

## Testimony – Oregon HB 2190 – Sherkow – March 29, 2023

1. Introduction
  - a. My name is Franklin Sherkow and an Oregon Voter ([fsherkow@earthlink.net](mailto:fsherkow@earthlink.net))
  - b. I am a professional engineer registered in Oregon and 6 other states, and a Sustainability Professional for the Institute of Sustainable Infrastructure
  - c. I do environmental and transportation consulting and was on the civil engineering faculty at OSU for 6 years
  - d. I was the President of the Oregon Section of the Am. Soc. Of Civil Engineers
2. Understand the bill – ensure benefits for the coastal area from off-shore wind energy systems
3. The underlining concept is critically flawed:
  - a. **This technology is already obsolete** – by the time any wind turbines can be constructed off-shore, they will have been overtaken by better technology - no spinning blades and no harm to aquatic sea life or birds
  - b. This concept adds nothing to the electric base-load – in fact it is harmful to the electrical grid because it requires that the base load be increased from other reliable energy sources – every kW of intermittent energy **MUST** be BACKED-UP by a more base-load energy – not just day-to-day, but second-to-second compensation for the intermittent winds – they found this out in Europe – **you must have base-load energy to backfill energy from intermittent sources and adjust for second-to-second swings in energy generation**
  - c. We are moving or protecting critical infrastructure along the Oregon coast – we are **not** building more including off-shore facilities. We are not even protecting Highway 101 from shore erosion (*according to an ODOT study 2 years ago*). **This is a tsunami area and earthquake zone!** Why would we become dependent on off-shore wind turbines for energy? It makes no sense.
  - d. When the winter storms blow through, the winds will be too powerful to safely operate wind turbines – the blades will have to be feathered and locked down – **so when you need the energy most, the system will NOT be producing energy**
  - e. Oceanographers from the UK are now calling for new research to be done into the environmental impact of **turbulence caused by tidal flow past floating deep-water wind farms**

- f. When you analyze the **entire life-cycle profile** for such a system, it is an **energy and environmental loser!** Building the turbines will have to be done and transported with fossil fuels. Constructing the system will have to be done with huge amounts of fossil fuels, environmental damage, and emissions. Maintaining the system will require a small “navy” to service the system. And, decommissioning the system will require a huge amount of energy and environmental harm
- g. Wind **turbine failures** are on the uptick, from Oklahoma to Sweden and Colorado to Germany, with all three of the major manufacturers admitting that the **race to create bigger turbines has invited manufacturing issues** – PGE turbine failures in Biglow Canyon, as example
- h. Turbines are not fit to work in this environment and **turbine blades cannot be recycled** – they have to be buried - researchers estimate the U.S. will have more than 720,000 tons of blade material to dispose of over the next 20 years, a figure that doesn't include newer, taller higher-capacity versions
- i. **All to done in the name of the environment and the climate** – so we are tearing out dams to save the salmon, but building off-shore wind turbines that will harm whales, seabirds, migratory birds, and other sea life. It will also negatively impact the fishing industry. **Not a good trade-off!**

#### 4. So, what should be done?

- a. Look at other energy sources for dependable base-load energy capacity
  - i. Climate-resilient hydropower that prioritizes biodiversity alongside energy generation using **fish-safe turbines**
  - ii. **In-pipe hydro-generation** in water utilities throughout the state
  - iii. An Oregon energy startup, that has worked with OSU for years, has a **modular nuclear power reactor** 1/100<sup>th</sup> the size of a traditional reactor and is supposedly far safer
  - iv. If you still want to do something with wind power, build **On-Shore, No-Blade wind energy systems** which are more efficient than solar systems, and can be decentralized
  - v. ALL of this technology is commercially available and improving all of the time