

Submitter: John Perona  
On Behalf Of: MCAT  
Committee: Senate Committee On Natural Resources and  
Wildfire  
Measure, Appointment or Topic: SB1541

Thank you for the opportunity to submit testimony for SB 1541. I write in SUPPORT of the bill.

I am Professor (emeritus) of Chemistry at Portland State University and author of the climate change science/policy text for laypersons titled From Knowledge to Power, which has been widely circulated in Oregon.

I support this Polluter Pays legislation because it is certain that the impacts of climate change on Oregon will continue to worsen, and will be extremely costly. Fossil fuel businesses earned profits by selling their products in Oregon, at and after the 1995 date when the Intergovernmental Panel on Climate Change definitively concluded - with agreement from nearly every country, including the US - that human activities were warming the planet. Therefore, they should have known then that burning coal, gas and oil would result in increasing costs from a warming world - as manifested in wildfires, coastal erosion, floods and many other impacts.

This is a basic fairness issue, but it is also an economic issue that should resonate with all Oregonians regardless of political party. If fossil fuel businesses do not pay a fair part of the costs, then Oregon citizens will have to pay it in the form of increased state taxes, so that our agencies can direct the work of climate resilience. And the depleted state budgets will make it increasingly difficult for Oregon to fund programs that attract new businesses to the state - including in climate and renewable energy technology areas. Last year, a bill that would have allocated \$20-30 million for this purpose could not gain traction.

The situation will continue to worsen until this basic dynamic is shifted, and fossil fuel companies revise their business models to facilitate the transition to green energy, by getting seriously into technologies they have the capacity to make a difference in - like offshore wind, geothermal energy, geologic carbon sequestration, and low carbon hydrogen. But as these firms appear unwilling to do this on their own initiative, it is necessary to pressure them to change. An aggressive economy-wide escalating carbon tax is the best way to do that, but retrospective payment of damages on the order of billions of dollars may also be effective - especially if many states follow suit.

A few technical comments:

It is unclear if fugitive methane emissions are covered. The definition of "covered

greenhouse gas emissions" is linked to "use" of the fuel. That could be read to exclude any upstream steps before the end user, but it is also true that the fuel cannot be "used" if it is not first excavated, refined and transported - with methane leaks along the way. Including fugitive methane could substantially increase damages. The bill should be crystal clear on this point.

A great deal of independent decision making about damage estimation and cost allocation is left to the agencies. Decisions need to be made about which greenhouse gases to include or exclude from the damages calculation and, separately, from the apportionment calculation. This is not straightforward, because not all greenhouse gases can be attributed from the basic chemistry of coal, oil and gas combustion - as CO<sub>2</sub> can be. For example, ozone is indirectly generated, and is highly location specific, weather-dependent, and seasonal. There are no source attribution studies for ozone (or nitrous oxide, for that matter) in the scientific literature. Will the agencies include all GHGs in the damages calculation (subtracting, of course, F gases and land use change for which the companies are not responsible), even though not all can be attributed? If so, this would rely on principles of equitable apportionment inside of a joint and several liability scheme, as has been done for CERCLA. But this may be risky, inviting more or different legal attacks.

Thank you for the opportunity to testify in SUPPORT of SB 1541.