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A MONUMENTAL TRANSMISSION CHALLENGE THREATENS PACIFIC NORTHWEST CLIMATE GOALS, ECONOMIC GROWTH

With electricity demand forecasts rising, the Northwest could need 56% more transmission capacity by 2040, according to a U.S. Department of Energy analysis.

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When Fred Heutte read through [a developer’s controversial plan](#) to build a giant solar power plant on high-value farmland in the Willamette Valley — not eastern Oregon, where there’s more sunshine and open space and a project would almost certainly meet less opposition — something jumped out at him.

“The gen-tie (the project’s connection to the grid) is just half a mile to a local substation and they already have an interconnection agreement with PacifiCorp,” the senior policy associate at NW Energy Coalition noted.

Those items are a big deal these days. By locating on the west side of the Cascades, Muddy Creek Energy Park avoids an issue that threatens the Northwest’s ability to meet [ambitious decarbonization goals](#) and power a growing, increasingly electrified economy.

A new report [analyzing utility plans](#) over the next decade estimated demand for electricity will rise nearly 25% in the four-state region. Locally, Portland General Electric, whose customers include [an expanding Intel](#) and a growing sprawl of data centers in Hillsboro, recently said it [may need to add 44% more energy annually](#) through 2028 compared to what it outlined in March.

[Broader industrial growth](#), electric vehicle adoption and [electrification of building heating](#) figure to push demand even higher.

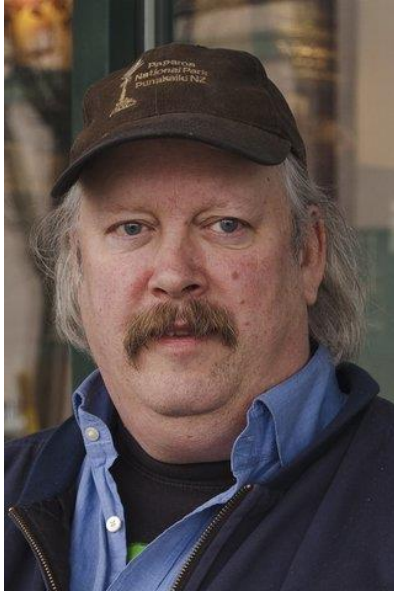
[Developing the power isn't without hurdles](#), but utility resource solicitations are regularly deluged with project proposals and government incentives figure to sustain a steady buildout.

The big challenge is getting the power to users. The vast amount of new renewable energy required, deployed widely to take advantage of a diversity of sun and wind resources, will mostly come from east of the Cascades and beyond. And transmission lines that carry electricity into western Oregon and Washington population centers are already crowded.

The Northwest could need 56% more transmission capacity by 2040, [according to a U.S. Department of Energy analysis](#).

Bonneville Power Administration, the Portland-based federal agency that owns and operates three-quarters of the high-voltage transmission lines in the region, [recently announced \\$2.2 billion in grid upgrades](#). Observers called it a good start but said much more was needed, and some advocates questioned whether the agency is set to take on its historic leadership role on transmission.

Another big issue is if regional planning efforts, based mainly on utility plans that are updated every couple of years, are up to the task.



*Fred Heutte, senior policy associate,
NW Energy Coalition*

NW ENERGY COALITION

“What’s missing is big-picture, longer-term-scenario planning with a lot more interaction with people other than transmission planners at utilities,” Heutte said. “We need something a lot bigger than that, and we need to have it outside the very rigid two-year planning cycle they have.”

Without a bold new initiative, meeting the region’s ambitious energy targets could be wishful thinking.

“The grid is fundamental to meeting Oregon and Washington’s climate goals and our clean electricity targets,” said Emily Moore, director of the climate and energy program at Sightline Institute, [who has studied the transmission issue](#). “But right now, we’re kind of just trusting that it will be built.”

Bonneville’s role

BPA says it’s stepping up.

The agency’s recent commitment to transmission improvements in Oregon and Washington includes six projects, costing \$1.35 billion, that will boost transmission capacity and allow for more renewable energy to flow to and within the west side, including the Portland area.

“We are setting the stage for an infrastructure decade that should significantly advance our efforts to respond to transmission interconnection and service requests and generate sufficient revenue to allow us to keep rates low,” John Hairston, BPA administrator and CEO, said in a news release.

BPA was unable to make Hairston available for an interview. But Jeff Cook, vice president for transmission planning and asset management, said the projects are an example of the urgency BPA is bringing to transmission even as it avoids risky investments.

BPA is self-funded, though it can borrow from the U.S. Treasury at favorable rates. The agency’s biggest business is in marketing power from 31 federal dams. Last decade, falling wholesale power prices cut



*John Hairston, administrator
and CEO, BPA*

into the value of its surplus hydropower, forcing BPA to increase rates for public power customers, its most important constituency.

The agency is on far more solid financial ground now, reporting net revenue nearly \$800 million above its target in fiscal 2022 and holding the line on rates. The 2021 federal infrastructure bill also provided a \$10 billion bump in its borrowing authority.



Jeff Cook, vice president for transmission planning and asset management BPA

While BPA said it was “very” confident the projects would pencil out, “we kind of went around our normal business case approval process and expedited them because we felt that they were high-value projects,” Cook said. That trimmed nine to 12 months off the normal process, a BPA spokesperson added.

Cook also pointed to a strategic plan BPA put out last week. A key objective in the plan “is aggressively identifying and developing transmission expansion projects to support the clean energy goals of our customers and the region.”

“From my perspective, we’re on a good track,” Cook said. “We still have a ways to go. Is the work ever done? The answer is no. But we are making progress, and from my perspective it’s going to be a group effort.”

Utilities stepping up

Transmission is hardly Bonneville’s responsibility alone.

PacificCorp uses BPA’s system, but with service territories scattered from northern California to central Washington and the Oregon Coast to eastern Wyoming, it also has its own extensive network of wires. The company’s ongoing Energy Gateway program calls for 2,300 miles of new high-voltage lines, mainly in Wyoming, Utah and Idaho, at a cost of some \$8 billion.

It’s different for Portland General Electric, with a concentrated service territory in the middle of the Bonneville system.

“PGE hasn’t necessarily been extremely focused on transmission because we’ve always had this inventory of transmission capacity out on Bonneville’s system,” Shaun Foster, PGE’s transmission strategy manager, said.

That’s changing.

With BPA access less certain, PGE’s recent clean energy and integrated resource plans brought a new focus to transmission. For example, the utility talked about acquiring “generation beyond the traditional footprint of PGE’s resources,” which would require transmission moves of its own.

PGE’s latest renewables solicitation brought a deal for wind power from Montana. The utility has talked about reaching farther into the Plains for the resource, and into the desert southwest for solar power.

In a recent regulatory comment on PGE’s plans, the advocacy group Renewable Northwest noted how PGE “is attempting to wean off its reliance on Bonneville Power Administration transmission.”

Yet eased congestion on the BPA lines remains a priority for the utility. Through a spokesperson, the utility said BPA's announced projects "will help expand the regional transmission system, which will help PGE and other BPA customers."

Waking up the region

Spencer Gray, executive director of the Northwest & Intermountain Power Producers Coalition, which represents independent power producers, credited BPA for taking action. But he also suggested the announced projects were overdue and a sign of how timidly the agency has approached transmission. He called the projects "slam dunks" and, extending the analogy, said BPA's current financial condition and the long-term value of its clean resources ought to allow it to shoot layoffs and mid-range jumpers.

BPA pushed back on charges it's been too careful. The agency can't buy into what Cook called a "build it and they will come type scenario," which could lead to stranded expensive assets if energy demand doesn't materialize.

"There's a lot of risk in that," Cook said. "We don't want to go to that extreme and say, well, we'll just build this line and hope they will come."

NIPPC and Renewable Northwest recently published a white paper that argued Bonneville has both the obligation and the authority to do more on transmission. The paper recommended a raft of reforms, many of them technical.

Gray believes change will likely require politicians and advocates who pushed for clean energy laws in Oregon and Washington to wake up to the transmission issue.

"If we as a region are going to convince Bonneville to shift course, we need the states to speak up, since this is a bottleneck to achieving state laws," Gray said. "We probably need the federal elected officials to speak up too. It won't be enough just for individual customers to be vocal."

Pacific Northwest utilities, though literally connected on the grid, operate more autonomously than utilities in much of the country. They buy and sell power bilaterally, while most regions have transmission organizations that provide a wholesale market and coordinate the movement of electricity. These organizations don't own transmission assets, but they can promote planning.

There is a gathering consensus [to move in that direction](#) in the Northwest, but the process could take years. The complexity of a big transmission buildout requires a new planning effort, advocates say.

Meanwhile, Americans for a Clean Energy Grid, a nonprofit group, recently ranked the Northwest eighth among 10 U.S. regions in [transmission planning and development](#) with a D grade.

Advocates liken what is needed now to a mid-2000s effort called the Wind Integration Forum, which brought together a wide range of stakeholders and experts to guide several gigawatts of wind power onto the regional grid.



Spencer Gray, executive director, NIPPC

“We need a commitment to have a stakeholder working group process to reach an agreement on what the problems are, what the solution set is, and present those to the administrator to make a decision on where (BPA) is going to go,” Gray said.

Those making the case for new action inevitably cite a proposed 500-kilovolt line called Boardman to Hemingway that would run nearly 300 miles across five eastern Oregon counties.



Emily Moore, director, climate & energy Sightline Institute

After identifying a need for the line in a 2006 resource plan, Idaho Power at last expects to break ground on the project this year. The project could be online in 2026, opening the way for more power swapping between the Pacific Northwest and Intermountain West.

“If that’s the timeframe we’re looking at for building out the capacity that we’re going to need in 20 years, we’re already too late,” Sightline’s Moore said.