

Submitter: Michael Brainard  
On Behalf Of:  
Committee: House Committee On Climate, Energy, and Environment  
Measure, Appointment or Topic: HB4046

I am writing to express strong support for continued and expanded study of nuclear energy as a cornerstone of our future energy strategy. Nuclear technology has advanced rapidly in recent years, fundamentally reshaping what modern nuclear systems can offer in terms of safety, sustainability, and reliability.

First, **today's reactor designs are dramatically smaller and inherently safer** than those of previous generations. Innovations such as small modular reactors (SMRs), advanced cooling systems, and passive safety mechanisms allow plants to operate with significantly reduced risk. These systems can automatically shut down or stabilize without requiring human intervention or external power, addressing long-standing safety concerns with modern engineering solutions.

Second, **nuclear energy can help decentralize the power grid**. Because modern reactors can be built at smaller scales and located closer to where energy is needed, they reduce strain on transmission infrastructure and improve resilience against outages. A decentralized grid supported by small, flexible nuclear units is better equipped to adapt to regional needs and respond to emergencies.

Third, while traditional views often categorize nuclear energy separately from renewables, **the field is increasingly aligned with renewable-energy principles**, particularly in its ability to generate consistent, carbon-free power. Nuclear energy produces no greenhouse gas emissions during operation and can run continuously regardless of weather or time of day, complementing renewable sources like wind and solar.

Fourth, Oregon State University conducted extensive research on Small Modular Reactors. NuScale Energy was created from this research. This may come as a surprise to some of the people who testified, but NuScale received its federal certification during the Biden administration.

Finally, **new technological breakthroughs are transforming how we handle spent fuel**. Advanced recycling methods now make it possible to reuse much of the energy remaining in spent fuel rods—fuel that was once considered waste. These innovations reduce waste volume, extend fuel supplies, and improve the overall sustainability of nuclear power.

For these reasons, expanding research and investment into nuclear energy is not

only prudent but essential. The technology has matured beyond past limitations, offering safer, cleaner, and more flexible solutions that can strengthen our energy security and support environmental goals. For these reasons, I ask that you support HB 4046.