

Will the U.S. Ever Build Another Big Coal Plant?

The coal industry is contracting as plants retire and utilities replace them with natural gas and renewables

[Benjamin Storrow](#), [ClimateWire](#) August 21, 2017



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About 16 percent of the U.S. coal fleet has retired in the past five years, but don't expect major new coal-fired plants to fill that void.

The federal government counts four new coal projects on a list of planned power plants nationwide. Three of those face long odds, and none will be able to replace the millions of tons in lost coal demand resulting from recent retirements, even as the Trump administration has vowed to revive the ailing industry.

The developer of a proposed 320-megawatt unit in Wyoming is facing jail time after pleading guilty to stealing government cash. A Kentucky coke plant that would have generated electricity as a byproduct has been scrapped. And

a planned \$2.1 billion plant in Georgia has idled.

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The sole U.S. coal facility under construction: a tiny plant being built by the University of Alaska, Fairbanks.

The dynamic amounts to an existential crisis for the U.S. coal industry. While coal still accounts for roughly a third of U.S. power generation, the industry is slowly contracting as plants retire and utilities replace them with natural gas and renewables. American Electric Power Co. Inc., one of the country's largest coal-burning utilities, recently announced plans to build a \$4.5 billion wind farm in Oklahoma ([Energywire](#), July 27). PacifiCorp, another coal-centric power company, has similar plans to upgrade its wind fleet while slowly transitioning away from power plants fueled by the black mineral ([Climatewire](#), April 6).

Utilities entered 2017 with plans to retire 4.5 gigawatts of coal—or 2 percent of 2016 U.S. coal capacity—and add 11 GW of natural gas and 8.5 GW of wind, according to figures from the U.S. Energy Information Administration.

The trend has prompted a series of rescue efforts. West Virginia Gov. Jim Justice (R) has proposed a \$15-per-ton subsidy for utilities burning Appalachian coal ([Greenwire](#), Aug 8). In Congress, there is an effort afoot to expand tax credits for power plants that use carbon capture and sequestration (CCS) ([E&E Daily](#), July 13). Both efforts hint at coal's long-term challenges and the reason for the dearth of planned coal plants.

"There are two big risks for coal generation right now. One is gas prices stuck at low levels for a long time. Second, developers take on a lot of environmental risk in the future," said Travis Miller, who directs utilities research at Morningstar Inc. "So environmental risk might not be a risk for

four years, obviously referring to the presidential administration, or eight years.

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"But when you're building 30- to 50-year-type assets," he added, "they're certainly a high risk for carbon."

Congress' plans to increase tax credits for plants that sequester carbon could go a long way toward addressing the environmental challenges. A bill sponsored by Sen. Heidi Heitkamp (D-N.D.), would expand the tax credit for power plants that sequester carbon in geologic formations from \$20 per ton to \$50 per ton. Power plants that use carbon emissions for enhanced oil recovery, where carbon is injected into oil reservoirs to stimulate production, would see the credit increase from \$10 per ton to \$35 per ton. The credits would be available for new and existing facilities alike but would be capped once 75 million tons of carbon has been captured.

The proposal has generated an unusual amount of bipartisan support, attracting liberals like Sen. Sheldon Whitehouse, a Rhode Island Democrat interested in cutting carbon emissions, as well as coal-state Republican Sens. Shelley Moore Capito of West Virginia and John Barrasso of Wyoming.

"Sheldon obviously cares about climate. He knows, looking at international reports, that you can't achieve CO₂ goals unless you look at CO₂ sequestration and utilization," Heitkamp said in a recent interview. "And the coal industry understands that if we're ever to see new development or maintain the existing development, that regulatory environment needs to be stabilized, and we need to do it through technology."

Carbon capture

Industry observers called the tax credits substantial. But although utilities have had some success applying carbon capture to existing power plants—like NRG Energy Inc.'s Petra Nova facility in Texas—it remains unclear if the subsidies would be enough to tempt power companies to consider building a new facility.

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The experience of the Kemper County Energy Facility in Mississippi, a \$7.5 billion plant designed to gasify coal and capture the emissions, remains fresh in many utility executives' minds, observers said. Southern Power Co. recently decided to abandon CCS and convert that plant to natural gas after repeated construction delays and cost overruns.

Even successful projects carry large price tags and operational questions. Duke Energy Corp.'s Edwardsport plant, a next-generation coal plant in Indiana that gasifies coal but does not sequester emissions, was finished at a cost of \$3.5 billion in 2013 and has suffered a series of operational struggles in the years since ([Energywire](#), July 20).

"Without federal research and development on coal CCS and natural gas CCS, we might not have the technology to take advantage of the very sensible incentives," said Jay Apt, co-director of Carnegie Mellon University's Electricity Industry Center.

Many utilities are hesitant to be among the first to invest in the project, wanting to see the kinks worked out before committing to such a large undertaking, said Jason Begger, executive director of the Wyoming Infrastructure Authority, a state agency that is promoting carbon utilization research at coal plants. The federal tax credits on their own are unlikely to spur a wave of new plants, he said.

"To me, the biggest impediment for a company going out today and building a coal-fired power plant is regulatory uncertainty," Begger said. "Until you can find some sort of carbon agreement, if that's legislation or regulatory, technology, whatever, until there is some way to take that off the table, you're not going to have a lot of interest from utilities."

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At a broader level, it's hard to imagine a plant being built today without some sort of carbon mitigation, he said.

"Regardless of whether or not federal law mandates it, we've gotten to the point where there is a societal demand," said Begger, a former employee of Cloud Peak Energy Inc., a Wyoming-based coal company. "There are enough state and regional entities enforcing CO₂ emissions on their own."

Not everyone in the coal industry agrees. Robert Murray, the outspoken CEO of coal-miner Murray Energy Corp., has loudly denounced carbon capture and sequestration technologies, saying they are an expensive solution to a problem that doesn't exist ([Climatewire](#), Dec. 15, 2016). His solution: Focus on building new supercritical coal plants.

But few U.S. utilities appear to share that sentiment. Power companies have brought a little more than 5.1 GW of new coal-fired capacity online since 2012, according to EIA data. At the same time, they have retired 51 GW of coal capacity, or about 16 percent of total U.S. coal capacity, since 2012.

Planned projects hit snags

Meanwhile, most of the few proposed coal plants in the pipeline are facing problems.

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In Kentucky, SunCoke Energy Inc. recently decided not to proceed with a coke plant that would have generated a small amount of electricity as a byproduct, according to a company spokesman.

The two largest coal projects remaining on EIA's list of planned power plants reflect the wider changes in the electricity market.

The Two Elk Energy Park in Wright, Wyo., and Plant Washington in Sandersville, Ga., were proposed in 1996 and 2008, respectively. At the time, power companies were projecting growing electricity demand and a need for new plants. That demand never appeared, ultimately wiped away by a combination of the Great Recession and improving energy efficiency.

Both now face long odds. Wyoming regulators yanked Two Elk's permit in 2015, and the project's developer, Mark Ruffatto, pleaded guilty to defrauding the federal government last year after he admitted to spending stimulus funds at Neiman Marcus, on carpeting and payments for a Mercedes-Benz ([Climatewire](#), Oct. 25).

Power4Georgians, an independent power producer, says it is still proceeding with plans for the 850-MW Plant Washington. Work has been held up by uncertainty over federal greenhouse gas regulations for new coal-fired facilities, said Dean Alford, a company spokesman.

He said the company is still waiting for a resolution but hailed the Trump administration's promise to revive the coal industry. "We're much more encouraged with what we're seeing out of the administration than what we've seen in the past," he said.

But many of the local utility cooperatives that initially backed the project have long since fled, and state regulators have made no moves to approve the company's second request for a permit extension.

Karen Hays, who leads the Georgia Environmental Protection Division's air protection branch, said state regulators have not heard from the company since it requested an extension on its construction permit early last year. "We have taken no action," Hays said. The state has "not heard from the company for a while, so I can't say what their interest is in pursuing," she said.

The small project at the University of Alaska, Fairbanks, that appears to be on track is a combined heat and power plant with an expected capacity of 17 MW. It is roughly 50 percent complete, according to the university.

Perhaps the most likely prospect for a major new coal plant in the United States is a project that's not on EIA's list. In March, Sunflower Electric Power Corp. Inc. beat back a lawsuit from the Sierra Club, paving the way for the power cooperative to pursue an 895-MW coal expansion at its Holcomb Station in southwestern Kansas ([Energywire](#), March 20).

But even that is uncertain. Sunflower and its partner, Tri-State Generation and Transmission Association Inc. have yet to commit to the project, which was proposed roughly a decade ago and has an estimated price tag of \$2.2 billion.

The cooperative is "examining its options," said Sunflower Electric spokeswoman Cindy Hertel. "We're going to take a look at industry conditions, and Tri-State will also, before determining if we will move forward," she said.

Hertel said there was no timeline for a final decision.

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