Chair Marsh, Vice-Chair Helm, Vice-Chair Brock Smith, and Members of the House Committee on Energy & Environment,

Thank you for the opportunity to testify in support of House Bill 2021, 100% Clean Energy for All.

As a physician, I worked at Virginia Garcia Memorial Health Center, caring for migrant and seasonal farmworkers. I now volunteer with Oregon Physician for Social Responsibility's Healthy Climate Action Team. I would like to focus my comments on the fact that climate change and air pollution that results from burning fossil fuels disproportionately adversely impacts the health of environmental justice communities.

Pollution from fossil fuels was responsible for almost 1 in 5 deaths worldwide in 2018, i.e. more than 8 million deaths. (1, 2)

- **COVID-19 death rates: Fossil-fuel air pollution, PM 2.5, nitrogen dioxide, ozone, and formaldehyde have been associated with increased COVID-19 death rates, and these rates are 49% higher in places with a higher Black population.** (3 ,4, 5, 6)
- **4 of 5 of the leading causes of death in Oregon disproportionately affect communities of color and low income communities due to air pollution.** (7)
  In answer to the question, "Which populations in Oregon have historically experienced disproportionate adverse health impacts of carbon co-pollutants?" the Oregon Global Warming Commission in their 2020 Biennial Report concluded that the "communities more affected by air pollution are communities of color and low-income households, who already bear a disproportionate burden of disease in Oregon. These include people with existing illnesses, people with disabilities, older adults, mothers, infants and children, American Indians, immigrants, refugees, linguistically isolated, communities of color. **This means that the well-established connection between exposure to air pollution and the increased risk of heart disease, stroke, respiratory disease and cancer, four of the top five leading causes of death in Oregon disproportionately affect these groups. (7)**
- **There is a strong correlation between outdoor air pollution and asthma in low income and minority communities:**
  - 15.7% of African-American non-Hispanic children suffer from asthma vs. 7.1% of white, non-Hispanic children. Although only 6.7% of Hispanic children report asthma, the prevalence is 12.9% among Puerto Rican children. (8)
  - In Multnomah County, there is also a strong correlation between air pollution and asthma in low wealth and BIPOC communities. (9, 10)
- **Indoor air pollution (Nitrogen dioxide) from gas stoves and ovens has been shown to trigger asthma attacks, exacerbate asthma, and increase the risk of developing asthma in children.** (11, 8)
  Moving residents of two public housing apartment buildings to "green" housing found significant decreases in multiple indoor exposures and **improved health outcomes** among participants. Nitrogen dioxide concentrations decreased by 65 percent and PM 2.5 concentrations decreased by 57 percent with no change in cooking time. (8)

This bill will move Oregon's to renewable sources of energy such as wind and solar and away from so-called "natural gas" which is 86 times more potent in trapping heat than CO2 over the first 20 years. The opportunity to move our electric grid to renewable sources of energy will be of enormous benefit to

all of us and especially to environmental justice communities--improving their health and their overall wellbeing. I urge you to pass HB 2021. Thank you.

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References

1. Global mortality from outdoor fine particle pollution generated by fossil fuel combustion: Results from GEOS-Chem
KarnVohra[a]AlinaVodonos[b]JoelSchwartz[b]Eloise A.Marais[c1]Melissa P.Sulprizio[d]Loretta J.Mickley[d]
Environmental Research
Volume 195, April 2021, 110754 https://doi.org/10.1016/j.envres.2021.110754
https://www.sciencedirect.com/science/article/abs/pii/S0013935121000487 (Article in Harvard School of Engineering and Applied Science News about the above study)
2. https://www.seas.harvard.edu/news/2021/02/deaths-fossil-fuel-emissions-higher-previously-thought
3. https://energyinfo.oregon.gov/2020-counties/2020/11/1/multnomah-county
4. https://www.lung.org/blog/covid-19-mortality-and-air-pollution
5. https://iopscience.iop.org/article/10.1088/1748-9326/abaf86
6. https://academic.oup.com/cardiovascres/article/116/14/2247/5940460
7. https://olis.leg.state.or.us/liz/2017I1/Downloads/CommitteeMeetingDocument/153029 Climate Change and Public Health in Oregon 2018
8. https://rmi.org/insight/gas-stoves-pollution-health
9. (https://multco.us/file/37530/download)
10. http://www.equityatlas.org/atlas-maps/asthma-rates
11. https://ucla.app.box.com/s/xyzt8jc1ixnetiv0269qe704wu0ihif7