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Unique Northwest Wind Project

Proposed 300-KW Community Wind Project in Washington Would Benefit Low-Income People

A unique wind energy venture is beginning to swirl in south-central Washington.

Luna Point Community Wind Project in Klickitat County would be Washington's first community-based wind energy facility. It reportedly would be the nation's first in which low-income citizens would directly benefit from wind-generated revenues, in the form of energy bill assistance. And, it would make energy-productive use of an area that hosted demonstration wind turbines in the 1980s.

This distinctive 300-kilowatt-capacity venture, planned east of Goldendale by six participating entities, is at least a year away from operation. It still needs permitting approval and most of its financing; a recently awarded \$307,000 federal grant will cover up to one-fourth of the projected \$1.2 million cost. Other key details, including specific power, transmission and green tags arrangements, are pending.

Luna Point would generate power more expensively and intermittently than a large-scale wind project.

Still, project officials share enthusiasm and optimism, and the hope Luna Point could serve as a model for other such ventures.

"We are excited by this opportunity to collaborate and to demonstrate how communities can benefit from a Northwest renewable energy resource that is locally owned and generated," said Robin Rego, president of [Last Mile Electric Cooperative](#), in a news release.

Other participants are [Klickitat PUD](#), [Northwest Sustainable Energy for Economic Development](#), [A World Institute for a Sustainable Humanity \(A W.I.S.H.\)](#), [Klickitat Skamania Development Council](#) and [Our Wind Co-op](#).

"I like the idea that it's bringing together both the environmental benefits as well as direct assistance for low-income households in the county," said Heather Rhoads-Weaver, community partnerships director of Northwest SEED.

Low-income people generally aren't directly involved in any aspect of Northwest utility green power programs, noted Michael Karp of A W.I.S.H. "This is a chance to make that link," he said.

Luna Point Background

Luna Point evolved from an Our Wind Co-op initiative to install 10-KW-capacity wind turbines in the rural Northwest, financed partially by aggregated green tag sales, according to Rhoads-Weaver. Two of these small wind machines are in Klickitat County, near the proposed Luna Point project site.

One of the local 10-KW turbine participants, Ed Kennell, wanted to generate wind-powered money for low-income people, but the relatively modest potential dollar amount was outweighed by administrative issues, according to Rhoads-Weaver. "We came up with the idea of working together on a large project," she said, bigger than 10 KW but smaller than a commercial-scale wind development.

The six participating groups signed a memorandum of understanding this summer, she said.

In September, Last Mile was announced as recipient of a \$307,000 grant for Luna Point from 2002 Farm Bill funding earmarked for rural renewables and efficiency projects, said Last Mile executive director Deb Ross. This would provide up to 25 percent of the anticipated \$1.2 million project cost. "We've got a pretty major fund-raising challenge in the next six months to raise that other \$900,000," said Rhoads-Weaver.



This is the 100-kilowatt-capacity Fuhrländer wind turbine model planned for the Luna Point project. (Photo courtesy of Lorax Energy Systems/ Northwest SEED)

Luna Point, if successfully developed, would represent a number of firsts.

It would be Washington's inaugural community-based wind venture, according to Rhoads-Weaver. The Midwest already hosts a number of such projects, which Rhoads-Weaver described as typically larger in generating capability than Luna Point, and developed for public-sector entities. Luna Point's setup "really fit our specific needs and capacity for this particular project," she said.

In addition, Karp said, it would be "the first in the country ... linking low-income households and renewable energy sources in this way."

The specific beneficiary of Luna Point would be Operation Warm Heart, a low-income winter energy bill assistance program funded by Klickitat PUD customers and others, and administered by Klickitat Skamania Development Council.

Operation Warm Heart would receive a projected \$600,000 over 20 years, most of it in the later years as financing is paid off during the first decade, according to Northwest SEED estimates.

These funds could make a significant difference in this economically troubled area, according to KSDC executive director Linda Schneider. "This project has the potential for generating revenues for Operation Warm Heart we wouldn't be able to find anywhere else," she said. During the past winter, the program served 83 households with slightly more than \$15,000 in energy bill assistance.

Luna Point could enable the community action agency to expand other low-income energy services, Schneider told *Con.WEB*. "Depending on the success of it, we're hoping we can combine it with our weatherization program and our energy conservation education program so we can really offer people an entire package of services, and make a long-term change in their lives, rather than a one-shot energy payment."

Another noteworthy distinction of Luna Point is its proposed location in the same vicinity as the MOD-2 wind demonstration project undertaken by Bonneville Power Administration and the U.S. Department of Energy in the 1980s. MOD-2 consisted of three 2.5-MW-capacity turbines manufactured by Boeing. A Northwest Power Planning Council 1989 paper said the turbines encountered some material and design problems, but most were resolved, and the project disbanded in 1986 from lack of funding.

This aspect offers "a model for recycling and re-powering former energy sites," said a news release.

Project Particulars

Klickitat PUD owns the proposed Luna Point site, which utility power manager Allen Barkley described as slightly back from bluffs above the Columbia River, with "a pretty fair wind resource."

Plans call for three 100-KW-capacity turbines, manufactured by Fuhrländer, according to Rhoads-Weaver. Participants looked into used turbines, she said, but those would have shorter lifetimes and require more maintenance than new equipment.

Luna Point power would be delivered to Klickitat PUD's system via utility wires, but, "We haven't established all the details on that yet," said Barkley. A nearby substation is available, according to Ross, although it "may require some upgrades and refurbishing."

Also unclear is the exact means by which Klickitat would acquire the generated wind power. The PUD may credit Luna Point power against the utility's BPA purchases, according to Barkley. This intermittent energy resource would, in any event, represent a miniscule part of Klickitat's load, which peaks at 38 megawatts, he said.

"We don't see it as a big impact on us," said Barkley, and it would create "a very positive influence on our customers. It's a good project."

The proposed location has already hosted a wind venture, and some environmental assessments have been conducted, participants noted. In addition, the 0.2-MW-capacity Mariah wind project lies adjacent, Barkley said.

Consequently, Luna Point participants don't envision major permitting problems. Approvals are needed from entities including Klickitat County, which is developing energy overlay zoning that, as currently proposed, would allow the project without a conditional-use permit. "We're hoping it will be a smooth process," said Rhoads-Weaver, adding that the local nature of the project should be an asset. She expects up to six months for permitting.

Beyond the \$307,000 federal grant, many financial aspects of the project are undetermined. "We're still in the process of identifying ... the fund-raising campaign," said Ross.

Green tag sales are one potential avenue, according to participants.

"We are definitely open to working with additional partners," Rhoads-Weaver said. "Certainly the benefits would be allocated according to the level of investment for the project. While we want to set aside as much of the net proceeds to Operation Warm Heart

as we possibly can, in order to make the project happen, we need the investors to come forward ... We're open to ways of structuring the payments."

She said participants are looking into whether the project could somehow take advantage of the recently extended federal wind energy production tax credit, with a federal taxpaying entity ([see related story](#)). In-kind contributions from various sources are also anticipated, up to 10 percent of the total cost.

Luna Point power would not come cheap. Rhoads-Weaver estimated close to \$4 a watt for total installed cost, roughly 25 percent less than for 10-KW turbines, but three to four times more costly than large, commercial-scale wind ventures with economies of scale and other advantages. Forecasted capacity factor is 23 percent, roughly between the 10-KW experience in a similar wind climate (17 percent) and big wind farms, which typically have capacity factors in the range of 30 percent to 40 percent.

Participants are aiming for spinning wind turbines by the end of 2005, a timetable Rhoads-Weaver described as "ambitious" but "doable."

Model?

Could Luna Point serve as a model for other, similar Northwest ventures? Possibly.

"Not all that many PUDs own land that have wind capabilities like this," said Barkley. But, he added, "It could be a model as far as PUDs incorporating wind into their system, particularly for purposes of supporting low-income customers."

Ross and Karp both noted other Northwest communities are exploring community-based wind projects, which could take different forms of size, ownership, funding and power arrangements. "There are lots of variations on the theme," said Karp. "We're just trying to get something going."

A W.I.S.H. is aiming for an eventual 12 MW of installed wind power to support low-income people. "Klickitat is very small," he said, but, "You need to get building blocks in place to get to where you want to go. We consider it a really good building block."--

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