Testimony in Support of SB1530 – Feb 8, 2020

In 1980, I transitioned from nuclear energy to renewables working to commercialize several forms of solar energy technology. Back then, there was no climate movement, but many of us were aware of its potential harm, and were motivated to prepare the technologies of the future.

In 1989, I watched on TV as the Berlin wall was torn down, and I recall someone from the environmental community saying – "The cold war is over and the battle to save the planet has just begun." Well, we are still fighting that battle, and we're not winning.

As a civilization it appears that we have waited too long to limit the average global temperature rise to 1.5°C is lost, and the more we delay, the more damage we are inflicting on our children and grandchildren. The more warming we cause, the more tipping points we trigger, such as glaciers that will inevitably flow into the ocean, but there are several big tipping points that could all contribute to a run-away climate event that we would not be able to stop.

As the Arctic warms at a rate 2 to 3 times faster than the rest of the planet, melting of the sea Ice replaces reflective ice surfaces with absorptive seawater, which Increases heat absorption and accelerates warming of the Arctic Ocean. This warming has already triggered the melting of frozen methane on the Arctic sea floor, and because methane is a much more powerful warming pollutant than CO2, this dramatically accelerates the warming. Finally, the warming Arctic tundra releases methane as thawing biomass decomposes, which also accelerates the warming.

Much has been said about the potential costs of this bill, but these are a drop in the bucket compared to the cost that climate change will wreak on the economy and our global civilization as we move into the future. In addition to increased wildfires, degraded marine ecosystems, infrastructure and property damage, and increased infectious disease, there is the potential for unimaginable loss of life as we over-stress of global systems we all rely upon.

We must quickly transition not just our energy systems but also our agricultural and forestry practices to avoid such a catastrophic tipping point and ensure our children and grandchildren inherit a livable planet. History will judge us harshly if we fail in this task, and we should not let the profit motive stand in the way of a clean energy economy, which will create many more high quality jobs and economic development that continuing with business as usual.

I support SB1530, in spite of the fact that it's inadequate in many way compared to the dramatic action that's really needed to combat the climate emergency we face as a species. However, it's a step in the right direction, and there are several other very valid reasons to pass this bill.

- **It's the right thing to do**, and Oregon has always prided itself as a land of pioneers!
- There will be an **economic cost for covered entities** to invest in more efficient devices and renewable energy sources, but the savings in fuel expenditures will pay back those investments within a decade or less.
- There will be a **much more serious economic cost for all of us**, including loss of life and property, if we do not stop our pollution quickly. Consider climate change to be like a

steam locomotive. The more we continue to dump GHGs into the atmosphere we are adding fuel to a locomotive that is already speeding out of control. We cannot undo what has been done, but we can and MUST stop adding more fuel as quickly as possible.

By moving now, Oregon will **give its businesses a head start** on their competitors, and it will build the industries and jobs of the future. Clean energy is already the number one creator of new jobs in America, and these jobs cannot be outsourced or automated.

Sincerely,

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Dr. DeLaquil has been a leader in the commercialization of clean and renewable energy technologies for 40 years. He is currently CEO of DecisionWare Group, which is a small business that develops and uses MARKAL/TIMES models to perform policy analyses, conduct energy supply - energy security studies, and undertake capacity building and model transfer on behalf of donors, governments and the private sector to identify optimal pathways for achieving economic development and environmental goals.

Dr. DeLaquil's expertise covers technical, market and financial services to government, multilateral and private sector clients interested in the development, commercialization and market introduction of clean, renewable and energy efficient technologies. He was recently Director of IRG-Analytics for International Resources Group, which is an international development consulting company working for USAID, Asian Development Bank and others. He has led the formation of two clean energy start-up companies: EnergyWorks, a Bechtel-PacifiCorp joint venture, which out-sourced energy services for major industrial companies in developing countries through renewables and cogeneration, and another to market biomass gasifier systems to agribusiness customers in developing countries.

Prior to that, Dr. DeLaquil managed Bechtel's interests in the development and commercialization of renewable energy technologies. Key projects developed by Dr. DeLaquil and his group were the PV-USA Project with Pacific Gas & Electric and the 10 MW Solar Two Power Tower Project with Southern California Edison.

Dr. DeLaquil started his career in renewable energy technology development at Sandia National Laboratories, where he performed several studies evaluating the cost and performance of solar power tower technologies for both utility and industrial process heat applications.

Dr. DeLaquil holds a Ph.D. in Nuclear Engineering from Massachusetts Institute of Technology and a B.Sc. in Marine Engineering from the US Merchant Marine Academy He has authored over 100 papers, reports, and articles on solar and renewable energy including chapters in two books on renewable energy technology. He was a contributor to the 2nd IPCC report and holds a patent for a high temperature solar receiver.