

GREEN JOBS

Colossal energy storage project in Columbia Gorge will be union-built

It would be the area's biggest project since the Columbia River hydro dams were built.

By Don McIntosh

A massive renewable energy storage facility in the Columbia River Gorge will be built with union labor, thanks to a newly signed agreement between Copenhagen Infrastructure Partners and two area building trades councils. The proposed project is expected to cost \$2.1 billion to construct and will employ over 3,000 workers during a four-year construction period.

When it's complete it would solve one of the biggest challenges of wind and solar power—how to store electricity for use when the wind isn't blowing and the sun isn't shining. The Goldendale Energy Storage Project would use electricity from nearby wind and solar to pump water from a lower reservoir to a higher one, later releasing that water from the upper reservoir to turn hydroelectric turbines and generate electricity. It's a closed-loop system known as pumped-storage hydropower, and projects like it are in development around the country.

This one would be built on private land on the former site of the Golden Northwest aluminum smelter, half a mile from the John Day Dam on the Washington side of the Columbia River and about eight miles due southeast of Goldendale, in Klickitat County, Washington.

The smelter once employed 500 members of United Steelworkers Local 8147, but it closed in 2003, the victim of an electricity price crisis in an era of ill-conceived electricity deregulation. The site has remained vacant since then.

Now it could become a big union employer again. According to a memorandum of understanding signed by Washington Building Trades Council and the Columbia Pacific Building and Construction Trades Council, the Goldendale Energy Storage Project will be built under a Project Labor Agreement (PLA): Contractors and subcontractors would recognize the Columbia Pacific Building Trades Council and its member unions as the exclusive bargaining representative of construction workers on the project.

Boston-headquartered hydro



developer Rye Development is the project manager, and the project owner is Copenhagen Infrastructure Partners, an energy infrastructure investment company based in Denmark.

In March 2020, Washington Gov. Jay Inslee signed a bill into law declaring the project "a project of statewide significance" and granting it expedited permitting treatment.

Still, groundbreaking is probably at least two years away, says Bruce Boram, a public affairs consultant who's helping to shepherd the project through the permitting process. When it does get under way, it will spell years of work for multiple construction crafts.

On a project area of 681.6 acres, it would include construction of two 60-acre reservoirs contained by two concrete dams, each over 7,000 feet long and 170 feet high. Between the two reservoirs would be an underground tunnel and piping to convey water up and down the 2,400 feet elevation and an underground powerhouse, not to mention transmission lines. By any stretch it's a gargantuan project.

Backers also praise the project's potential to train a new generation of building trades workers: Its four-year duration would be enough that workers could begin and end construction apprenticeships with no gaps in on-the-job experience.

"This agreement opens new opportunities for Building Trades members and residents of our rural communities," said Washington Building Trades Executive Secretary Mark Riker in a press statement. "Because of the size and duration of this

project it is a unique opportunity for the region to replenish our nation's retiring skilled workforce by training union apprentices."

When it becomes operational, the Goldendale Energy Storage Project will have the capacity to store the hydro equivalent of 25,506 megawatt hours of electricity, and the ability to generate 1,200 megawatts—enough to power close to a million homes—for 12 to 20 hours.

Erik Steimle, vice president of project development at Rye Development, says pumped water storage is a tried and true

technology and one of the most efficient ways available to store energy. It's about 80% efficient, in that 80% of the electricity needed to pump the water up is recovered when it comes back down through the turbines.

Steimle says pumped storage hydropower is often used to increase the efficiency of nuclear power plants, pumping water up during periods of lower demand so that the plants can run at a constant rate, which is the most efficient way for them to run.

Most existing pumped storage hydro plants in the United States were built between 1960

and 1990, and no new plants have come online since 2012, but a number of new plants are in development now because of the need to store intermittent sources of electricity like wind and solar.

Steimle says the Goldendale site has been looked at for decades as a potential pumped storage location because its geology and geography have particular advantages from an engineering perspective. It's rare to find a rise of 2,400 feet over such a short distance. It's also a highly desirable site because of its proximity to existing high voltage power lines, the equivalent of a transmission superhighway.

"From Rye's perspective it's a really good site to construct this project," Steimle said, and not just for the physical advantages. "Having it on private land surrounded by a community that's been focused on pushing this project forward is pretty rare, and most importantly, in a region that is pushing legislation, primarily based on popular demand, to move us away from coal and natural gas."

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