When water overpowers, wind farms get steamed


The Pacific Northwest is suffering from too much of a good thing — electricity. It was a snowy winter and a wet spring, and there’s lots of water behind the dams on the Columbia River, creating an oversupply of hydropower. As a result, the region’s new wind farms are being ordered to throttle back — and they’re not happy.

It seems like a simple problem to fix: if there’s too much water behind the dams, why not just dump some of it? Just bypass the power generators and spill it? Would that we could, says Doug Johnson, spokesman for the Bonneville Power Authority. When you spill water over a dam, he says, it gets mixed with nitrogen from the air — and that’s not good for the salmon.

“What it can do is give the juvenile fish a condition similar to the bends, similar to what scuba divers experience,” he says.

So Bonneville — a federal agency that runs the power transmission system in the region — has been ordering wind farms offline, usually in the middle of the night when demand is lowest. Wind farm companies are crying foul.

Another Option

“This is not about fish protection, this is strictly about economics,” says Jan Johnson, a spokeswoman for Iberdrola Renewables, which has 722 wind turbines in the Pacific Northwest.

“There’s options,” she says. “In other parts of the country — in fact in every other region — these types of transmission providers will just go into a negative pricing situation.”

Negative pricing means paying people to take your surplus power. The wind farm companies say the dams could run at full tilt and Bonneville could pay customers in other regions — like California or British Columbia — to take the surplus.

Five wind power companies have filed a complaint with the Federal Energy Regulatory Commission to force Bonneville to start doing so. Bonneville would prefer not to have to pay to get rid of power, Johnson says, because that cost would be a burden to power customers in the Northwest.

“What we’ve said is no. We’re willing to give away energy — we give away energy to a whole lot of people when we’re faced with the situation — but if we were going to just pay negative
prices, and incorporate that into our wholesale power rate, and this is the only set of customers that are affected, we just aren’t prepared to do that,” he says.

A Challenge For Wind Power

Complicating matters is the fact that wind farm generators make much of their income from federal tax credits. The government pays them per megawatt hour, so they really don’t like it when those blades stop turning.

They also say Bonneville is forcing them to break contracts with utilities in places like California, which are required to buy a certain amount of renewable energy. Wind farms have encountered similar problems around the country. Mark Bolinger studies renewable energy markets for the Lawrence Berkeley National Laboratory.

“Transmission is probably one of the largest issues facing wind development in the U.S.,” he says. “In 2010, roughly 5 percent of all wind generation that could have happened was actually curtailed due to transmission constraints.”

Sometimes the reason is infrastructure — lack of room in the grid — and sometimes it’s financial, as in the case of Bonneville’s reluctance to pay other regions to take the surplus. Finally, there’s the economy. Until customer demand for power picks up some more, the tricky problem of too much power isn’t likely to go away.

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