

Oregon bids goodbye to coal power



Fifteen years ago, the newspapers at EO Media Group published a landmark series of stories on climate change. In April, we began a new series, Climate Changed, that will revisit many of the sources we talked with then and look at what has happened in the intervening time.

By NICK ROSENBERGER
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BOARDMAN — Since 1980, the Boardman Coal Plant has produced reliable energy capable of powering 500,000 homes. But keeping the lights on has come at a cost.

The plant can burn up to 8,000 tons of coal a day, making it the largest single source of greenhouse gas emissions in the state. In 2019, the plant sent roughly 2.5 million metric tons of carbon dioxide into the atmosphere.

That production — both of energy and emissions — will come to an end in just a few months. The Portland General Electric-owned facility, the last coal plant operating in Oregon, will close by the end of 2020. And though about a third of the electricity used in Oregon will still be created by out-of-state coal, Boardman's closure will mark the end of an energy era.

Located 160 miles east of Portland along the Columbia River in Morrow County, the Boardman Coal Plant operates within the environmental rules set down by both the state and federal governments. It is nowhere near the end of its design life.

"There's no expiration date for a plant like Boardman if it's well maintained," said PGE spokesperson Steve Corson. Yet, the company made the unprecedented decision to shut it down.

"It was the first voluntary plant closure in the U.S. of its kind," said Rebecca Smith, a senior policy analyst at the Oregon Department of Energy.

The plant no longer penciled out economically and environmentally, according to Corson. In 2010, Oregon passed strict emission control laws. Meeting those regulations would require PGE to make more than \$600 million in upgrades to the plant, a significant investment that "over the long term ... just wasn't going to make sense," said Corson.

PGE instead made cheaper, short-term fixes that limited sulfur and nitrogen emissions, then started making plans to shut the plant down within a decade.

"2020 ended up being the compromise date," said Corson. "It gave our employees at the plant time to plan for the transition. It also gave us time ... to think about how our resource mix would change with Boardman leaving the picture."

Boardman isn't the only coal plant facing pressures, both economic and cultural. There are nearly 600 coal-fired plants still operating in the U.S., though more than 200 others have closed in the last two decades due to declining revenue or environmental regulations. Those regulations are an attempt to reduce the effects of burning coal, the largest human-made contributor to carbon dioxide in the atmosphere.

Alternative fuel sources

Once PGE decided it would no longer use coal to power the Boardman plant, PGE had to decide what to do with the facility.

The company briefly considered using natural gas as a fuel, but that did not please

regulators nor customers. And while cleaner than coal, natural gas would still produce significant carbon emissions.

Corson said the company then considered torrefaction as a final option before closing the plant for good. Similar to roasting coffee, torrefaction chars woody biomass to a level similar to charcoal. This torrefied wood can then be used as an energy-dense fuel with a much smaller carbon footprint than coal.

Torrefied wood "certainly could be a viable fuel" at a plant like Boardman, said Matt Krumenauer, vice president of the U.S. Endowment for Forestry and Communities.

According to Krumenauer, torrefaction has benefits beyond the bottom line. It finds use for low-value wood, which in turn supports local timber jobs and can help make rural Oregon safer. Krumenauer, who is also the CEO of Restoration Fuels, said torrefaction can lead to a "reduction in wildfire smoke, reduction of overall wildfires."

Currently, Restoration Fuels is focused on exporting torrefied biomass to factories in Europe and Asia. But the long-term goal is to create a local market for biomass and the power it can create. Krumenauer and Restoration Fuels are currently building the first North American commercial scale facility in John Day, set to open this summer.

Due to high transportation costs, however, it can be expensive to implement torrefaction in less-wooded terrain. Just driving the biomass three hours from the dry pine forests of John Day to the sage desert of Boardman would cost about \$300 per load — and that doesn't include the costs of cutting, loading or chipping the lumber.

Because of that, "you're at a loss for every single ton of biomass you use," said Krumenauer.

That proved a fatal blow to the transformation of the Boardman plant. It would simply cost too much to transport tons of torrefied biomass to be worthwhile. Torrefaction was axed from consideration, and with it any hope that the plant would remain in operation.

"That story is over," said Corson. "We will decommission it."

Human cost

For all the environmental benefits, the closure of the plant has a human cost. In addition to prior staff reductions, Boardman employs 67 full-time workers who earn an average salary of nearly \$110,000 per year — well above the county, state and national average. In addition, contractors and local vendors, such as Boardman's fuels and lubricants distributor, will also lose an important customer.

"Those are coveted jobs," said Morrow County Com-

missioner Don Russell, who said the plant has helped support the Boardman economy for decades.

Plant manager Dave Rodgers said he was able to send his children to college thanks to a career at the plant. His daughter now works for NASA and his son is an accountant in Portland.

In addition to providing livable paychecks, PGE supported the community in other ways.

"If you needed someone to coach a Little League team or be involved in the local chamber of commerce, there's always been PGE employees involved in that," said Commissioner Russell.

When the plant closes, Corson said some employees will retire, some will be transferred to other plants around the state, and others may attend Blue Mountain Community College, where PGE is funding a scholarship program.

"No employee in good standing will leave the company without the benefit of our support as they make this transition," said Corson.

A new wind

Even though the coal plant will close, residents of Morrow County are already preparing for a new energy future. The county will continue to remain an important seat in the regional energy transmission system, and for PGE.

"We'll have a very strong presence in Morrow County for a long time to come," said Corson.

As part of the state's push toward renewable energy and away from high emissions produced by coal, PGE and Pacific Power, along with organizations including the Oregon Environmental Council, Northwest Energy Coalition, and Sierra Club, came together to support the 2016 Oregon Clean Electricity & Coal Transition Plan. The plan called for Oregon to double the use of new renewable energy in the state to 50% by 2040 and end coal generation entirely.

PGE developed its own goal to reduce 80% of its 1990 level emissions by 2050. To help meet that mark, they partnered with NextEra Energy.

According to NextEra, the company is the "world's largest generator of renewable energy from the wind and sun." The company has a generation capacity of 21,000 megawatts, a majority of which is produced by their 119 wind farms spread across North America.

The two companies are working together on building a renewable energy facility across both Morrow and Umatilla counties that is one of the country's largest. The 380-megawatt Wheatridge Renewable Energy facility will convert wind and solar



EO file photo

A stacker reclaimer digs up scoops of coal to feed a conveyer belt that fuels the Boardman Coal Plant.

energy to produce roughly two-thirds of the energy that the coal plant did — with none of the air pollution emissions.

Port of Morrow Director Ryan Neal said Wheatridge, and projects like it, "are critical to the growth and economy of the region."

The new energy facility will also have an impact through Strategic Investment Program agreements that will help fund educational programs for Morrow County students. A SIP agreement means that after the first \$25 million in taxable income, the companies will pay a portion of their income to local entities in lieu of property taxes.

The county has a 15-year SIP agreement with Wheatridge. If built to its full potential, the project could lead to nearly \$5 million in annual SIP payments to Morrow County.

Legislation

When Gov. Kate Brown signed the Oregon Clean Electricity & Coal Transition Plan in 2016, she committed Oregon to be the first state in the nation to end coal-fired power.

Rebecca Smith saw the Boardman closure as a sign that "Oregon was on the bleeding edge" of America's transition away from coal.

"In Oregon we like to do it our own way," she said. "We're not following the 'California solution' or anything like that. We're like, 'OK, we have this much hydro, we have these people, these are our costs, these are the protections we want, this is how we're going to approach it.'"

Across the country and the world, the economic argument for renewable energy is strengthening, while the economic and environmental arguments for coal weaken. The cost of generating solar energy has dropped 89% in the last decade, while wind power costs have dropped 70%, according to global financial advisors at Lazard. A company that generates power with solar energy rather than coal now makes an additional \$69 per megawatt hour.

"I see this as the future of electricity generation," said Smith. "Oregon is moving towards cleaner, and frankly cheaper, electricity."

Companies have noticed the economic forces at play. Over the next two decades, more than 30 coal projects from Montana to Arizona are scheduled to close. Many, like in Boardman, are closing well before the end of their design life.

"The push for decarbonization and clean electricity is also happening globally," said Smith. "And Oregon is definitely part of that march forward."

In Morrow County, that march includes the closure of the state's last coal plant and the construction of one of the nation's largest renewable energy facilities.

The closing is hard for people like Dave Rogers, who spilled a career's worth of sweat at the plant, and for Commissioner Don Russell, who must pay the county's bills and balance its budget.

But both said there is a sense of pride in Boardman and hope for the future of energy production in the region.

"I can honestly say I feel really proud about what we did here" said Rodgers. Later, he noted that "change happens ... life goes on."



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