

February 26, 2025

Subject: Support for Oregon HB 2410

The Breakthrough Institute (BTI) appreciates this opportunity to comment on Oregon HB 2410, and to express our thoughts and support for the proposed bill. BTI is an independent 501(c)(3) environmental global research center that's pro-growth, pro-technology, and pro-development. We are bipartisan and advance durable solutions that are grounded in empirical and cutting-edge research. BTI acts in the public interest and does not receive funding from industry.

HB 2410

HB 2410 is a critical step toward modernizing Oregon's energy portfolio by enabling the deployment of advanced nuclear technologies. By creating a framework that exempts Umatilla County from the statewide moratorium on nuclear energy, this bill paves the way for cleaner, more reliable, and economically beneficial energy solutions that can significantly contribute to decarbonization efforts statewide.

Our extensive research on deploying new clean energy sources to achieve decarbonization—a goal that Oregon shares—has shown that nuclear energy is a critical component of a reliable, low-carbon electricity system. Our research is unbiased to a specific state or technology.¹ It predates this legislative effort and, therefore, is objective and cannot be tailored to support a preferred outcome.

Our work, conducted over many years and across multiple studies, has provided a basis for a series of major publications on the deployment of new nuclear energy. The Department of Energy used our methods and findings when modeling a variety of net-zero efforts that indicate the need for 200+ GW of new nuclear capacity by 2050.² More recently, we have co-authored the most up-to-date cost analysis of nuclear energy in conjunction with national laboratories and leading

¹ Adam Stein, et al., The Breakthrough Institute, *Advancing Nuclear Energy*, Jun. 2022.

<https://thebreakthrough.org/articles/advancing-nuclear-energy-report>

² Julie Kozeraeki, et al., U.S. Department of Energy, *Pathways to Commercial Liftoff: Advanced Nuclear*, Sept. 2024. Pg 12.

https://liftoff.energy.gov/wp-content/uploads/2024/10/LIFTOFF_DOE_Advanced-Nuclear_Updated-2.5.25.pdf

universities.³ The National Renewable Energy Laboratory now uses the findings as the standard values in their Annual Technology Baseline.⁴

The research shows that there is a need for new clean firm capacity in northern Oregon, including Umatilla County (Figure 1). Our findings demonstrate that, in every modeled scenario, new nuclear energy provides the necessary generation with the characteristics the grid requires to achieve reliability and decarbonization at the lowest cost in Umatilla and surrounding counties.

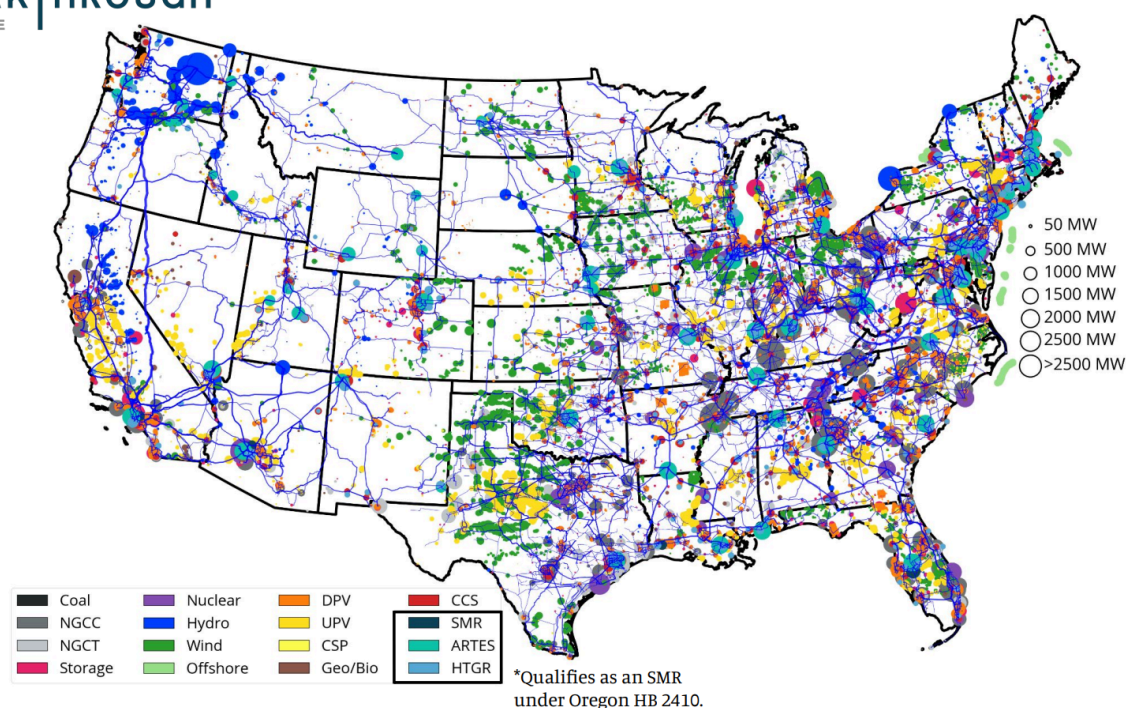


Figure 1: Map of installed energy generation capacity in 2040. The energy source is indicated by color, and plant capacity is indicated by diameter. The SMR, ARTES, and HTGR nuclear energy technologies qualify as an SMR under HB 2410. (Data from ref. 1)

³ Idaho National Laboratory, *Meta-Analysis of Advanced Nuclear Reactor Cost Estimations*, Abdalla Abou-Jaoude, et al., INL/RPT-24-77048, Jun. 2024. <https://doi.org/10.2172/2371533>

⁴ National Renewable Energy Laboratory, *Annual Technology Baseline: Nuclear Energy, 2024* <https://atb.nrel.gov/electricity/2024/nuclear>

Further, the construction of new nuclear plants in that area is expected to bring approximately \$7 billion in direct investments by 2040 and a significantly higher amount in induced economic benefits and jobs.

Nuclear energy also provides a pathway to repower existing or former fossil fuel generation sites. The retired Bordman coal plant and co-located gas generation were selected in our study as an ideal candidate for repowering with advanced nuclear technology. New advanced reactor designs, including small modular reactors (SMRs), not only maximize repowering and reuse of existing infrastructure at brownfield sites, but also minimize environmental impacts. This is just one way that nuclear energy has the lowest environmental impact of any energy source.^{5,6}

Beyond its clear economic and environmental advantages, nuclear energy also provides stable, high-paying, and long-term jobs to the community. SMR facilities can provide hundreds of new jobs.⁷ Communities that live near nuclear power plants have historically supported their operation due to the significant local economic benefits and enhanced energy security they provide.⁸ It has become increasingly evident that in repowering coal plants with nuclear technology, not only are new jobs created, but numerous jobs are transferable between the two technologies—thereby boosting local tax revenues.⁹

The bill adopts an older definition of an SMR that is limited to 300 MW of electricity or less per reactor. This definition does not reflect the current development of technology and excludes some of the most advanced designs—those closest to commercialization, backed by significant

⁵ Nuclear energy has the lowest life-cycle greenhouse gas emissions and land use of any energy source. See, United Nations, *Integrated Life-cycle Assessment of Electricity Sources*, 2022.

https://digitallibrary.un.org/record/4020227/files/1382376_EN.pdf

⁶ Nuclear energy has the lowest mining impact, use of raw materials, and critical minerals. See, Seaver Wang, et. al., *Updated Mining Footprints and Raw Material Needs for Clean Energy*, Breakthrough Institute, 2024.

<https://thebreakthrough.org/issues/energy/updated-mining-footprints-and-raw-material-needs-for-clean-energy>

⁷ Idaho National Laboratory, *Investigating Benefits and Challenges of Converting Retiring Coal Plants into Nuclear Plants*, J. Hansen, et al., INL/RPT-22-67964 Revision 2, Sept 2022.

<https://fuelcycleoptions.inl.gov/SiteAssets/SitePages/Home/C2N2022Report.pdf>

⁸ Department of Energy Office of Nuclear Energy, *5 Reasons Nuclear Is a Good Neighbor*, 2024.

<https://www.energy.gov/ne/articles/5-reasons-nuclear-good-neighbor>

⁹ Repowering retiring coal plants with SMRs could add more than 650 jobs in the affected regions. These nuclear jobs typically offer higher wages compared to those at coal plants. Nearly 80% of coal plant jobs are transferable to nuclear plants. See, Idaho National Laboratory, *Investigating Benefits and Challenges of Converting Retiring Coal Plants into Nuclear Plants*

federal support, and among the few that have already applied for a license from the Nuclear Regulatory Commission. If Oregon finds a limit to be necessary, we recommend making a minor adjustment to the limit to no less than 350MWe capacity. This will enable the selection of the technology that is best suited to the needs of the state without limiting options.

Conclusion

To achieve a clean, reliable, and cost-effective energy system, Oregon must reconsider its longstanding moratorium on nuclear energy. HB 2410 offers substantial benefits, including significant direct and induced economic benefits, the creation of quality jobs, and minimized environmental impact through low-emission energy generation. We urge you to support HB 2410 as a forward-looking policy that aligns with Oregon's clean energy and economic development goals.

Sincerely,

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