

Nuclear Energy Must Be Part of the State's Energy Strategy

An energy strategy relying on efficiency and renewable energy will not meet growing demand

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Key Findings

- Washington's citizens and businesses benefit from low energy prices.
- Nuclear power can help the state meet its environmental goals, as it is considered one of the cleanest energy sources, producing no greenhouse gas emission.
- Washingtonians currently receive nearly 81 percent of their electricity from carbon-free sources, which includes nuclear power. In fact, Seattle City Light, which is a carbon-neutral utility, receives nearly five percent of its electricity from nuclear power.
- Nuclear power is one of the lowest-cost base load energy sources to produce.
- Recent advances in technology have increased the reliability and safety of nuclear power, which in part, is why nuclear power is used all over the world.
- Nuclear power can help the state achieve its goals of providing a clean economy by taking advantage of an existing and developed workforce in Washington.

As state officials develop a new energy strategy for Washington, lawmakers in Olympia should ensure that proven zero emissions, base load technologies, such as nuclear power, are part of the state's strategy for energy generation.

In Washington state, citizens and businesses benefit from lower than average energy prices. According to the state Department of Commerce, "Washington state energy expenditures as a percent of GSP tend to be lower than the corresponding US GDP figures, primarily because our electricity prices are significantly below the national average: for 2006 Washington average of 6.14 cents/kWh vs. US average of 8.90 cents/kWh."¹

Approximately 81 percent of all electricity produced in Washington comes from reliable, carbon-free sources, including hydroelectric and nuclear generation. Together they account for about 77 percent of all electricity generation. In fact, Seattle City Light, one of the largest public utilities in the country receives nearly five percent of its energy from nuclear power, more than it receives from wind, solar and biomass added together.

Given that Washingtonians already benefit from cheap, carbon-free energy, lawmakers need to require that all viable options for future energy solutions are explored. Favoritism for unproven

¹ "Energy Strategy Update and 2011 Biennial Energy Report with Indicators," by Department of Commerce, Washington State, December, 2010.

technologies, especially over reliable clean energy sources like nuclear, will unnecessarily drive up costs on Washington's citizens and businesses.

Brief Background

In 2010, the Legislature passed HB 2658, requiring the state Department of Commerce to develop a new energy policy. Lawmakers said the state must balance three main goals, which are:

- Maintain competitive energy prices that are fair and reasonable for consumers and businesses and support our state's continued economic success
- Increase competitiveness by fostering a clean energy economy and jobs through business and workforce development
- Reduce greenhouse gas emissions

Although the state's new energy policy is not complete, Commerce officials are proposing short-term initiatives "that can work together to fill gaps in existing policy, and encourage development of Washington's energy economy."²

Unfortunately these initiatives mainly favor unproven renewable energy, and fail to recognize the economic and environmental benefit of existing technologies.

Benefits of Nuclear

The Northwest Power and Conservation Council estimates the increase in energy demand in the Northwest will be about 1.4 percent per year through 2030.³

While renewable energy and conservation will play a role in fulfilling the increased demand for energy, it is unlikely that these sources alone will be able to keep pace with the rate of growth. Especially given that renewable sources of energy are not considered a base load energy source and that cheaper energy prices provide little incentive to prompt behavioral changes that would result in significant savings of energy.

In order to meet demand, lawmakers must consider viable alternatives, like nuclear power. In today's energy markets, nuclear power is considered a base load energy source, meaning it can meet the ebbs and flows of energy demand.

In addition, nuclear power is cheap. The Nuclear Energy Institute reports:

"Nuclear plants are the lowest-cost producer of baseload electricity. The average production cost of 2.03 cents per kilowatt-hour includes the costs of operating and maintaining the plant, purchasing fuel and paying for the management of used fuel."⁴

Energy Northwest, the operator of the only operating nuclear facility in the Northwest, reports production costs of less than four cents per kilowatt-hour in 2007.⁵

² Ibid.

³ "Sixth Northwest Conservation and Electric Power Plan," by The Northwest Power and Conservation Council, February, 2010.

⁴ The Nuclear Energy Institute's website, last accessed February 8, 2011, <http://www.nei.org/keyissues/reliableandaffordableenergy/electricitysupply/>.

⁵ Energy Northwest's website, last accessed February 8, 2011, <http://www.energy-northwest.com/who/financial.php>.

Comparatively, the cost to produce a kilowatt-hour of solar is 17 cents to 32 cents, depending on the source and use, and wind energy costs up to 15 cents per kilowatt-hour.⁶

Clearly, nuclear power provides a more reliable energy source while maintaining a fair and reasonable price. This is consistent with the stated goals of the state.

Fostering a Clean Economy

In addition to providing a reliable energy source, nuclear power can help the state foster a clean economy.

Nuclear power provides an array of high-paying jobs from construction to operation of plant facilities. The Nuclear Energy Institute notes:

“On average, a nuclear power plant creates 1,400-1,800 high-paying jobs during construction, with peak employment estimated as high as 2,400 jobs during that period, and yields 400-700 jobs during the operation of the plant. Additionally, the average nuclear plant generates approximately \$430 million a year in total output for the local community and nearly \$40 million per year in total labor income.”⁷

By comparison, the Wild Horse wind project in Eastern Washington cost \$480 million, and created 400 construction jobs and 30 full-time positions. The site also provides about \$12 to \$15 million in local spending with an annual property tax of about \$1.3 million.⁸

Additionally, Washington is already a recognized leader in nuclear research. The inclusion of nuclear power in the state’s energy strategy would help the state capitalize on an already developed and existing workforce.

Reduce Greenhouse Gas Emissions

Finally, nuclear power helps reduce greenhouse gas emissions. Washingtonians benefit from cleaner air and a healthier environment because our current sources of energy are largely low-carbon or carbon-free energy sources, particularly in the electricity market.

An expansion of nuclear power in Washington would help the state make significant steps toward reducing carbon-emitting energy sources and preventing additional sources of pollution. In fact, analysis by the Nuclear Energy Institute for the U.S. Department of Energy suggests that, “Washington’s nuclear power plant could supply 16 percent more electricity and avoid annual emissions of 1,500 tons of SO₂, 2,100 tons of NO_x and 1.3 million metric tons of CO₂”⁹ through additional capital investments and upgrades.

⁶ Solarbuzz, “Solar Electricity Prices,” November 2010, last accessed February 8, 2011, <http://www.solarbuzz.com/facts-and-figures/retail-price-environment/solar-electricity-prices>.

⁷ The Nuclear Energy Institute’s website, last accessed February 8, 2011, <http://www.nei.org/resourcesandstats/documentlibrary/reliableandaffordableenergy/factsheet/nuclearpowerplantcontributions>.

⁸ Doug Sutherland, Executive Director of CWREC Innovation Partnership Zone, PowerPoint Presentation, Washington Policy Center 8th Annual Environmental Policy Conference & Luncheon, July 29, 2010.

⁹ The Nuclear Energy Institute’s website, last accessed February 8, 2011, <http://www.nei.org/resourcesandstats/documentlibrary/reliableandaffordableenergy/factsheet/nuclearpowerplantcontributions>.

Conclusion

Since the later part of the 20th century there has been a political aversion to nuclear power programs in the United States. That political aversion, though waning, still exists today. Much of the dislike of nuclear programs stems from fears related to radiation and how to dispose of the nuclear waste.

More instructive to Washington are the examples of the failed attempts to build nuclear facilities by the Washington Public Power Supply consortium, as well as the ongoing clean-up around the Hanford Nuclear Reservation. Many years have passed, however, eliminating many of the environmental and safety concerns expressed in earlier days of nuclear power generation. In fact, nuclear power is a preferred energy source around the world. Advancements in technologies have reduced nuclear waste and increased plant dependability and safety.

As part of the effort to address Washington's carbon emissions and energy strategy, the legislature should provide general incentives to innovate and conserve across the entire range of energy use, taking advantage of the knowledge, creativity and enthusiasm of all of Washington's entrepreneurs, scientists and citizens. The approach currently proposed by state Department of Commerce officials imposes policies involuntarily on Washington's residents, rather than engaging their creativity and focuses too narrowly on energy efficiencies and renewable energy sources.

Like Seattle City Light, state policymakers should recognize the benefits of nuclear energy and how it can help the state reach its goal of providing economic vitality, as well as a cleaner environment.

Brandon Houskeeper is a policy analyst with Washington Policy Center, a non-partisan independent policy research organization in Washington state. Nothing here should be construed as an attempt to aid or hinder the passage of any legislation before any legislative body. For more information, visit washingtonpolicy.org.