Hair on Fire Oregon Testimony for March 1st, 2017 Hearing on Comprehensive Climate Legislation in support of SB557, HB2185 and HB2468

Chair Dembrow, Chair Helm and members of the Senate Environment and Natural Resources Committee and the House Energy and Environment Committee,

We are writing to express our strong support for passing meaningful comprehensive climate legislation this session. In particular we feel you have before you several bills, including SB557, that will cap and reduce greenhouse gases and give Oregon a unique opportunity to create clean energy jobs and transition to a clean energy economy.

We are part of a group called Hair on Fire Oregon—reflecting the urgency we are feeling in Southern Oregon over our changing climate. Weather patterns have become increasingly erratic with longer, drier summers, snow packs either diminished or melting ahead of traditional spring runoff are causing decreased soil moisture in our now longer and hotter summers. We are avid gardeners and manage nearly 500 acres of timber acreage and are experiencing first hand drought-stressed die off, increased bug kill and fire risk. A spring belonging to one of our neighbors up on the Greensprings where we live, for the first time in 60 years of their living here, ceased to flow in 2015, causing them to have to haul in drinking water to their property. In short, we are feeling the effects of climate instability that scientists and our own Oregon Climate Change Research Institute have predicted.[1]

In 2007, Oregon passed HB 3543 setting goals to reduce greenhouse gas emissions in the state to 10% below 1990 levels by 2020 (50.4 million metric tons/year) and at least 75% below 1990 levels by 2050 (14 MMtons/y). The recent report the Oregon Global Warming Commission[2] submitted to the legislature confirmed that we are nowhere near reaching either of those targets with the voluntary approach Oregon has relied on. In fact, the Department of Environmental Quality continues to issue new permits to pollute for the asking having no directive from the state statutes specifically telling them not to. This, in part, has resulted in an uptick from 60.3 MMtons/year in 2014 to 63.4 MMtons in 2015.[3]

Table 1: Oregon Emissions by Sector, 1990-2015 (Million MT CO2e)

	1990	1995	2000	2005	2010	2011	2012	2013	2014	2015
Transportation	21.0	22.6	24.4	24.7	23.2	22.3	22.3	21.3	21.4	23.2
Residential & Commercial	16.6	19.9	23.1	22.0	23.3	22.5	20.8	22.0	21.4	22.2
Industrial	13.9	16.9	18.0	13.7	12.3	12.2	11.5	11.9	12.4	12.8
Agriculture	4.9	5.5	5.3	5.7	5.2	5.5	5.5	5.2	5.2	5.2
Total	56.4	64.9	70.7	66.2	63.9	62.4	60.2	60.3	60.3	63.4

[1] Oregon Climate Change Research Institutes Third Oregon Climate Assessment Report (2017). http://www.occri.net/publications-and-reports/third-oregon-climate-assessment-report-2017/

[2] Oregon Global Warming Commission's fifth Biennial Report to the Oregon Legislature 2017. http://www.keeporegoncool.org/sites/default/files/ogwc-standard-documents/OGWC%202017%20Biennial%20Report%20to%20the%20Legislature_final.pdf

[3] Ibid

At the historic Paris COP21 gathering in December 2015, over 170 countries from around the globe, including the United States, signed the Paris Agreement vowing to keep global temperatures well under 2 degree Celsius and if at all possible under 1.5 degrees C above preindustrial levels. Our own Governor Kate Brown in May of 2015 joined California and now 167 states, provinces and other jurisdictions from 33 countries on 6 continents and representing 35% of the global economy each vowing to reach 2 tons of greenhouse gas emissions per capita (~8 million metric tons for Oregon) in order to reverse global warming and the extreme harm it is starting to have.

For years Oregon has agreed that greenhouse gases need to be reduced and yet no legislation has resulted in achieving that outcome. Many of us believe we can wait no longer if we want to avoid irreversible damage and catastrophic costs to our lives and livelihoods.

The good news is that we have a great opportunity right now with several outstanding choices of bills that can cap and reduce greenhouse gas emissions. When reviewing these bills the following should be paramount:

1) **The bill should include a declining cap that is based on best available science.** The cap ensures that we will actually reduce greenhouse gas emissions overtime and not merely tax them and still allow pollution to occur. Best available science is now indicating that our targets need to be steeper since we were not successful using voluntary asks. We endorse the targets of 5% below 1990 levels by 2020; 73% below 1990 by 2035; and 92% below 1990 by 2050.
2) **The bill should include full lifecycle emissions of energy consumed in Oregon or burned elsewhere to generate electricity for Oregon.** Without including full lifecycle emissions, we are missing very large chunks of both combusted emissions and leakage of gases like methane along the supply chain that occur as a result of our consumption of energy. Recent data shows that methane leakage due to processes used in the extraction of unconventional (fracked) gas wells along with the equipment such as pneumatics and compressors used to transport the gas, are surpassing 3% making natural gas a worse contributor to global warming than coal.[4] [5] [6] [7]
3) **Any funds generated should in part be distributed geographically to disadvantaged communities and economically distressed communities** allowing counties across the state to further reduce GHG emissions and help mitigate climate impacts by transitioning Oregon to clean energy jobs and a clean energy economy.
4) **We are NOT in favor of LC1242.** A carbon tax, even if $150/ton, according to PSU's study of tax or fee[8], will not allow Oregon to reach our GHG targets. Additionally this bill concentrates only on

[4] Methane Leaks in Natural-Gas Supply Chain Far Exceed Estimates, Study Says. Aug 18, 2015. https://www.nytimes.com/2015/08/19/science/methane-leaks-in-natural-gas-supply-chain-far-exceed-estimates-study-says.html?_r=1

[5] Methane leaks across US pose a much greater threat than Aliso Canyon - Mar 2, 2016. http://www.theguardian.com/vital-signs/2016/mar/02/methane-leaks-aliso-canyon-ghg-epa-edf-environmen-climate-change-gas

[6] Study Ties U.S. to Spike in Global Methane Emissions. Feb 16, 2016. http://www.climatecentral.org/news/us-60-percent-of-global-methane-growth-20037

[7] GAS PIPELINE CLIMATE METHODOLOGY: CALCULATING GREENHOUSE GAS EMISSIONS FOR NATURAL GAS INFRASTRUCTURE. Feb. 2017. http://priceofoil.org/content/uploads/2017/02/Gas-Pipeline-Methodology-2017-Web-Final.pdf

[8] Economic and Emission Impacts of a Clean Air Tax or Fee in Oregon. Portland State University. Dec 2014. https://www.oregonlegislature.gov/lro/Documents/RR%204-14%20SB%20306%20Clean%20Air.pdf

Carbon Dioxide and not all GHG emissions, it does not include life-cycle emissions and it excludes certain large emitting facilities from compliance. Only if the tax or fee were set with no limits and based on actual declining emissions would it be possible to obtain current goals.

While we aren't insistent that the comprehensive climate policy give Oregon the ability to join the carbon market with California, Quebec and Ontario as SB557 prescribes, we do believe that this would give Oregon and participating businesses advantages that they might not otherwise have. The Legislature directed DEQ study of a market approach to reducing greenhouse gas emissions[9] found that allowing the trading of allowances provides the most flexibility and lowest cost route for businesses to comply with the Cap. We believe that joining forces with other economies could help all involved including rural Oregon.

One of the most compelling reasons for Oregon to pass and implement cap and invest policy as quickly as possible is the clean energy jobs it would create. Oregon is rich with renewable energy natural resources. We have abundant sun, wind, geothermal, hydro and waves. By capitalizing on these assets, embracing a renewable energy future and passing cap legislation, we would send a powerful and unequivocal signal to businesses everywhere. Most progressive businesses are increasingly aware of the dangers of continuing the business as usual scenario of emitting GHG pollution. In addition, there is an indication that clean energy disruption is on the horizon where several rapidly declining price mechanisms on solar panels, computer capability, electric cars and autonomous cars are converging to create a rapid flip to renewables.[10] This has the potential of stranding antiquated fossil fuels in favor of far cheaper, cleaner renewable energy technology. By passing policy to progressively move this direction, it gives Oregon an advantage telling alternative companies, "Oregon is open for clean energy business!" This "leg up" that we get from being on the **leading edge of the change**, allows Oregon to draw these businesses to our state. A case in point is California, whose signal through AB32 and other complimentary climate policies, drew more than $27 billion of venture capital between 2006 and 2014 and led to California surpassing Texas in job growth in 2014, adding 498,000 jobs between January 2014 and January 2015, and creating more positions than any other state in the nation.[11]

Another compelling reason for taking action and passing a Cap bill is the risk to current jobs that climate change is threatening. According to this report produced by The Climate Trust for the legislature in 2014, *An Evaluation of Potential Carbon Pricing Mechanisms for the State of Oregon Policy Paper for the 2014 Oregon Legislature*, the following chart, found on page 2, depicts the potential harm to various economic sectors in Oregon **if no** action is taken to price greenhouse gas emissions and stem the flow of greenhouse gas pollution. We can attest here in Southern Oregon, we are already experiencing "warmer, drier summers", "increased wildfires", "increased irrigation needs" and "disease and pest increases".

[9] Considerations for Designing a Cap-and-Trade Program in Oregon. Feb 14, 2017. Department of Environmental Quality. https://www.oregon.gov/deq/FilterDocs/ghgmarketstudy.pdf

[10] Clean Energy Disruption: Why Conventional Energy and Transportation will be obsolete by 2030. https://www.youtube.com/watch?v=Kxryv2XrnqM

[11] Oregon Studies Economic Impacts of California AB32 Cap and Invest Policy Lessons from a jurisdiction with experience. PolicyInteractive Research, June 2015. http://www.policyinteractive.org/OreStudiesCalAB32JobsEconomyFinal.pdf

Threat:	Leading to:	Valuation of industries affected:
Warmer, drier summers	Drought Heat waves Wildfires Disease and pest increases	Forestry: $12.7B[4] Wine: $2.7B[5]
Sea level rise along coast	Erosion Flooding	Coastal Real Estate: No information available
Reduced winter snowpack in the Cascades	Increased water prices Increased irrigation needs Decreased tourism	Agriculture: $23B[6] Tourism: $9.2B[7]
Increased ocean acidity	Algae blooms Biodiversity changes	Salmon fisheries: $6.7M[8]

These impacts will be significant and costly--putting at risk more than $47 billion/year of Oregon revenue. The report goes on to say that **"…continued worldwide inaction, could cost anywhere from 5-20% of global GDP each year to perpetuity, while action would cost only 1%."** SB557 creates a solid plan that contributes to a solution taking us from inaction to action.

Just this past week, California legislator and Senate leader Kevin de León introduced legislation to take California to 100% renewable by 2040.[12] If successful, California would join Hawaii who voted in May 2015 to reach 100% renewable by 2040.[13] According to The Solutions Project[14], should Oregon achieve a goal of 100% renewable by 2050 it would not only create more than 35,000 – 40 year duration jobs, it could avoid $5.3 billion in health related costs per year. At a time when Oregon is struggling with rising health care costs and inadequate revenue, passing a comprehensive climate bill that caps greenhouse gas emissions, creates clean energy jobs and significantly reduces health care costs sounds like a perfect win-win-win solution. Some would ask, "What are we waiting for?!"

Oregon is ready for this legislation.

For those of you on your respective committees, the time for action is now. The planet is reeling and we will continue to feel those effects both here in Southern Oregon and across the state. As we move forward, we encourage you to see the hope that will be generated by allowing Oregonians to be pro-active and throw our backs into doing something that will help mitigate the increasing uncertainty our children and future generations are facing.

Oregon has a rich history of people willing to step up for change, from Tom McCall to Mary Wood and Our Childrens' Trust. We ask that you heed the growing signs and act with courage to bring Oregon into the forefront and be the change the world needs.

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[12] http://www.latimes.com/politics/essential/la-pol-ca-essential-politics-updates-california-senate-leader-puts-100-1487714001-htmlstory.html

[13] Hawaii Votes to Go 100% Renewable, May 6, 2015. http://spectrum.ieee.org/energywise/energy/renewables/100-percent-renewable-hawaii-says-aloha

[14] http://thesolutionsproject.org/infographic/#or

We urge you to throw your collective weight and votes behind SB557 or any of the Cap bills and hope you will share with your colleagues the importance of passing this bill during this legislative session. **Please protect what we all love.**

Thank you for your service to Oregonians. We are deeply appreciative of the work you do and urge your bi-partisan support of passing Cap and Clean Energy jobs legislation this session. It helps rural Oregon, it helps all of Oregon.

Sincerely,

Deb Evans and Ron Schaaf
Co-founders, Hair on Fire Oregon
Ashland