

POLICY NOTE

The high cost of tearing down the Snake River Dams

By Todd Myers, Director, Center for the Environment

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Key Findings

1. The Snake River Dams provide about eight percent of the state of Washington's electricity, an amount equivalent to all wind and solar production throughout Washington state.
2. The annual average value of electricity created from the Snake River Dams is 8.37 million megawatt hours with a value of \$293.1 million.
3. To replace the Snake River Dams, the estimated cost per year would be \$153.9 million more for a natural gas replacement and \$162.2 million more for wind electricity.
4. Since replacements for hydro cost more, without the Snake River Dams, it would cost millions more to reduce carbon from natural gas or wind.

As the debate about the future of the Snake River Dams continues, much of the environmental focus has been on the impact to salmon. There are other environmental considerations, however. Significantly, the dams provide about eight percent of Washington's electricity – an amount equivalent to all wind and solar production in Washington state.

I recently gave a presentation that encapsulates the analyses in my article published in *The Idaho Law Review*. My article analyzes the cost of replacing the carbon-free energy from the dams and the impact it would have on intermittent sources of carbon-free energy like wind.

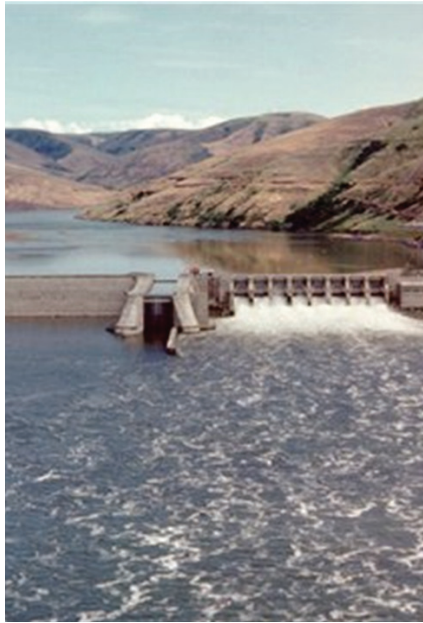
For the complete argument and analysis, read “The Environmental Tradeoffs of Removing Snake River Dams,” in *The Idaho Law Review*.¹ A summary of my presentation is below.



Snake River Dams

- Provide transportation for goods
- Some irrigation – but not significant
- Flood control
- Electricity
 - Low-cost
 - Flexible
 - Carbon-free
- Impact on salmon
- Must weigh these costs

¹ “The Environmental Tradeoffs of Removing the Snake River Dams,” by Todd Meyers, *The Idaho Law Review*, 53 L. Idaho Rev. 209 (2017), at www.uidaho.edu/~media/UIDaho-Responsive/Files/law/law-review/articles/NREL/Todd-Myers.ashx.

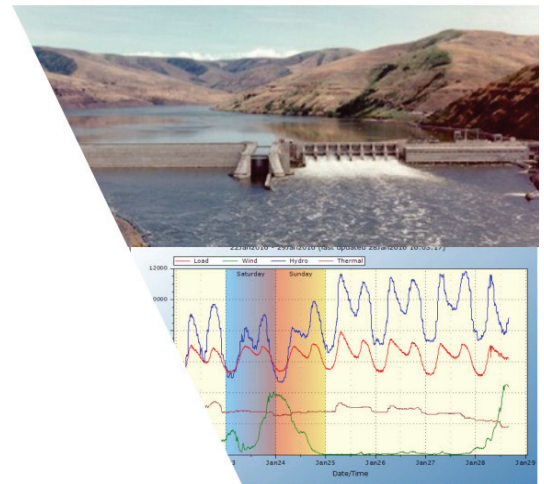


Electricity Value of Dams

- Dams provide about 8 percent of Washington's electricity
- Very low cost – about 3.5 cents per kWh
 - Nationwide average for industrial users is 6.42 cents per kWh
 - One reason we get manufacturing in E. Washington
- Average annual value of electricity from dams
 - 8.37 million megawatt hours
 - \$293,160,544
- This is equivalent to virtually all wind & industrial solar in Washington state

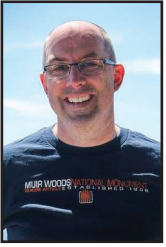
How Hydro Supports Wind

- Wind energy is intermittent – when it does not blow, it must be backed up by other energy sources
- Hydro is the most dispatchable source of energy and backs up the wind
- On January 24, 2016, the wind increased significantly, and hydro declined significantly to offset the increase.
- The next few days saw very little wind and hydro filled the gap
- Wind also typically generates most electricity at night, when there is little demand, so hydro must make up the gap at the peak



The Cost to Replace the Electricity

- Replacements for hydro cost more
- Using Energy Information Administration estimates it would cost:
 - \$153,916,734 more per year for natural gas electricity
 - \$162,286,234 more per year for wind electricity
- We would also lose the carbon reduction
 - Cost \$55.6 million to reduce CO2 from natural gas
 - \$21.2 million to reduce CO2 from wind
- About \$200 million of lost electricity & carbon value



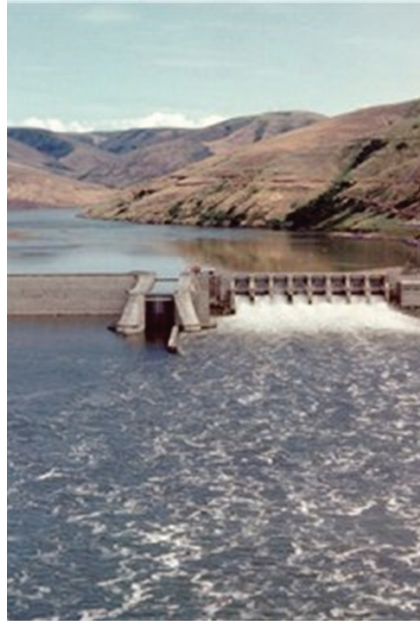
Todd Myers is the Director of the Center for the Environment at Washington Policy Center. He is one of the nation's leading experts on free-market environmental policy. Todd is the author of the landmark 2011 book *Eco-Fads: How the Rise of Trendy Environmentalism Is Harming the Environment* and is designated a Wall Street Journal Expert panelist for energy and the environment. Todd's research on the failure of "green" school mandates has stirred a reassessment of those requirements in school districts across the country. He currently sits on the Puget Sound Salmon Recovery Council and served on the executive team at the Washington State Department of Natural Resources. Todd also served as Director of Public Relations for the Seattle SuperSonics and Director of Public Affairs for the Seattle Mariners, and he holds a Master's degree from the University of Washington.

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Recreation Value

- Those advocating tearing the dams down argue tourism business will increase as people come to fish and recreate
- They said the same about removing the Elwha Dam on the Olympic Peninsula

