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Representative Ken Helm
House Committee on Energy and Environment
900 Court St. NE,
Salem Oregon 97301

Chair Helm and members of the House Energy and Environment Committee:

Senate Bill 990 will exempt small modular reactors from Oregon's voter-passed moratorium on nuclear power plant construction. However, it's important for you to understand that NuScale's nuclear reactors are not much different than a typical reactor. SMRs are not small, and like typical reactors, they're not economical, not a "clean energy" source nor inherently safe, and are not an answer to climate change.

Small modular reactors are not small.

Small modular reactors contain 50 megawatt modules, but to be economically competitive with solar energy, wind energy or natural gas, they need all 12 modules (600 megawatts). Six hundred MWe compared to the 1,000 MWe of a typical commercial-scale reactor, is not small, especially if you take into account the large complex needed to support the modules. So, not much is "small" about SMRs except that risk is calculated for only 1 module.

SMRs are NOT economical

The words "small, modular" infer they're less expensive than typical reactors. As explained above, SMRs are not scaleable—you can't just buy one or two. And to finance the factory needed to build modular units, it would take orders for at least 100 reactors. Similar to large power plants, banks will not finance SMRs unless they're subsidized. In 2011 the Union of Concerned Scientists published ***Nuclear Power, Still Not Viable without Subsidies.*** This report shows that in some cases nuclear power subsidies were greater than the value of the electricity produced. SMRs have not changed this picture.

Nuclear energy is not "clean energy."

SMRs, similar to their full-size counterparts, would produce lethal radioactive waste, toxic for hundreds of thousands of years. Under current US radioactive waste practices every SMR complex will become a long-term radioactive waste storage site after decommissioning. SMRs offer no change to the problem of safely storing radioactive waste. Vast amounts of energy will be needed to isolate these dangerous wastes for generations to come. Fukushima demonstrated how rapidly a nuclear accident can progress to a core meltdown. A terrorist attack on an SMR could cause damage worse than the Fukushima catastrophe.

Not a solution to climate change.

The nuclear industry in promoting both SMRs and typical reactors, tell us that nuclear power is a solution to climate change because it does not generate carbon dioxide (CO2), a major greenhouse gas. While this is true if you can isolate the nuclear chain reaction, however the front and back ends of nuclear power generate a large volume of CO_2 and leave a trail of endlessly dangerous radioactivity along the way.

At the front end of nuclear power, carbon energy is used for uranium mining, processing, conversion, and enrichment, as well as for transportation, formulation of rods, and construction of nuclear power plants. At the back end, carbon is used in the task of decommissioning and isolating highly radioactive nuclear waste for millennia—a task which science has so far not been able to address. All of this adds to a nuclear power plant's huge carbon footprint.

Small Modular Reactors are not the answer to our energy problems – it will just add more problems. Wind, solar and efficiency are better energy solutions to invest in.

Respectfully submitted,

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