
FALSE
PROMISES
Why coal isn't coming back
THE
WILDERNESS
SOCIETY

FALSE PROMISES
Why coal isn't coming back

Coal-fired power is on the decline

59 coal generators shut down in 2016, equivalent in greenhouse gas reductions to taking more than 9 million cars off the road

Less coal mined from public lands is burned in power plants

The amount of coal shipped from mines on public lands to power plants dropped 31 percent between 2011 and 2016

Renewable energy is becoming more affordable

In 2016, the cost of wind turbines was 66 percent cheaper and the cost of solar panels was 85 percent cheaper than in 2009

The future of coal mining on our public lands is inextricably linked to the future of coal-fired power plants. In this report, we examine four coal-fired power plants that historically received large shipments of coal mined from public lands in Wyoming, Montana, Utah and Colorado. The stories of these plants—of which one has closed, one has been converted to natural gas, one is scheduled to close soon and one is still open indefinitely—reveal why communities want to move away from coal-fired energy. The reduction in demand for coal from plants like these, coupled with cost competitiveness from alternative forms of energy like solar, wind and natural gas, propels an inevitable decline in coal mining on our public lands.

Cleaner, cheaper alternatives to coal power

In 2016, 59 coal generators at 31 coal-fired power plants were shut down,[1] equivalent in greenhouse gas reductions to taking more than 9 million cars off the road.* And coal plants still online are producing an ever-shrinking share of the energy consumed in the U.S. In 2008, coal-fired generating units produced 48 percent of U.S. electricity.[2] By 2016, that number was down to 33 percent, and it is expected to continue to drop.[3] The amount of coal mined on public lands is also dropping, from 507 million tons in 2002 to 409 million tons in 2015.[4]

Coal is losing out for many reasons. Coal plants are dirty, emitting toxins and leaving piles of contaminated ash. The coal-fired power plants in this report were—and two still are—aging and inefficient, requiring expensive upgrades. Communities, like those profiled in this report, don't want them as neighbors.

And coal is no longer the cheapest form of energy. As fracking has increased natural gas supplies, prices have dropped; natural gas is often priced lower than coal.[5] And with the cost of alternative energy, like wind and solar, declining drastically in recent years, there is rapid growth in the amount of electricity from renewable sources.[6]

Declining deliveries to power plants

Each of the coal plants in this report purchased—or is still purchasing—the majority of its coal from mines on public lands. According to Wilderness Society analysis, between 2011 and 2016 the number of power plants that bought publicly owned coal decreased from 230 to 169.

The analysis also showed that between 2011 and 2016, the amount of publicly owned coal delivered to coal plants declined 31 percent. And as power plants are shuttered or have their generation capacity reduced, the need for coal mined on our public lands also declines.

False promises won't defy economics

The promise to restore jobs to an industry that is in a rapid, irreversible decline around the world is a cruel charade. In 1979, coal mining provided more than 250,000 jobs in the U.S.[7] By October 2016, as the Bureau of Labor Statistics reported, that number dropped to fewer than 54,000.[8]

When Donald Trump barnstormed coal country last year, saying, "Get ready, because you're going to be working your asses off," it was empty, hyperbolic rhetoric.[9] The reality, from the Appalachian Mountains to the Powder River Basin, is starkly different and undeniable. It's not the whims of politics shutting the mines across the U.S. It's the immutable laws of economics.

Coal simply can't compete. Market forces have given natural gas and alternative energy the edge over coal worldwide. Communities know there are better, cleaner sources of power, and they are pushing to shut down dirty, aging coal plants.

Real economic opportunity is what's needed in coal country, not more false promises.

*The net summary capacity for coal-powered generators retired in 2016 is based on data from the March 2017 EIA Preliminary Monthly Electric Generator Inventory EIA-860M totaling 7,200,000 kWh, multiplied by 8,760 hours (one year) for 63,072,000,000 kWh. Using the EPA Greenhouse Gas Equivalencies Calculator this is equivalent to 9,363,031 passenger vehicles driven for one year.

When it comes to coal, the U.S. government is king

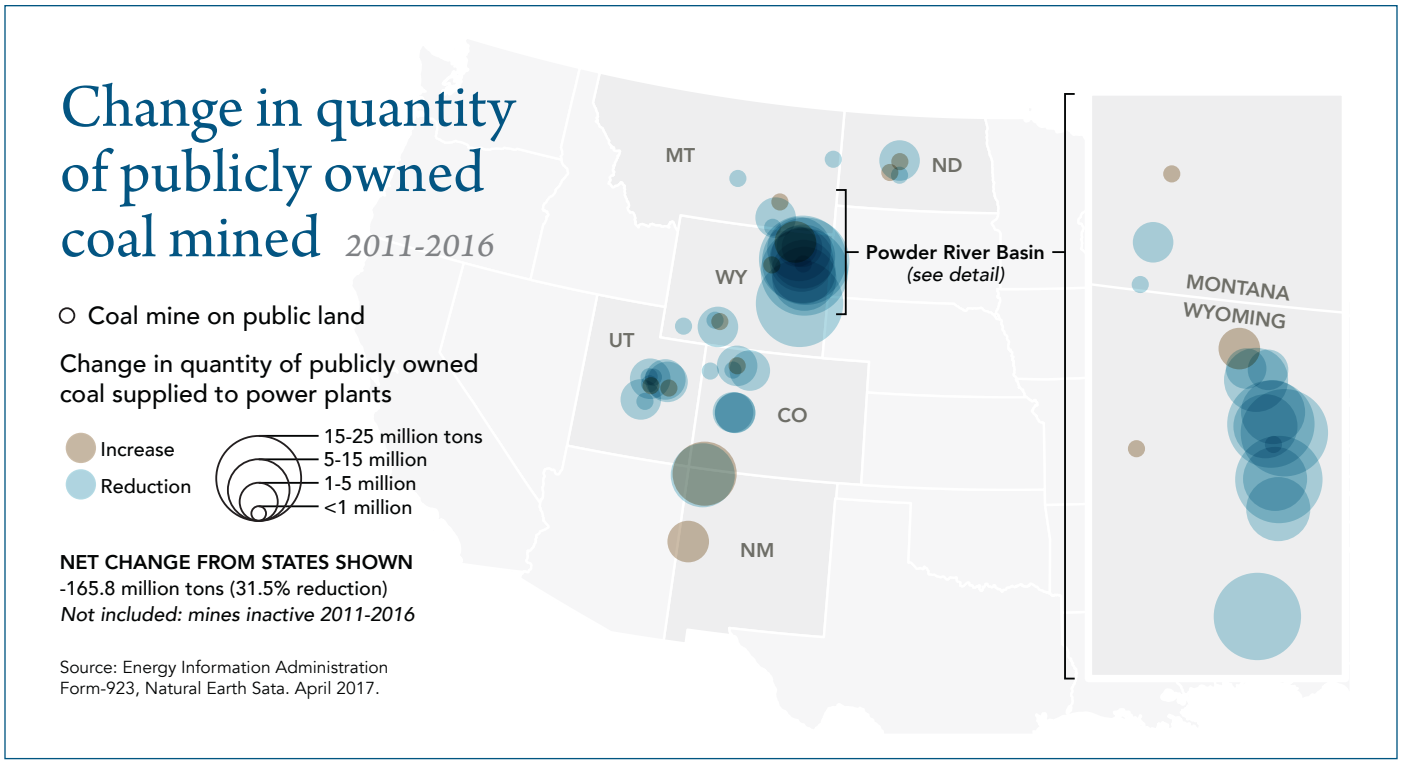
More than 40 percent of coal burned for electricity in the U.S. is mined on public lands, and the vast majority comes from one region: the Powder River Basin in Wyoming and Montana.

That the federal government manages coal resources (the American people technically own them) is an accident of history. When the U.S. acquired the western territories, it also got the land and the minerals beneath it. The government later sold or gave away land to encourage settlement, but it retains rights to much of the coal and other minerals under the ground. The Bureau of Land Management (BLM) manages leasing for coal on 570 million acres of land where federal mineral estate is owned.[10]

Today, about 483,000 acres are under lease for coal development, but not all of them are being actively mined.[11] In eight states, from Montana to Kentucky, there are 50 mines digging publicly owned coal and shipping it to power plants. The Powder River Basin produces the majority of the coal owned by Americans—almost 90 percent. The region's coal has a low sulfur content, making it better for power generation than Appalachian-sourced coal.[12] It also is cheaper to mine, since it is closer to the surface.

The BLM administers the coal-leasing program, and its policies that set minimum prices for bidding on coal leases have not changed since 1982. That means that the price of federal coal undercuts that of coal on other lands across the country, creating a de facto public subsidy at taxpayer expense. A December 2015 report by the New York University Institute for Policy Integrity found that the minimum lease price is the same price set 35 years ago, $100 per acre. "Accounting for inflation alone would raise the minimum bid to $247 per acre," the report pointed out.[13]

One estimate finds that taxpayers have lost $30 billion over the last 30 years through the BLM's coal mining policies.[14] But with or without that extraordinary public subsidy, the economics of coal no longer make sense in an era when the price of natural gas has plummeted 70 percent in the last decade, and the price for renewable energy continues to drop.[15]



Four communities moving away from coal-fired energy

For decades, people living near coal-fired power plants have borne unreasonable burdens on their health and the economic vitality of their communities. Coal dust, toxins and dangerous pollutants contaminate the air and water, keep property values low and discourage economic development. Communities in Nevada, Wisconsin, Texas and Maryland are among those that have mobilized to protect public health and move toward a clean energy future.

Located less than 1,000 yards from the Moapa River Indian Reservation, the Reid Gardner Generating Station caused a host of health problems for the Moapa Paiute Tribe.

Moapa Paiutes take a stand for clean power

Reid Gardner Generating Station, Moapa, Nevada

The case for retiring the Reid Gardner Generating Station 50 miles north of Las Vegas was overwhelming.

Dating back to 1965, the plant pumped pollutants and dust into the air, causing high rates of asthma; heart, lung and thyroid disease; and numerous other health problems for people in the area.[16]

Between 1991 and 2017, courts levied more than $6.8 million in fines for violations of emissions regulations.[17] A 2007 investigation by the Environmental Protection Agency found 56 violations of federal air pollution standards, which led to the U.S. Department of Justice to order $85 million in upgrades.[18]

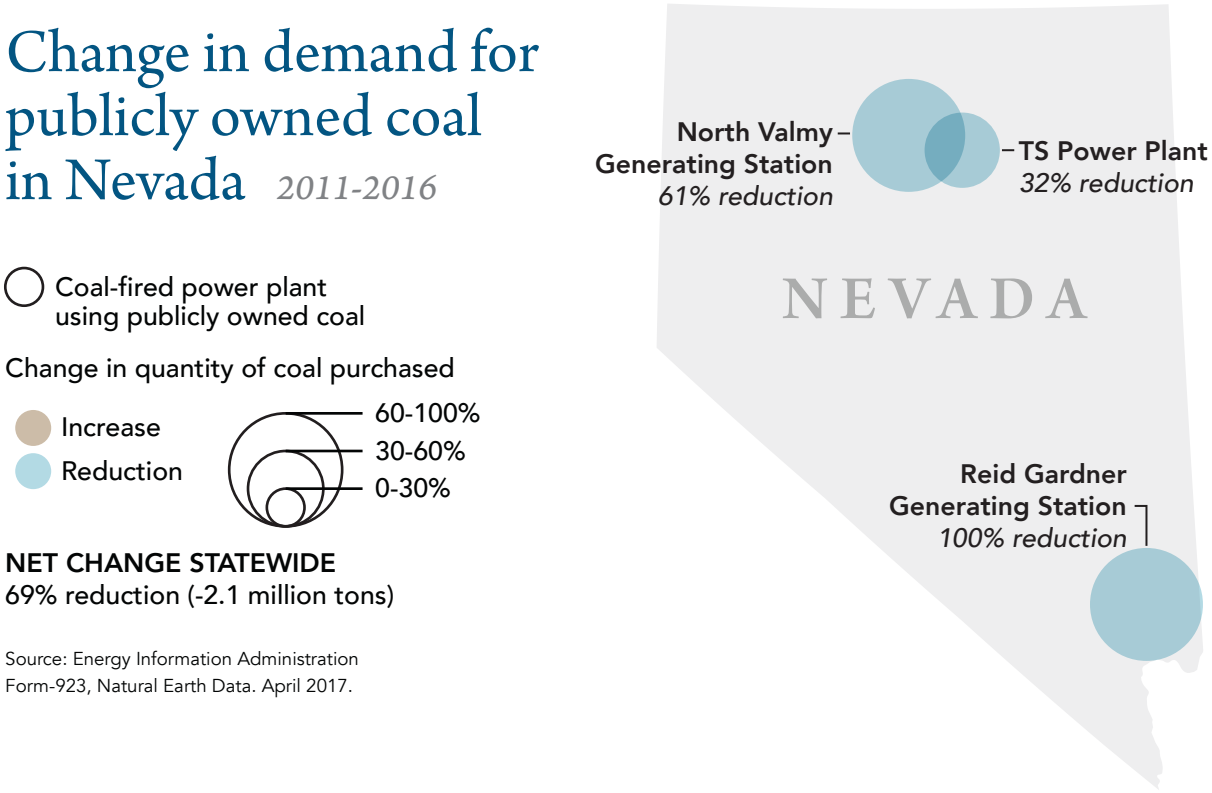
The plant, less than 1,000 yards from the Moapa River Indian Reservation, was also a tragic example of environmental injustice. Residents suffered serious health impacts from the plant—including an estimated four deaths, five heart attacks and 74 asthma attacks a year—but received none of the power generated.[19] Instead, all of the energy generated from the coal-fired plant was transmitted to Las Vegas and California.

So tribal leaders were shocked to discover in 2009 that instead of making plans to shutter the troubled plant, the operators of Reid Gardner would continue to run it through 2046.

Vickie Simmons was devastated by the news. She believed the plant's continued operations could be life-threatening for tribal members.

Simmons, now vice-chairperson of the Moapa Paiute Tribal Council, had been concerned about the impact of the coal plant for a long time. Her brother, Thomas H. Simmons, had worked long hours in the coal yard at Reid Gardner for 10 years before he died of a massive heart attack at the age of 31. A few years later, Wallace Kay Jr., who had worked alongside Thomas at the plant, died of the same heart condition. He was 33.

Change in demand for publicly owned coal in Nevada *2011-2016*



Source: Energy Information Administration Form-923, Natural Earth Data. April 2017.

"What are the odds?" Simmons said. "Two young men working at the power plant die of the same thing and it's not related to their work?"

Then, there was the smell, the insidious coal dust, the air pollution that stifled life on the reservation. "I kept noticing how sick our people were," she said.

"I'm an outlier. I don't have asthma. I'm healthy. But all around me I saw people with asthma, cancer, heart disease…I started to wonder, 'Is this how sick all Indian people are?'"

The health problems of the Moapa Paiutes had been largely ignored by public health officials. Simmons said studies were not pursued to determine the causes of the illnesses on the reservation.

Tribe members felt certain the pollution from the plant was making them sick, but they were met with a wall of opposition. Residents outside the reservation dismissed the impact of the plant and blamed the Indian lifestyle for the health problems. "The way they talked about people on the reservation, it was insulting. It was scary," Simmons said.

"Remember," Simmons said, "the economy collapsed in 2008 and people needed jobs." They didn't want to know about what it was like to live downwind from one of the dirtiest coal plants in America.

Simmons and others on the reservation began working to shut down Reid Gardner in 2009.

The turning point came in 2011, when the Sierra Club Beyond Coal campaign began organizing in partnership with the Tribe, and EarthJustice helped local activists produce a video, "An Ill Wind," about the pollution produced by the plant and the devastating impact it was having on the people living on the reservation.[20] It was shown at film festivals, to environmental organizations and in public settings across Nevada.

On Earth Day in 2012, members of the Moapa Paiute Tribe walked 50 miles over three days to Las Vegas in a Cultural Healing Walk to bring attention to their movement.

The resulting uproar caught the attention of then-U.S. Sen. Harry Reid, who became a vocal—and powerful—advocate for shutting down the dirty plant.

The Nevada legislature sealed the deal in 2013 with the passage of Senate Bill 123, which set a goal of reducing coal-fired electricity across the state by 800 megawatts by 2019.[21] The legislature also passed a renewable energy portfolio standard requiring Nevada to get 25 percent of its energy from wind, solar and geothermal by 2025.[22]

Because of Bill 123, Reid Gardner was finally shut down in February 2017.

Part of the plan for replacing the power generated at Reid Gardner involves building a 250-megawatt solar plant on the Moapa Paiute reservation. This time, the Moapa Paiutes are co-owners of the plant, several tribal members have found work at the plant and the tribe has access to the power produced there.

The trains that regularly delivered coal shipments to Reid Gardner from across the West have stopped. In 2011, 1.2 million tons came from mines on public lands in Wyoming and Utah, according to Wilderness Society analysis. With Reid Gardner's closing in February 2017, that demand was eliminated.

Meanwhile, more than 100 companies working to produce solar energy have set up shop in Nevada, employing about 9,000 workers.[23] The cost of power from the solar installations is about 4 cents per kilowatt-hour[24]—a fraction of the 11.7-cent average for the state.[25]

Now that the coal plant is retired, Simmons said, the Moapa Paiutes are "working hard to preserve what's left of our beautiful desert and developing clean business projects. We're hiring a business manager and entertaining all kinds of stuff."

And everyone in the Moapa Paiute Tribe can breathe easier.

The Moapa Paiute Tribe held rallies to encourage Nevada to move away from coal to cleaner forms of energy.

© Sierra Club

Nestled in a valley, this power plant in Milwaukee created a host of health problems for local communities.

Wisconsin neighborhood rallies to shut down aging power plant

Valley Power Plant, Milwaukee, Wisconsin

The Valley Power Plant created a low-hanging cloud of steam, smoke and coal dust in the heart of Milwaukee, where it operated for 47 years. It was an outdated, inefficient generating plant pumping tons of poisonous gases into the air every year.

Residents of the neighborhood were mostly low-income people of color, and they experienced high rates of asthma and lung and heart disease. The Clean Air Task Force has attributed 26 deaths, 42 heart attacks and 450 asthma attacks to the plant annually.[26]

In the mid-2000s, the neighborhood took action. At the time, the Rev. Willie Brisco, president of the Milwaukee Inner City Congregations Allied for Hope (MICAH), said, "We're under attack, but if we stand together as a people, I don't care if they call out the National Guard, if they call out the dogs, if they call out the water hoses—they're not going to stop us."

MICAH joined with the Black Health Coalition of Wisconsin, neighborhood organizations, congregations, the NAACP, the Sierra Club and other environmental groups to create the Cleaner Valley Coalition.

Rev. Willie Brisco worked to unite the local community and clean up a local coal-fired power plant.

© Andy Mannis

"Dirty power plants, industries and freeways are put in communities where people have less power to resist," Brisco said. The key, he said, was to mobilize people in these communities so they could realize how much power they had when they worked together.

"The Valley Power Plant affected the Hispanic and African American communities equally," Brisco said. "We appealed to environmental groups, and the issue brought us all together."

But nothing about it was easy.

"It took a lot of community organizing," said Patricia McManus, president and CEO of the Black Health Coalition of Wisconsin. "We showed up at a lot of [Department of Natural Resources] hearings and a lot of public meetings."

When it became apparent that the group had critical mass in Milwaukee, WE Energies, which owns the Valley Power Plant, started trying to "buy off" the community, McManus said. The company started making donations to local nonprofits and neighborhood organizations, and buying advertising on black radio stations.

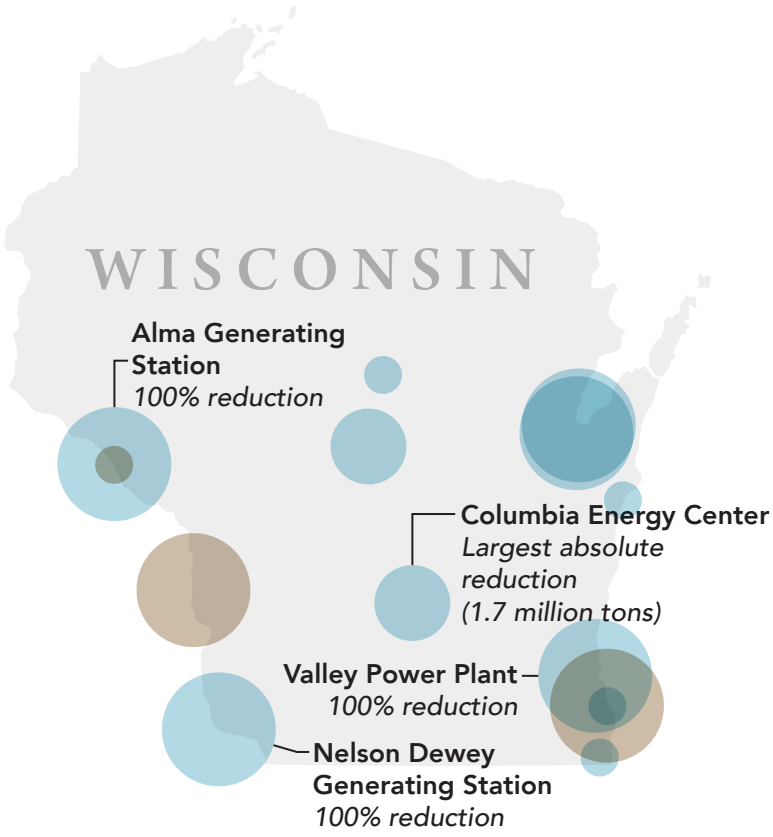
It didn't work—the community continued to stand firm in their belief that the Valley Power Plant was harmful to their health. And in 2013, when the company announced the plant would be converted to natural gas, coalition members celebrated at a restaurant on Milwaukee's South Side.

Wisconsin's renewable energy portfolio standard required that 10 percent of the state's power come from renewables by 2015. In 2013, the state exceeded that goal through power generation from wind, hydropower and biomass.

According to Wilderness Society analysis, in 2011, the Valley Power Plant burned 630,000 tons of coal from public lands in Colorado and Montana. That coal rumbled its way across the country by train and then by barge to fuel the Valley Power Plant for nearly 50 years.

As with so many other plants across the state, cheaper, cleaner alternatives are the new normal. The demand for coal in the Midwest is not coming back.

Change in demand for publicly owned coal in Wisconsin *2011-2016*



Coal-fired power plant using publicly owned coal

Change in quantity of coal purchased

- Increase
- Reduction

60-100%
30-60%
0-30%

NET CHANGE STATEWIDE
15% reduction (-3.4 million tons)

Source: Energy Information Administration Form-923, Natural Earth Data. April 2017

LESS, NOT MORE

Nelson Dewey Generating Station, Cassville, Wisconsin

By any measure, the two coal-fired generators at the Nelson Dewey Generating Station were antiques. Built on the shores of the Mississippi River in 1959 and 1962, they had long since passed their reasonable retirement date.

So when Wisconsin Power and Light proposed adding another coal generator to the station, Clean Wisconsin launched a protest. They gathered more than 5,000 comments opposing the project.

Later, when the Public Service Commission of Wisconsin reviewed the project, it voted unanimously to reject it.

"Cheaper, cleaner options are out there," said then-Commission Chairman Eric Callisto, an attorney specializing in energy and regulatory issues. The plant shut down at the end of 2015, and according to Wilderness Society analysis, when it was operating in 2010 it used 525,000 tons of coal from public lands. Now the state is embracing cleaner natural gas and a growing wind energy sector.

The community rallied to move towards renewable energy and away from coal in San Antonio.

San Antonio embraces a renewable energy future

J.T. Deely Station, San Antonio, Texas

Karen Hadden was concerned about the impact the old coal-fired power plant was having on the health of residents in San Antonio, who were exposed to high levels of mercury, nitrogen oxides, sulfur dioxide and particulate pollution released by the plant.

She's the executive director of the Sustainable Energy and Economic Development (SEED) Coalition,[27] a statewide group that was instrumental in negotiating the retirement of Units 1 and 2 of the 40-year-old J.T. Deely power plant in San Antonio, now set for 2018.

"There was no playbook for this," Hadden said, of the effort she pursued along with Public Citizen and Neighborhoods First, a San Antonio organization. "We created the strategy as we went along."

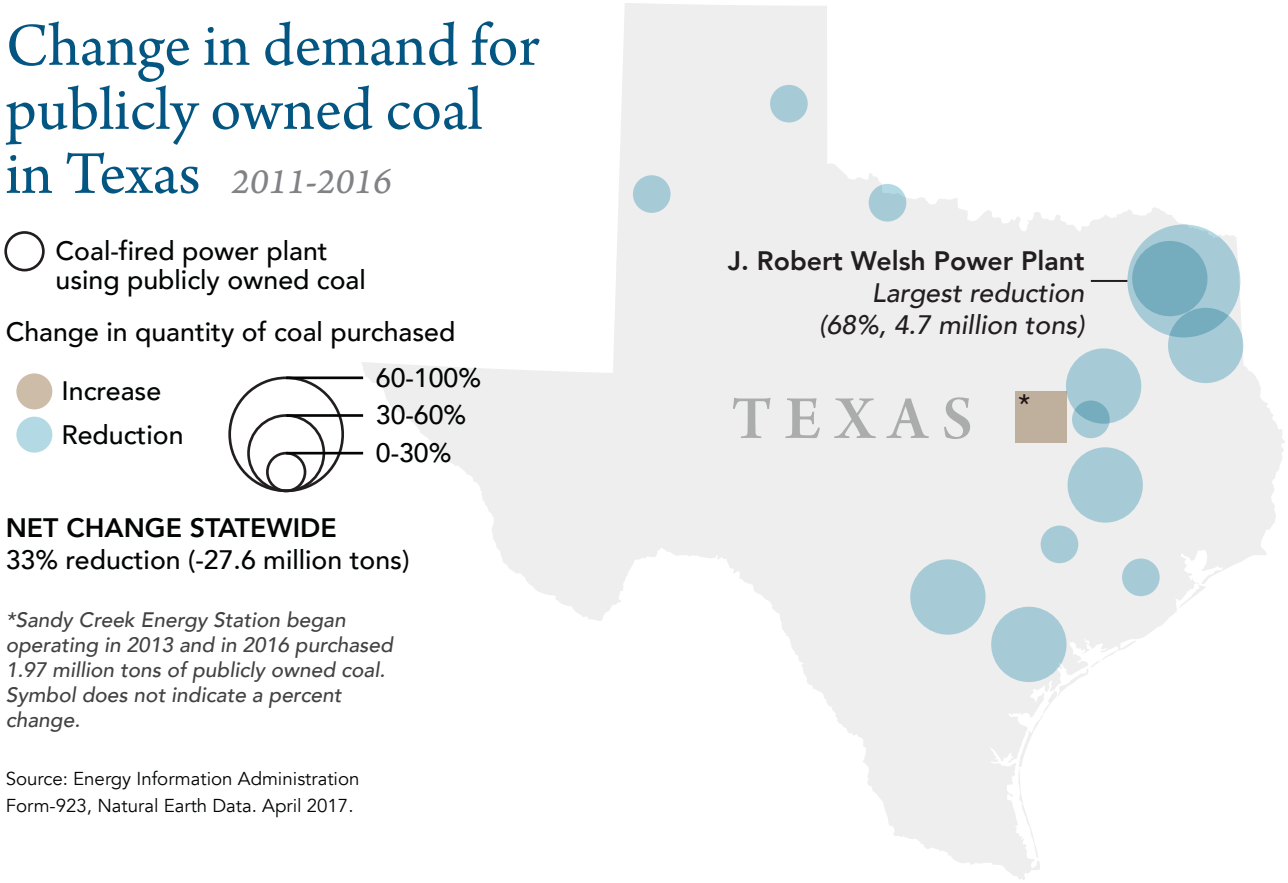
J.T. Deely is operated by CPS Energy, the nation's largest municipally owned power company.[28] Texas leads the nation with coal-powered plants emitting dangerous amounts of mercury, and the J.T. Deely Station is no exception.[29] Mercury is a powerful neurotoxin that causes serious cognitive and motor impairments, especially in children.[30]

When CPS Energy announced plans to build another coal plant, Hadden said, "We were horrified and knew we had to fight it."

Cleaner, more cost-effective options were available to the community, and Hadden wanted to make sure they got the consideration they deserved.

"I had never fought a coal plant before," she said. She started by talking to friends and their friends, and before long she had mobilized a grassroots movement. Soon the local media began paying attention, and hearings were scheduled before a state administrative law judge in San Antonio.

Change in demand for publicly owned coal in Texas *2011-2016*



NET CHANGE STATEWIDE
33% reduction (-27.6 million tons)

**Sandy Creek Energy Station began operating in 2013 and in 2016 purchased 1.97 million tons of publicly owned coal. Symbol does not indicate a percent change.*

Source: Energy Information Administration Form-923, Natural Earth Data. April 2017.

"We didn't have any money for lawyers, so I decided to write the case," Hadden said.

She studied other court cases and worked late nights writing the brief and assembling exhibits to reinforce her arguments. Other organizations tried to join the case, but were knocked out in the contested hearing, so the SEED Coalition was left on its own. Ultimately, a settlement was reached.

The agreement called for a major cleanup of J.T. Deely, significant pollution reductions at the site and a plan to move toward renewable energy sources.

Later, when CPS Energy realized that controls required by new federal regulations could cost over $1 billion, it agreed to retire the two Deely units in 2018, instead of spending vast sums to retrofit them.

Hadden's initial quest to fight the proposal for a new plant ultimately led to the closure of existing plant units.

So far, CPS Energy has 230 megawatts of solar capacity up and running, increasing to 500 megawatts of utility-scale solar by 2016.[31] That will be enough to power 55,000 homes in Texas.†

Together with the coalition and community members, CPS Energy helped spur the local manufacture of solar panels, creating 800 jobs in the San Antonio area. And then-Mayor Julián Castro also worked with the Obama administration to secure federal funding for local community colleges to create training programs for workers in solar and alternative energy development.

Texas is the largest user of coal from public lands, but as with the rest of the country, demand is declining. Between 2010 and 2015, the demand for coal from the Powder River Basin dropped 14 percent and is expected to continue to drop precipitously.[32]

The shutdown of the two-unit J.T. Deely Station means that demand for coal from public lands in the Powder River Basin will be reduced by about 7 million tons annually starting in 2018, according to Wilderness Society analysis.

† If 45,000 megawatts of solar capacity in the U.S. powers more than 8.5 million average homes, then 500 megawatts of utility-scale solar would power 55,000 homes. ("What's in a Megawatt?" Solar Energy Industries Association, http://www.seia.org/policy/solar-technology/photovoltaic-solar-electric/whats-megawatt.)

The people of Maryland continue efforts to close an old power plant that's polluting their waterways.

Old power plant threatens Maryland fisheries and people

C.P. Crane Generating Station, Baltimore, Maryland

It's a long way from the Powder River Basin to Baltimore, Maryland. Yet, coal from mines on public lands is hauled across the country by rail to power the C.P. Crane Generating Station, a 56-year-old cluster of smokestacks and boilers whose emissions are responsible for an estimated 12 deaths, 19 heart attacks and 200 asthma attacks each year in the Baltimore area.[33]

And while Theaux Le Gardeur worries about the impacts of the plant pumping sulfur dioxide and other dangerous pollutants into the atmosphere, his primary concern is its effect on water quality. That's because C.P. Crane is located on a 156-acre peninsula between the Gunpowder and Bird rivers in the tidal delta of what once was one of the richest fisheries in North America: the Chesapeake Bay.

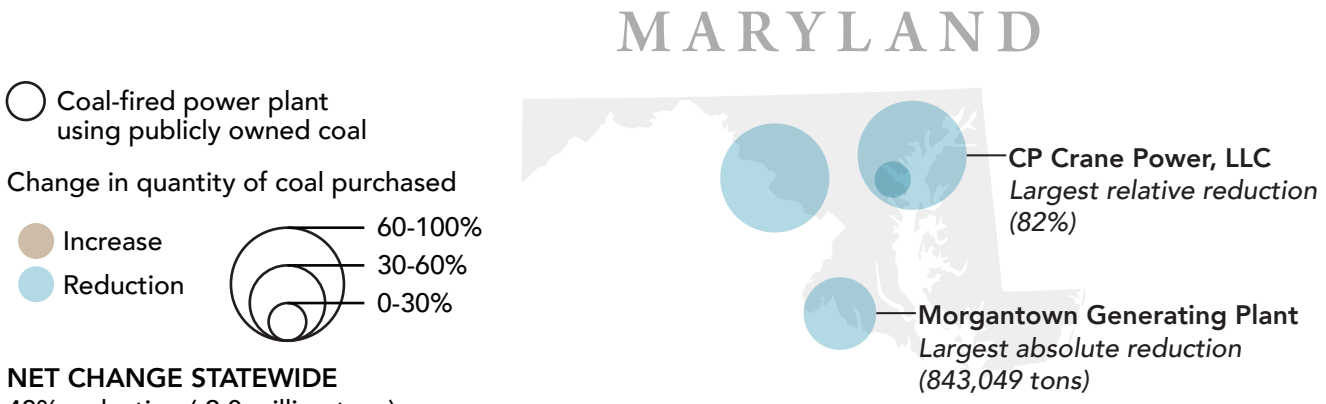
Le Gardeur came to Baltimore from Louisiana nearly two decades ago. Besides owning Backwater Angler, a bait and tackle shop, he is a trout-fishing guide on the upper Gunpowder River and head of the nonprofit Gunpowder Riverkeeper, which advocates for protections to the river and its tributaries.

"I started working on this in 2011," he said. "The problem primarily is heavy metals from the combustion of coal. We're asking the [Maryland] Department of Environment to make meaningful reductions and undertake representative monitoring."

Much of this pollution from ash is flushed, via effluent and stormwater from inside the burners, into the waterways. Among the contaminants in this water are mercury, arsenic, cadmium, chromium, nickel, selenium and polychlorinated biphenyls, commonly known as PCBs. These contaminants reduce essential plant life in the waters and can be toxic to marine life.

As a result, consumption of fish and seafood from these waters, including Maryland's renowned Chesapeake Bay crabs, is frequently limited because of their high contaminant levels, which carry serious health risks, especially for children. The fisheries also are

Change in demand for publicly owned coal in Maryland *2011-2016*



NET CHANGE STATEWIDE
43% reduction (-2.0 million tons)

Source: Energy Information Administration Form-923, Natural Earth Data. April 2017.

endangered by the temperature of the water used to cool the generator. In the summer, the warmer water flushed into waterways reduces the oxygen level in the river—and can increase the toxicity of contaminants.

"The discharged water can be up to 106 degrees, so in the winter when it mixes with the cold water, the fish like to hang out around there in the warm water," Le Gardeur said. "In the summer, it's deadly."

Le Gardeur and his friends at Riverkeeper were cautiously optimistic in the fall of 2016 when it appeared that the owners were poised to deactivate the plant. "Then they withdrew the deactivation notice on December 22," Le Gardeur said. "Once again this is very much a live issue."

Shutting down the plant shouldn't be so hard, he said, since it only operates during the peak demand periods on the hottest days and coldest nights. But because it only operates 10 to 20 percent of the time, water testing is inconsistent and thus measurements of pollutants are often inaccurate.

State lawmakers have increased the renewable energy portfolio standard to 25 percent by 2020. This is expected to result in the development of an additional 250 megawatts of solar energy in the state and could result in stronger incentives to shut down C.P. Crane.

"It's a tangled mess," Le Gardeur said. "But we're not giving up. People routinely go swimming, fishing, crabbing and boating there. People care about that water."

"Seemingly, that plant is old enough for people to realize there is a cleaner, better way to generate electricity," Le Gardeur said. The case for retiring C.P. Crane is overwhelming, he said, and the fact that its operations have been reduced to only peak demand periods is a clear sign that it's on its way out.

Delivery of coal from public lands to the plant declined by 82 percent between 2011 and 2016, according to Wilderness Society analysis. And someday soon those trainloads from Wyoming to Baltimore will stop for good.

"The plant's effects on air quality, water quality and public health get people's attention. The community at large is certainly more aware. We're not giving up," Le Gardeur said.

As communities move away from coal, our public lands do too.

Across the United States and around the world, clean energy technologies are supplanting coal-fired power plants. Inexpensive natural gas generation and sustainable energy sources such as wind turbines and solar arrays have replaced old technology, causing a steep decline in demand for coal.

The international community has committed to reducing greenhouse gas emissions to address global climate change, and countries are increasingly moving away from coal. The trend is irreversible.

In the short term, the Energy Information Administration predicts small variations in demand that give communities a window of opportunity to plan for the inevitable change. Two bills under consideration in Congress could help make the leap from coal to alternative forms of power.

One plan to address the immediate economic disruption is the RECLAIM Act, which provides funds to communities to clean up abandoned mine sites.[34] The act puts people and land back to work, and eases

© Mason Cummings/TWS

the economic strain of idled mines for coal-dependent communities. It requires the landscape to be restored to a healthier and more useful state, providing employment in mining communities while they work to develop new economic engines.

Like the RECLAIM Act, the Coal Cleanup Taxpayer Protection Act would require companies to set aside funds for mine cleanup and land restoration so that taxpayers aren't on the hook for mine cleanups if the company goes bankrupt or walks away.[35] This legislation would phase out self-bonding, a practice that allows coal companies to promise to clean up the land after they're done mining without posting actual financial assurances.

The need for coal from our public lands to light our homes and power our economy is permanently declining. Instead of continuing to subsidize coal, the Bureau of Land Management should focus on reforming the federal coal program to better protect taxpayers and western communities impacted by a declining coal industry.[36]

The inevitable shift away from coal is clear—as clear as the air in communities where old coal-fired plants have been retired for good.

Endnotes

1. "Preliminiary Monthly Electric Generator Inventory," February 2017, https://www.eia.gov/electricity/data/eia860m/.

2. "Electric Power Annual 2008," U.S. Energy Information Agency, August 2010, http://large.stanford.edu/courses/2012/ph240/doshay1/docs/034808.pdf.

3. "Frequently Asked Questions: What is U.S. electricity generation by energy source?," U.S. Energy Information Agency, April 18, 2017, https://www.eia.gov/tools/faqs/faq.php?id=427&t=3.

4. "Social and Economic Context for the Federal Coal Program," Headwaters Economics, July 2016, https://headwaterseconomics.org/wp-content/uploads/social-economic-context-federal-coal-program.pdf.

5. Mark Haggerty, "Changed Electric Power Markets Create New Volatility for Coal," Headwaters Economics, September 2016, https://headwaterseconomics.org/energy/coal/new-volatility-for-coal/.

6. "Lazard's Levelized Cost of Energy Analysis-Version 10.0," Lazard, December 2016, https://www.lazard.com/media/438038/levelized-cost-of-energy-v100.pdf.

7. "Table B-1: Employees on Nonfarm Payrolls by Industry Sector and Selected Industry Detail: Economic News Release," U.S. Bureau of Labor Statistics, June 2, 2017, https://www.bls.gov/news.release/empsit.t17.htm/ .

8. "May 2016 National Industry-Specific Occupational Employment and Wage Estimates: NAICS 212100 – Coal Mining," U.S. Bureau of Labor Statistics, March 31, 2017, https://www.bls.gov/oes/current/naics4_212100.htm.

9. "Trump Receives Warm Welcome in Coal Country," The Washington Post, May 6, 2016, https://www.washingtonpost.com/video/politics/trump-receives-warm-welcome-in-coal-country/2016/05/06/9259c5ea-1327-11e6-a9b5-bf703a5a7191_video.html.

10. "National Coal Statistics Table," Bureau of Land Management, https://www.blm.gov/programs/energy-and-minerals/coal/coal-data.

11. "Open for Business" Report, The Wilderness Society, http://wilderness.org/sites/default/files/TWS%20--%20BLM%20report_0.pdf.

12. JK Hein and Peter Howard, "Illuminating the Hidden Costs of Coal: How the Interior Department Can Use Economic Tools to Modernize the Federal Coal Program," Institute for Policy Integrity, December 14, 2015, http://policyintegrity.org/publications/detail/hidden-costs-of-coal.

13. Ibid.

14. "Almost $30 Billion in Revenues Lost to Taxpayers by 'Giveaway' of Federally Owned Coal in Powder River Basin," Institute for Energy Economics and Financial Analysis, June 25, 2012, http://ieefa.org/study-almost-30-billion-in-revenues-lost-to-taxpayers-by-giveaway-of-federally-owned-coal-in-powder-river-basin/.

15. "U.S. Natural Gas Wellhead Price," U.S. Energy Information Association, April 28, 2017, https://www.eia.gov/dnav/ng/hist/n9190us3m.htm.

16. Phoebe Sweet, "Once-Notorious Plant Undergoes Cleanup," Casper Star Tribune, February 13, 2008, http://trib.com/news/state-and-regional/once-notorious-plant-undergoes-cleanup/article_37e589e5-c396-571a-841d-b95a5f1cb8de.html.

17. Kyle Roerink, "NV Energy Pulls Plug on Three of Reid Gardner Plant's Four Coal-fired Generators," Las Vegas Sun, December 31, 2014, https://lasvegassun.com/news/2014/dec/31/nv-energy-pulls-plug-three-reid-gardner-plants-fou/.

18. Ibid.

19. "Reid Gardner Station," Sourcewatch, March 15, 2017, http://www.sourcewatch.org/index.php/Reid_Gardner_Station.

20. "Ill Wind: The Secret Threat of Coal Ash," Earthjustice, http://earthjustice.org/video/an-ill-wind-the-secret-threat-of-coal-ash.

21. Kyle Roerink, "NV Energy Pulls Plug on Three of Reid Gardner Plant's Four Coal-fired Generators," Las Vegas Sun, December 31, 2014, https://lasvegassun.com/news/2014/dec/31/nv-energy-pulls-plug-three-reid-gardner-plants-fou/.

22. Ibid.

23. "Nevada Solar," Solar Energy Industries Association, http://www.seia.org/state-solar-policy/nevada.

24. "NV Energy Requests Approval for 4 cents/kWh 100 MW Solar Farm & Early Closure of Coal Power Plant," Clean Technica, September 7, 2016, https://cleantechnica.com/2016/09/07/nv-energy-requests-approval-100-mw-solar-farm-early-closure-coal-power-plant/.

25. "The Price of Electricity in Your State," Planet Money, October 28, 2011, http://www.npr.org/sections/money/2011/10/27/141766341/the-price-of-electricity-in-your-state.

26. "Death and Disease from Power Plants," Clean Air Task Force, March 7, 2017, http://www.catf.us/fossil/problems/power_plants/.

27. Sustainable Energy and Economic Development (SEED) Coalition, http://www.seedcoalition.org/.

28. "Who We Are," CPS Energy, https://cpsenergy.com/en/about-us/who-we-are.html.

29. Tracy Idell Hamilton, "Mercury Emissions Down at CPS Plant," San Antonio Express News, January 27, 2011, http://www.mysanantonio.com/living_green_sa/article/Mercury-emissions-down-at-CPS-plant-980094.php.

30. "Health Effects of Exposure to Mercury," U.S. Environmental Protection Agency, March 6, 2017, https://www.epa.gov/mercury/health-effects-exposures-mercury.

31. Lissa King Magel, "Solar Energy and Texas' Municipally Owned Utilities," Texas Solar Energy Society's North Texas Chapter, May 15, 2017, http://txses.org/solar-energy-and-texas-municipally-owned-utilities/.

32. "As Texas Coal-Fired Power Plants Close, Powder River Basin Mines Are Losing Their Largest Customers," Institute for Energy Economics and Financial Analysis, August 2, 2016, http://ieefa.org/texas-coal-fired-power-plants-close-powder-river-basin-mines-losing-largest-customers/.

33. "Death and Disease from Power Plants," Clean Air Task Force, http://www.catf.us/fossil/problems/power_plants/.

34. "S. 728 RECLAIM Act of 2017," Senate – Energy and Natural Resources, March 27, 2017, https://www.congress.gov/bill/115th-congress/senate-bill/728.

35. "Coal Cleanup Taxpayer Protection Act," U.S. Senate Committee on Energy and Natural Resources, June 16, 2016, https://www.energy.senate.gov/public/index.cfm/2016/6/cantwell-introduces-bill-to-crack-down-on-coal-companies-risky-business-practices.

36. "We Can't Wait" Report, The Wilderness Society, October 6, 2016, http://wilderness.org/resource/we-cant-wait-report.

FALSE PROMISES

Why coal isn't coming back

1615 M Street, NW
Washington, DC 20036
1-800-THE-WILD
wilderness.org