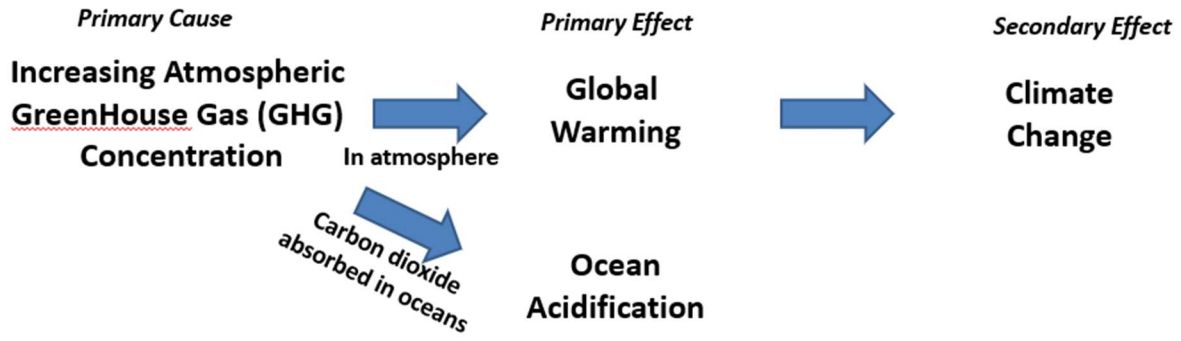

Figure 1. The sequence of the consequences of anthropogenic greenhouse gas emissions.

science conveys. The message is summarized in Figure 1 depicting the consequences of human activities that result in the emissions of greenhouse gases into the atmosphere.

In short, human activities that result in the emission of greenhouse gases are causing the concentration of these gases (mainly carbon dioxide, methane and nitrous oxide) to build up in the atmosphere considerably above historical levels. Incoming solar radiation (mainly in the visible radiation range) reaches the surface of the planet and is transformed into infra-red

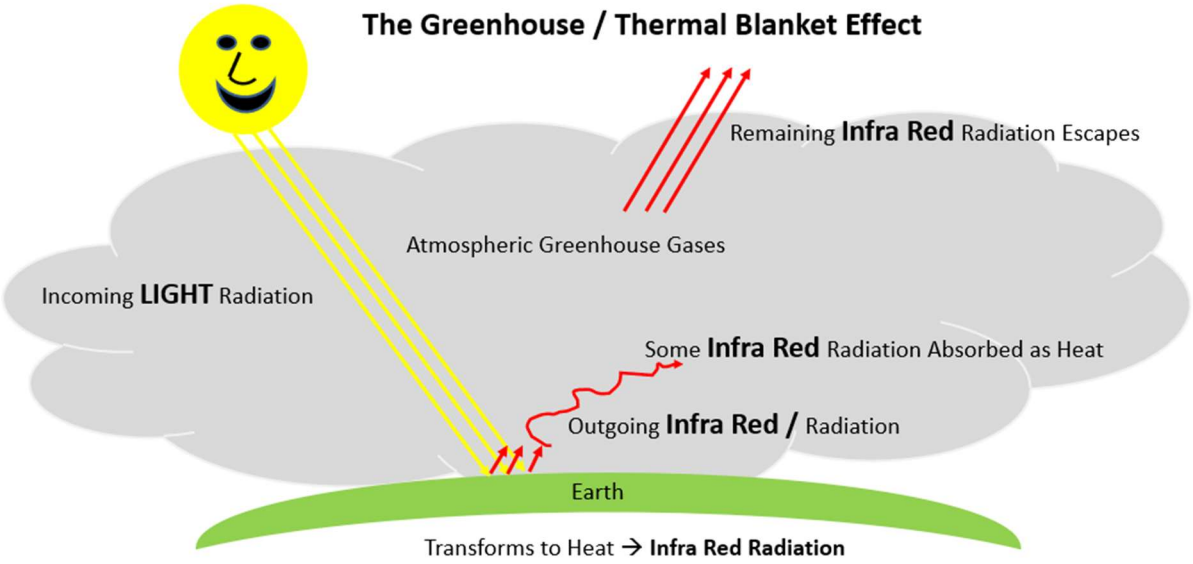

Figure 2. Depiction of how incoming radiation transforms into heat radiation upon reaching Earth's surface and, radiates back into our atmosphere and warming the planet

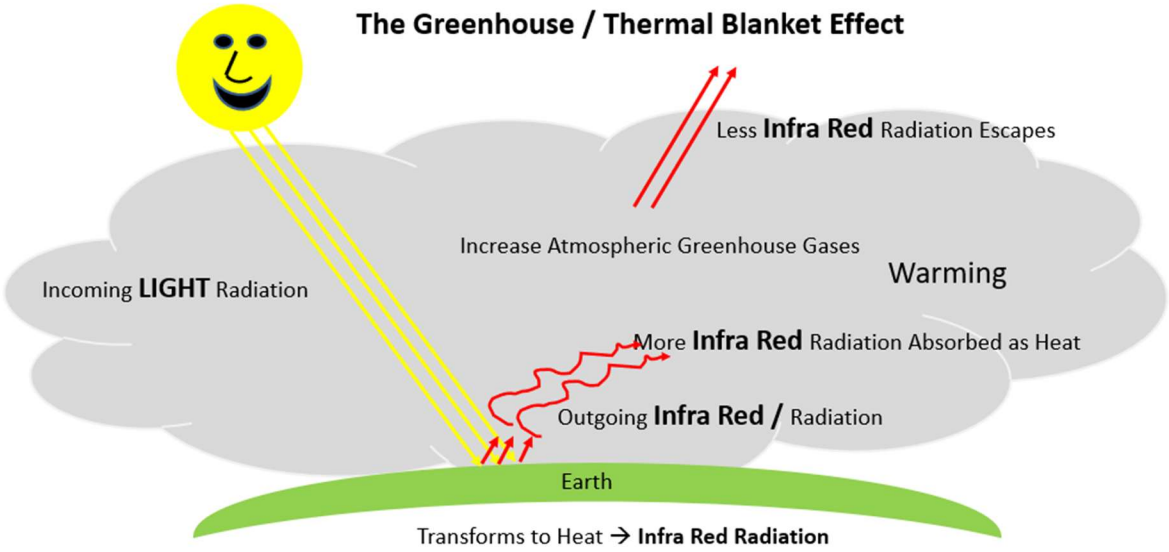

Figure 3. Depiction of how increasing the concentration of greenhouse gases in the atmosphere leads to global warming

(heat) radiation which returns through the atmosphere to space. As the greenhouse gas concentration rises, an increasing proportion of the heat is absorbed by gases in the atmosphere. This, very simply, results in warming of our atmosphere. This increased energy in the atmosphere, then imparts energy into the global climate system leading to the array of climate disruptions that we are experiencing (e.g. see Figures 2 and 3 plus EPA 2024; NASA 2024). Note that carbon dioxide emissions also result in a different destructive pathway in that this gas is absorbed into oceans and forms carbonic acid resulting in ocean acidification. While ocean acidification is often lumped as one of the global warming consequences, in reality it is a different but also unfortunate outcome of our activities.

Figure 4 provides projected change in temperature of Oregon by the end of the century compared to the 1981-2010 average according to three scenarios. The red line (SSP585) represents the scenario that was originally developed as the "worst case scenario' because it assumes no meaningful effort to slow the accelerating rate of fossil fuel use with a comparable accelerating trend in associated emissions. However, since it seems to be the trajectory we are

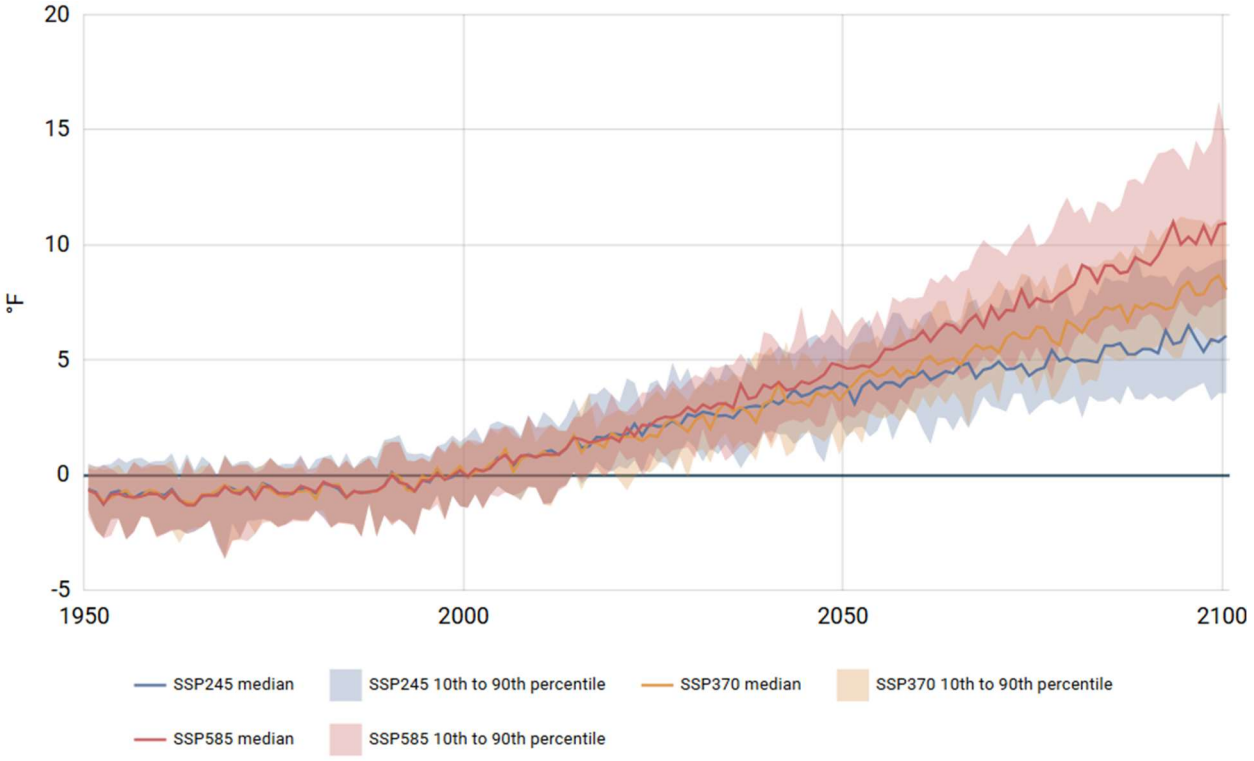

Figure 4 Projected warming of Oregon according to three scenarios (see text) (USGS 2025)

following, it has often been dubbed the 'business as usual' scenario. The other two scenarios represent socio-economic behavior sets that involve reductions in the accelerating rate of fossil fuel use incorporated into SSP585.

Figure 5 (modified from Whittaker 1975) depicts the range of average annual temperature and precipitation patterns that identify where global natural ecosystems exist. Notice particularly, that a shift in temperature of just a few degrees will shift climate outside the range where these ecosystems can survive threatening the viability of the biodiversity they comprise. Comparing this to the projected temperature for Oregon reveals that many of our state natural ecosystems will be devastated by the end of the century if we continue on the current warming trajectory. It is critically important to understand that the same variables also determine the success of our agriculture, forestry and fisheries.

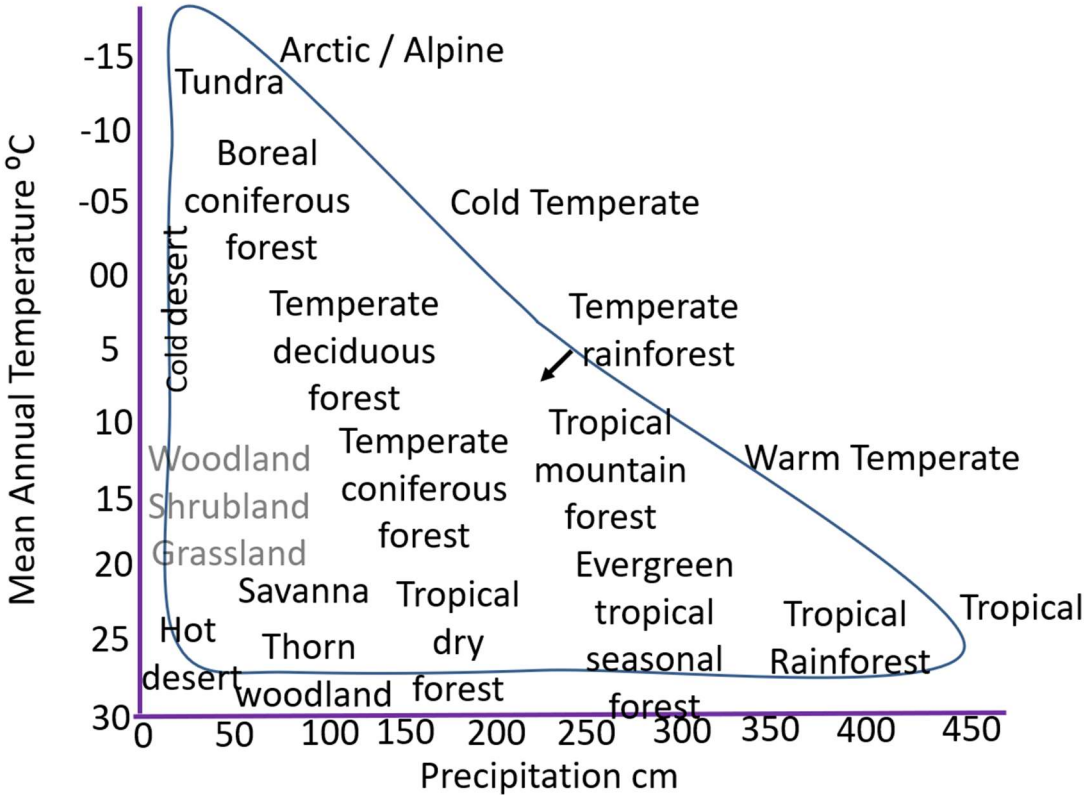

Figure 5 Distribution of natural ecosystems in relation to average annual temperature and precipitation. Modified from Whittaker 1975)

Among the consequences of global warming and climate change are increasing wildfire risk (EPA 2025), increasing risk of destructive hurricanes (EDF 2025) and water excess or water shortage, depending on location (UN undated). Buchwald (2023) reported that climate change events are costing the U.S. $150 billion per year. Smith (2024) then reported that “In 2023, the U.S. experienced 28 separate weather and climate disasters [each] costing at least 1 billion dollars.” He continued: “Adding the 2023 events to the record that began in 1980, the U.S. has

sustained **376 weather and climate disasters** with the overall damage costs reaching or exceeding $1 billion. The cumulative cost for these 376 events exceeds **$2.660 trillion**.". In a study of the economic costs of climate change, the meta insurer Swiss Re predicted the economic consequences of four different global temperature increases comprising: (i) well below 2°C, (ii) 2.0°C, (iii) 2.6°C and (iv) 3.2°C by mid-century for different regions of the globe. For North America the Gross Domestic Product values respectively were reported as – 3.1%, – 6.9%, – 7.4% and – 9.5% compared to what they would have been absent a climate shift. The U.S. GDP for 2021 was just under $22 trillion. Using this as the conservative basis for computing the dollar impact of these values by mid-century, I calculate the cost to the national GDP of these global warming values as (respectively): $68.2 billion, $151. Billion, $162.8 billion, $209 billion. The evidence suggests that global warming and its climate impacts are already imposing substantial economic costs while by mid-century, the economic costs to the U.S. will likely be huge. Oregonians, undoubtedly, are now paying and will continue to pay our share. These, of course, are the costs that are being born and will be borne by Americans as a whole. Meanwhile, those contributing to the climate crisis by continuing to emit greenhouse gases reap economic benefits.

In discussing externalities as costs or benefits accruing to society as a whole rather than the private entity itself, Helbling (undated), writing for the International Monetary Fund, noted that externalities can be positive or negative. A classic example, he points out occurs: "In the case of pollution—the traditional example of a negative externality—a polluter makes decisions based only on the direct cost of and profit opportunity from production and does not consider the indirect costs to those harmed by the pollution." This outcome illustrates the consequences of what Hardin (1968) long ago discussed in exploring 'The Tragedy of the Commons' where resources held in common were described as inevitably suffering at the hands of self-serving users of those commons. This, of course, is exactly what is happening with our atmosphere in the case of greenhouse gas emissions, and our land and waterways in the case of other pollutants. What we experience is self-serving individuals and their corporations using our air, land and water as a free dumping ground for waste by-products of their business activities. The result is private profit for self-serving anti-social and irresponsible individuals at substantial public cost.

An excellent illustration of the Tragedy of the Commons occurs with fossil fuel corporations marketing and profiting from a product that they have known for decades would likely impact the climate. Taylor (2023) pointed out: "As early as 1959, oil industry executives understood the connection between burning fossil fuels and climate change. Soon thereafter, industry scientists confirmed beyond a reasonable doubt that the burning of fossil fuels contributed to anthropogenic climate change." Meanwhile, Gardiner (2022) reported that in 1968, the American Petroleum Institute was in receipt of a paper that was delivered privately to the institute rather than being published. In it, in relation to fossil fuel combustion, the authors concluded: "There seems to be no doubt that the potential damage to our environment could be severe," It is now clear that fossil fuel executives, especially those in the oil arena, launched

a campaign of “Defense, Denial, and Disinformation” as Taylor (2023) characterized it. Regrettably, this campaign has been very successful in influencing the constituents of many members of the Oregon Legislative Chambers (witness the written and oral testimony in opposition to this proposal), maybe including some of the legislators themselves.

Despite this, Oregonians may be surprised to learn that the Yale Program on Climate Change Communication (Marlon et al. 2025) reports that 62% of Oregonians now think global warming is caused mostly by huma activities. Interestingly, the percentage thinking this way is 50% even in Congressional District 2 which mostly covers Eastern Oregon. For Congressional Districts 1 and 3, the values, respectively, are 72% and 70%. The Yale Program has been following U.S. public opinion on climate change for many years during which they have divided respondents into six categories (Leiserowitz et al. 2025). From the least to the most concerned, the categories are: Dismissive, Doubtful, Disengaged, Cautious, Concerned, Alarmed (for more detail, see Leiserowitz et al. 2009). Essentially, the lower three categories (currently 27%) and the upper three categories (73%) have remained collectively similar over the decade from 2014. However, there has been a notable shift in the percentages among the upper three categories as the Cautious and Concerned categories move upwards in their levels of concern towards Alarmed.

Given the nature of the problem, it might be interesting to explore what human activities in Oregon contribute most to the state’s greenhouse gas emissions. Fortunately, the state Department of Environmental Quality (DEQ 2024a) provides data on regulated emissions. It turns out that the major contributors in 2023 were the transportation and electrical generation sectors. The same source (DEQ 2024b) also provides data on greenhouse gas emissions by facility. Those wishing to identify the motives of individuals testifying against the principle of holding greenhouse gas polluters accountable might be interested in assessing their affiliations with the entities DEQ reports as most responsible for greenhouse gas emissions in the state.

Currently Oregonian atmospheric greenhouse gas polluters are not being held accountable for the pollution they emit and have emitted since the enactment of HB3543. In 2007, this bill established a voluntary greenhouse gas emissions reduction trajectory and a 2050 goal of 75% below 1990 emissions. Since that bill was purely voluntary, it is not surprising that it failed to include a mechanism by which irresponsible Oregonians could be held accountable for that behavior. Surely, it’s time that those who use our atmosphere, our waterways and our land as a dump for their waste products rather than bearing the cost of appropriately processing and disposing of that waste should be held liable for that behavior.

In the judgment of SOCAN, it is, therefore, time to hold accountable the corporations that have continued to engage in behaviors that lead to a polluted environment and the global warming and climate change consequences we are experiencing, for the damage that their ongoing actions are causing.

For the reasons outlined above, Southern Oregon Climate Action Now endorses SB1187 and urges its passage.

Respectfully Submitted

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