

SENATE BILL REPORT

SB 5129

As Reported by Senate Committee On:
Environment, Energy & Technology, January 27, 2023

Title: An act relating to planning for advanced nuclear reactor technology in Washington.

Brief Description: Planning for advanced nuclear reactor technology in Washington.

Sponsors: Senators MacEwen, Fortunato, Holy, Hunt, McCune, Mullet and Short.

Brief History:

Committee Activity: Environment, Energy & Technology: 1/25/23, 1/27/23 [DP].

Brief Summary of Bill

- Amends a guiding principle for the development of the State Energy Strategy to include the consideration of the development of advanced nuclear reactor technology in Washington as a cleaner energy source.
- Directs the Department of Commerce to actively seek to maximize federal and other nonstate funding and support for the management of spent nuclear fuel.

SENATE COMMITTEE ON ENVIRONMENT, ENERGY & TECHNOLOGY

Majority Report: Do pass.

Signed by Senators Nguyen, Chair; Lovelett, Vice Chair; MacEwen, Ranking Member; Boehnke, Lovick, Short, Trudeau and Wellman.

Staff: Kimberly Cushing (786-7421)

Background: Washington State Energy Strategy. In 2019, the Legislature directed the Department of Commerce (Commerce) to revise the State Energy Strategy (SES) to align the strategy with the requirements of the Energy Independence Act, the Clean Energy

This analysis was prepared by non-partisan legislative staff for the use of legislative members in their deliberations. This analysis is not part of the legislation nor does it constitute a statement of legislative intent.

Transformation Act, and the state's greenhouse gas emissions reduction limits. The Legislature established a 27-member advisory committee to review the strategy and provide guidance to Commerce.

State law declares that a successful SES balances three goals:

- maintaining competitive energy prices that are fair and reasonable for consumers and businesses, and support our state's continued economic success;
- increasing competitiveness by fostering a clean energy economy and jobs through business and workforce development; and
- meeting the state's obligations to reduce greenhouse gas emissions.

To meet these goals the Legislature lays out nine principles to guide strategy development and implementation. One of these nine principles directs the state to reduce dependence on fossil fuel energy sources through improved efficiency and development of cleaner energy sources, such as bioenergy, low carbon energy sources, natural gas, and leveraging the indigenous resources of the state for the production of clean energy.

The Washington 2021 SES references nuclear energy. In particular, it notes that research and innovation efforts might yield efficiency gains or cost reductions for several technologies, including nuclear power generation.

Nuclear Energy. Nuclear energy comes from splitting atoms to produce heat that can be used to generate electricity. As an example, most nuclear reactors operating today heat water and produce steam that is then used to turn a turbine to generate electricity. According to the Pacific Northwest National Laboratory, "small modular reactors and other advanced reactors are expected to reduce economic, security, technical, perceived safety, and regulatory barriers to the accelerated establishment in the United States of the next generation of nuclear power."

Summary of Bill: The Legislature finds that the development of advanced nuclear reactor technology aligns with the goals for a comprehensive energy strategy and this technology is a nonemitting electricity generation resource that can help Washington meet its emissions reduction goals for the electricity sector. The Legislature further recognizes the challenges presented by years of inaction on the management of spent nuclear fuel.

Advance nuclear reactor technology is added for consideration as one of the measures under the SES guiding principle to reduce dependence on fossil fuel energy sources through improved efficiency and development of cleaner energy sources.

Commerce is directed to actively seek to maximize federal and other nonstate funding and support for the management of spent nuclear fuel, in addition to energy efficiency, renewable energy, and emergency energy technologies.

Appropriation: None.

Fiscal Note: Available.

Creates Committee/Commission/Task Force that includes Legislative members: No.

Effective Date: Ninety days after adjournment of session in which bill is passed.

Staff Summary of Public Testimony: PRO: Nuclear energy is a safe, reliable carbon-free source of energy. The bill only requires nuclear energy to be considered. In Washington we have a lot of technical expertise in this area and the technology is greatly advanced. The federal administration is also signaling interest in nuclear energy. Advanced nuclear reactors help meet our greenhouse gas emission reduction goals and provide high-paying jobs. Preparing the workforce for the new nuclear technology is crucial. Washington has established itself as a climate and clean energy leader and is in a fortunate position with wind, solar, nuclear, storage, and hydropower. As other states decarbonize, there will be increased demand to maintain grid stability. Thousands of acres are needed for intermittent electricity from wind or solar. Washington will need more sources of firm, dispatchable, zero-carbon electricity. Unless we begin damming rivers, there is no other source of clean baseload power. We have a limited set of tools to get to 100 percent clean. We understand the concerns of those who don't like nuclear, but there have been huge advances. Small modular reactors (SMRs) and nuclear fuel technologies make green energy while maintaining reliability.

CON: This is a step in the wrong direction. SMRs do not seem as safe as fossil fuels. The new technology has not been tested and is theoretical. This is no way to anchor a viable state energy strategy. It is wishful to use SMRs for affordable, reliable, and cost-effective electricity. Commerce should actively seek support to address spent nuclear fuel. Nuclear adds to energy costs and the legacy burden of toxic nuclear waste. Advanced nuclear technology has not been put into practice and costs are unknown but are predicted to be higher than the renewable energy that we already have. There have been years of inaction regarding spent nuclear fuel. Nuclear is carbon free, but it is not nonemitting if the full fuel cycle is considered, and does not take into account nuclear accidents. Advanced nuclear reactors are not defined in the bill.

OTHER: In preparing for the state energy strategy, Commerce did consider advanced nuclear technology as a resource. But the analysis did not lead to the conclusion that it would be part of preferred energy strategy. Commerce will include it again in 2028. Individual utilities do consider advanced nuclear technology in their integrated resource plans and identify nuclear resources in the 2040s and beyond. Consider removing natural gas from the other technologies already listed in statute.

Persons Testifying: PRO: Senator Drew MacEwen, Prime Sponsor; Josh Lozano, Energy Northwest; Seth Worley, UA Local 598; Jesus Mota, Columbia Basin College; Bill Clarke, Grant County Public Utility District; Peter Godlewski, Association of Washington Business; Randall Coleman, International Brotherhood of Electrical Workers, local 77; Jim

Schaefer, Guggenheim Partners.

CON: Arthur West; Cathryn Chudy; Roger Lippman.

OTHER: Glenn Blackmon, WA Dept of Commerce - State Energy Office.

Persons Signed In To Testify But Not Testifying: No one.