Chair Dembrow, Chair Power, Co-Chair Bentz, Co-Chair Brock-Smith and members of the Committee

One of my concerns about past cap and trade legislation has been the challenge of the transition period for the average person. I think the investment aspect of HB2020 is essential to a smooth transition.

I am happy to see the low income assistance by utilities for weatherization and bill assistance continue. I was also happy to see the 10% allocation to Tribes. I would like to see specific fund allocations to impacted communities added to HB2020. In past bills these were 15% of the funds from emitting industries to the Just Transition Fund and the remaining 85% to the Climate Investment Fund. The Climate investment fund was to be allocated 10% to Tribes, 50% to impacted communities, 20% to natural and working lands and 20% to be used Statewide.

The investment aspect of cap and trade is essential to growing the economy and making the transition fairer for rural and low income communities.

Chair Dembrow, Chair Power, Co-Chair Bentz, Co-Chair Brock-Smith and members of the committee
I was surprised to see testimony submitted that opposes HB2020 on the basis of denying climate change. To set that record straight I would like to submit the video, Truth in Ten, as testimony to the existence of anthropomorphic climate disruption and the need for us to take action.
Former Vice President Al Gore asks, Must We Change?, Can We Change?, Will We Change? The answer to the first two questions is YES. The answer to the third, Will we change?, is in your hands.
Here is the link to the video on YouTube https://www.youtube.com/watch?v=GX9plA52Efs&t=403s

Chair Dembrow, Chair Power, Co-Chair Bentz, Co-Chair Brock-Smith and members of the Committee
Thank you for your work on carbon reduction and continued efforts to make Oregon's Climate Action Plan HB2020 a strong bill that will be an example for the nation.
One thing that is certain about global warming and climate change is we are all in this together. We share the same atmosphere and emissions from Oregon, much like the proverbial wings of a butterfly, have an effect in our nation and the world. **Because we are all in this together I want to address the exemptions and exclusions in HB2020.**
In brief, I believe there should be **no exemptions or exclusions** for the covered entities with 25,000 tons of emissions a year that will be regulated under this bill. I suggest that the few there are be removed. I submit that the ability to adjust the number of allowances that are directly distributed to the covered entities is a more flexible way to manage the considerations behind the exemptions. Rather than exempt or exclude outright the option to directly distribute some allowances enables quick adjustment to actual documented needs of the business and the overall economy rather than a guaranteed free pass to pollute.
For example:
Section 10 exempts several types of emitters. I find the following especially problematic and encourage that they be included as regulated industries if their emissions are 25,000 tons per year or greater.

- • Any land disposal site that is closed before the effective date of the bill even if it is maintained in compliance with Environmental Quality Commission Rules and these rules do not appear to address any greenhouse gases emitting from the land disposal site. It seems we need to address that possibility either in this bill or by the EQC
- • Cogeneration facilities that are owned or operated by a public university would be exempted. If well run emissions should be below 25,000 tons of CO2e now and in the future. If they are not, where is the incentive to decrease emissions?
- • I believe it is important to recapture methane generated from landfills and to generate energy

from greenhouse gas emissions from the combustion of municipal waste. However, if the emissions during this process are not recaptured properly their may be emissions that should be accounted.

- • Municipal waste incinerators should not be exempt. We need to encourage efficient incinerators and controlled emissions.
- • This bill focuses on the point of entry for fuels, it seems it should focus on the point of generation for energy as well. This precludes exclusion of greenhouse gas emissions related to the generation of electricity in Oregon that is delivered to and is consumed in another state. If the emissions occur in Oregon they should be accounted for in Oregon no matter where the final use occurs.

https://www.sightline.org/2019/02/12/study-methane-life-cycle-critical-pacific-northwest/?utm_source=Sightline%20Institute&utm_medium=web-email&utm_campaign=Sightline%20News%20Selections

- • Aviation fuel, fuel in watercraft and railroad locomotives should not be exempted. Although their may be a case for exempting fuels that are used for international commerce, the current wording appears to apply to watercraft that use gasoline or diesel and does not specify size. It seems a pleasure boaters would get exempt fuel.
- • Rather than exempt emissions from consumer-owned utilities if the three year average is less that 25,000 metric tons, why not require them to purchase allowances for any year they are

- regulated and allow banking of allowances to average out over three years. This makes the companies more accountable and sets the same standard for all.
- • The de minimis fuel imports should be tracked and monitored to ensure they are not being used to hide what is actually an aggregate that would not be subject to regulation. We have seen the results of small companies that have been exempt from EPA requirements but in the aggregate have caused significant and intractable pollution problems. Encouraging these de minimis fuel imports to 'opt in' would be a good way to demonstrate they have not 'dis-aggregated' to avoid being a covered entity.

Section 11 provides for a temporary exclusion of fluorinated greenhouse gases through 2026. These hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, nitrogen trifluoride and other fluorinated greenhouse gases, commonly referred to as 'F' gases, are thousands of time more potent than CO2 for trapping heat in the atmosphere. Please see the attached Global Warming Potential (GWP) chart. The bill correctly considers the higher potency of these gases in the definition of “Carbon dioxide equivalent”. I understand that Intel alone emits around 44,000 tons of these F gases. I think we ask very little of Intel to and other semi-conductor manufacturers to account for these gases immediately by obtaining allowances to cover them. The attached GWP Chart outlines the equivalents which range from 298 for nitrous oxide to 14,800 times CO2 for hydrofluorocarbon-23.
Section 37 describes the uses of the **Transportation Decarbonization Investment Account** and it appears there may be some legal restrictions on the use of this account per the State Constitution. I would like to see use of the Transportation Decarbonization Investment Account to promote electric vehicles through subsidy and adoption of electric trucks. This may take a Constitutional amendment in another session. I encourage you to consider this. Naysayers continue to cite increases in fuel prices as a reason to exempt transportation. As I declared initially, we are all in this together. I am happy to manage higher fuel prices (more in line with the actual socio-economic cost of fuel) if it leads to reduction in greenhouse gases.
Thank you for considering ways to include all greenhouse gases in this bill.
Jane Stackhouse
503.284.1049
jane@janestackhouse.com

How to read this table

The column on the right shows how much that chemical would warm the earth over a 100 year period as compared to carbon dioxide.

For example, **sulphur hexafluoride is used to fill tennis balls**. The table shows that a release on **1 kg** of this gas is equivalent to 22,800 kg or **22.8 tonnes** of CO_2. Therefore, **releasing ONE KILOGRAM** of sulphur hexafluoride is about **equivalent to driving 5 cars for a year!** (2)

Greenhouse Gas	Formula	100-year GWP (AR4)	
Carbon dioxide	CO_2	1	
Methane	CH_4	25	
Nitrous oxide	N_2O	298	
Sulphur hexafluoride	SF_6	22,800	In addition to sulphur hexafluoride and hydrofluorocarbons (listed in the box), perfluorocarbons, nitrogen trifluoride, and other greenhouse gases are listed in the temporary exclusion emissions for semiconductor manufacturing.
Hydrofluorocarbon-23	CHF_3	14,800	
Hydrofluorocarbon-32	CH_2F_2	675	
Perfluoromethane	CF_4	7,390	
Perfluoroethane	C_2F_6	12,200	
Perfluoropropane	C_3F_8	8,830	
Perfluorobutane	C_4F_{10}	8,860	
Perfluorocyclobutane	c-C_4F_8	10,300	
Perfluoropentane	C_5F_{12}	13,300	
Perfluorohexane	C_6F_{14}	9,300	

NOTE: The **GWP values were changed in 2007.** The values in the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (**AR4**) in 2007 where refined from the IPCC Second Assessment Report (**SAR**) values used previously and still in much of the literature.

https://climatechangeconnection.org/emissions/co2-equivalents/