



## Lighting the West, dividing a tribe

For almost half a century, America's largest native reservation relied on coal: for jobs and economic vitality. Now the coal era on the Navajo reservation appears near an end.

By James Rainey Photos & Video Jim Seida Dec 18, 2017

BLACK MESA, Ariz. — Tradition has it that the spiritual forerunners of the Navajo people picked this spot — the high mesa land of the American Southwest — and assured the Navajo they had reached a kind of promised land.

The Diné, or “children of the Holy People,” as the Navajo call themselves, were taught not to stray from the land bracketed by four sacred mountains, where they would never know the earthquakes, tornadoes and other calamities that beset their neighbors. The Navajo scratched out a living from the sparse scrub country and, for centuries, the teaching seemed true enough.

But the arrival of newcomers — first from Spain, then Mexico and, finally, America — thrust the tribe into new cultures and new economies they did not choose. Over the last century, in particular, American settlers and institutions urged the Navajo into livestock ranching, land development and uranium mining, only to end or curtail those industries, leaving the tribe to manage the disastrous fallout.

Now, history's pendulum appears to have swung again. A coal business, dropped into the Navajo heartland a half century ago, is staggering. Electric utilities around America are converting to cheaper natural gas. And the world is turning to cleaner power sources, like wind and solar.

### Coal Mining in the Navajo Nation



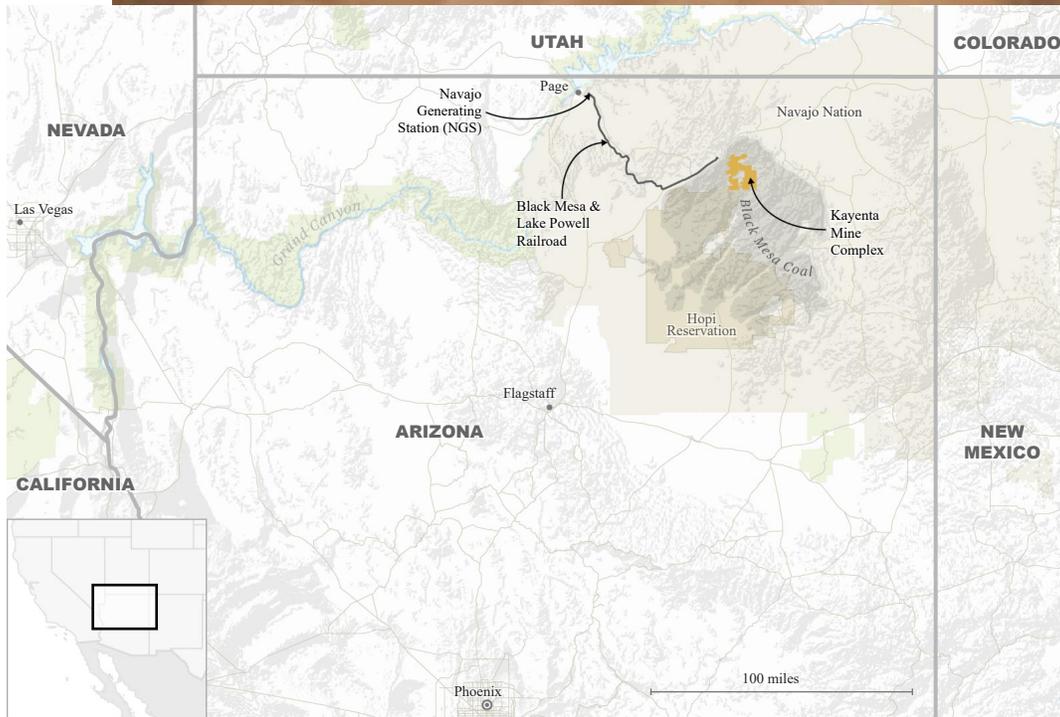
The utility that operates the Navajo Generating Station (NGS) has announced a shutdown would almost certainly

News of those twin blows has rattled the Navajo Nation. President Trump's Interior Department has approved a plan for the neighboring Hopi Reservation that has scarred the land that the tribe has

On one side, tribal supporters are angry about the closure. They hired a top lobbyist who now occupies the Oval Office — for

On the other side, Navajo opponents are angry about the promised in Indian Country and the damage to the region laid a persistent hardship. And coal operations siphoned a

**Industry in the Wild West** A mine and power plant support two tribes



Coal mined at the Kayenta complex in Northern Arizona is piped, by conveyor belt and train, to the Navajo Generating Station. Electricity from the plant helps power the Southwest. Sources: NGS-KMC Project, U.S. Geological Survey, U.S. Census Bureau, OpenStreetMap, Natural Earth

**Descriptions**

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Peabody Energy, the giant multinational company that operates the mine, said it still expects to find a new power plant operator that will continue burning its coal. But the plant operators note that they soon must begin the engineering and planning to take NGS apart and seem to hold little hope the operation can keep going.

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people, many at salaries of more than \$100,000 a year, a small fortune in the depressed economy of Northern Arizona. Another 2,300 jobs in the region are linked to the two major employers.

The financial stimulus also enriches the Navajo Nation, with NGS lease payments and coal royalties contributing roughly one-fifth of the tribe's general-fund budget. For the government of the Hopi reservation — entirely surrounded by the vast Navajo lands — reliance on coal is even greater. Nearly 87 percent of this year's Hopi general budget of \$14.6 million is expected to come from coal-related royalties and fees.

will cancel and close the window.

"How much of that electric line goes to my people?" asked Russell Begaye, the president of the Navajo Nation. "Zero. We don't get any power from this."

The loss of those funds is viewed as disruptive to the Navajo government and debilitating for the Hopi. Services ranging from police patrols, to food banks, to health care for the elderly if the coal money disappears, tribal members predict. Those services help people already operating on the margins. Half of the population does not have a job. About 40 percent of the population lives below the poverty line.

"Our leaders in the past saw this as something we would have for 100 years," Navajo President Russell Begaye said of the coal money. "Now we see that is not the case... At the beginning, it could devastate Navajo."

### 'Not very important country'

The unforgiving land around the Navajo Generating Station repeatedly spawned compromises and odd alliances, none more unlikely than the one that gave birth to the Navajo Generating Station.

In the early 1960s, the modern environmental movement was just coming of age. A signature battle was over construction of a pair of dams on the Colorado River in the Grand Canyon. Environmentalists said that creating lakes in the mile-deep canyon would be like flooding the Sistine Chapel.

Environmentalists succeeded in convincing so powerful Arizona interests needed an alternative. The influential Udall family — Interior Secretary Stewart Udall and his brother, Rep. Morris Udall — came up with a proposal to build a power plant near Lake Powell, where the river had already been dammed, and use it to pump Colorado River water south.

Soil is piled on a previously-mined section of Kayenta Mine to restore grazing and wildlife habitat.

Draglines are the massive earth movers that scrape away soil to expose the wide seams of coal beneath.

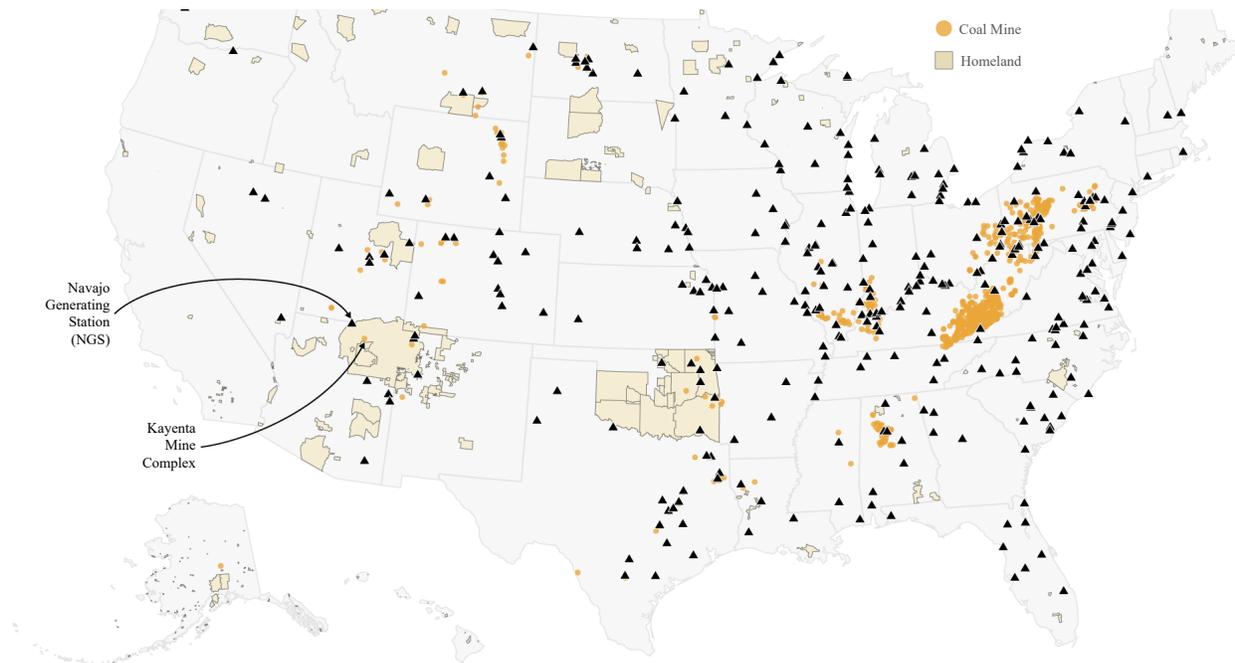
The scheme would turn 100 square miles of Navajo territory into an open-pit coal mine and subject the surrounding region to the sulphur and carbon emissions that come with burning coal. Desperate to save the Grand Canyon, Sierra Club founder David Brower saw that as an acceptable compromise. "That is not very important country," he said, "compared to Grand Canyon."

In recent years, the Sierra Club has tried to come to terms with the consequences of its decision. The organization's magazine this year described the acquiescence to a massive polluter as "shadowy." It said the organization had learned and would never again treat native people so cavalierly.

With environmental opposition pushed aside, the giant power plant rose in a desolate high desert where man's previous footprint had consisted of traditional one-room Navajo homes, called hogans, along with truck stops and the occasional tourist oasis. Today, the concrete and steel power factory looms like an alien spacecraft against a backdrop of red sandstone monoliths that date to a time before human history. White steam mushrooms from three smokestacks, visible for miles in every direction.

From the time of its opening in 1974, NGS did not lack for customers. Utilities from as far away as Los Angeles craved cheap power. The environmental costs received fleeting attention.

### Coal and homelands in America Native tribes join the 'extractive' industries



Sources: U.S. Energy Information Administration, U.S. Environmental Protection Agency, U.S. Census Bureau

But the new millennium brought new concerns and new competitors.

In 2005, another power plant fueled by Navajo coal — the Mohave Generating Station of Laughlin, Nevada — had to shut down after Southern California utilities balked at paying \$1 billion for mandatory air pollution retrofits. The closure marked an early victory in an expanding national campaign to reduce climate-warming greenhouse gases.

As energy companies expanded the use of hydraulic fracturing to free up deep underground deposits, the price of natural gas steadily declined. By 2009, the price cratered, to less than \$3 per thousand cubic feet, compared with the previous summer's high of \$13.

The result, from 2010 until the present, is that half of America's 523 coal-fired electricity plants have either closed or announced they would soon go out of business. The disdain for coal hit the Navajo Generating Station in 2013, when the Los Angeles Department of Water and Power moved to sell its roughly one-fifth stake in the plant. Another stakeholder in NGS, Nevada's NV Energy, signaled the same year that it planned to phase out coal power.

But in 2016, presidential candidate Donald Trump had a different idea. He insisted coal's only real problem was excessive government regulation, campaigning on a pledge to end the "war on coal." Once in office, he canceled the Obama administration's Clean Power Plan, which supported the economy's shift away from carbon fuels. And his regulators pushed a rule that would give advantages to power plants, like those that burn coal, that keep large fuel supplies on site. Backers say the policy would make sure that electricity is delivered without interruption.

#### Navajo Coal & Donald Trump

PAGE, Ariz. — With the inauguration of President Donald Trump, supporters of one of the biggest power plants in the West appeared to gain a friend in the White House.

Tribal leaders saw the Navajo Generating Station, the massive coal-fired electric generating station near Page, Arizona, as a test case for Trump's promise to preserve coal jobs.

But after months of talks and a smidgen of progress with the extension of the plant's lease through 2019, leaders of the Navajo Nation appear to be losing hope that the nation's No. 1 coal fan can keep their operation going beyond that date.

Of Trump's promises on coal, Navajo President Russell Begaye said: "Everything has been, as we say out here, a lot of thunder, no rain."

"He was going to make sure coal was viable part of the energy industry," said Begaye, speaking from a hillside overlooking the towering smokestacks of the plant. "But to this day, we've heard a lot of conversation, we've been in a lot of meetings that has been called by Department of Interior, by the White House, but no commitment to this day has been offered."



farm on what is the nation's largest reservation.

It's not that the Trump Administration hasn't taken action to help the coal industry. The EPA repealed President Barack Obama's signature policy for reducing carbon emissions from coal-fired electric plants. And Energy Secretary Rick Perry is pushing a plan to grant subsidies to energy companies — like coal and nuclear — that keep a 90-day supply of fuel on site.

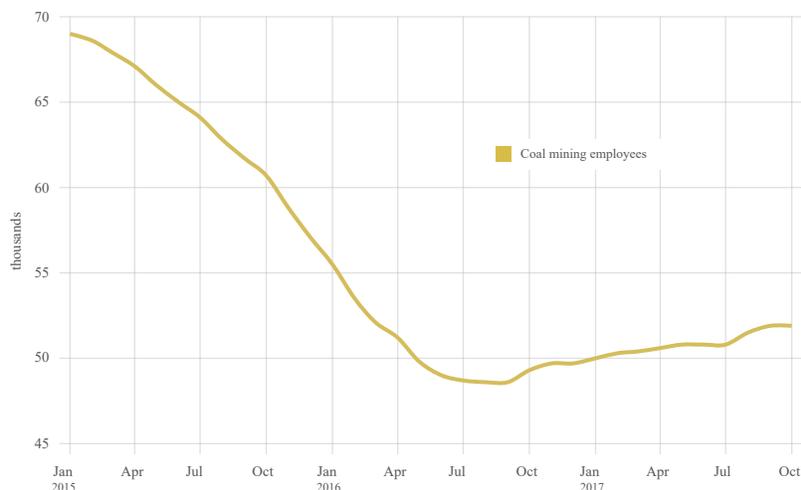
Trump's Interior Department also has supported opening more territory to extraction of carbon fuels like coal. The agency owns part of the Navajo plant through its Bureau of Reclamation. Interior Secretary Ryan Zinke has said one of his agency's "top priorities" is to find "an economic path forward to extend NGS and Kayenta Mine operations after 2019."

The key word in Zinke's statement is "economic." Industry experts say that coal-generated power has become too expensive in comparison to natural gas, which hydraulic fracturing has made abundant. Despite its multiple efforts to prop up coal, the Trump Administration has not yet found one that can make it cheap enough to compete in an open market.

The Interior Department said the lease extension it helped arrange allows time to find a new power plant operator, for the long-term. In a statement, the agency said: "From day one, the Trump administration has been committed to utilizing America's coal resource as a reliable, secure source of energy."



#### An industry on the ropes Coal jobs no longer rest on economic bedrock



All employees, thousands, coal mining, seasonally adjusted Source: U.S. Bureau of Labor Statistics

These decisions have had great appeal to voters in coal country, and to executives in the industry. But they have yet to slow the electricity industry shift away from coal. In October, the flight from the long-dominant fuel accelerated with the announcement that three large Texas coal plants were shutting down.

"Coal is not coming back," said Bruce Nilles, the senior director of the Sierra Club's Beyond Coal Campaign. "This promise that it is coming back is doing a great disservice to people like the workers at Navajo Generating Station, keeping them in an unrealistic state of suspense, when they should be planning for the future."

#### A river of coal and jobs

Today, a virtual river of coal runs for 17 miles on an elevated conveyor belt from the heart of the Kayenta Mine to the towering silos of a depot on the grassland just north of Black Mesa. Empty trains arrive at the depot three times daily, load up, then ship the shimmering black cargo 78 miles northwest to the Navajo Generating Station, where the fuel piles up in small mountains. It is eventually pounded into dust and burned at 1,000 degrees Fahrenheit, 24 hours a day.



Dustin Cornfield, 30, releases loads of coal into rail cars bound from the Kayenta Mine to the Navajo Generating Station. "We're just trying to stay positive," Cornfield says about the mine's closing. "Hopefully, we get a buyer and we can keep going."

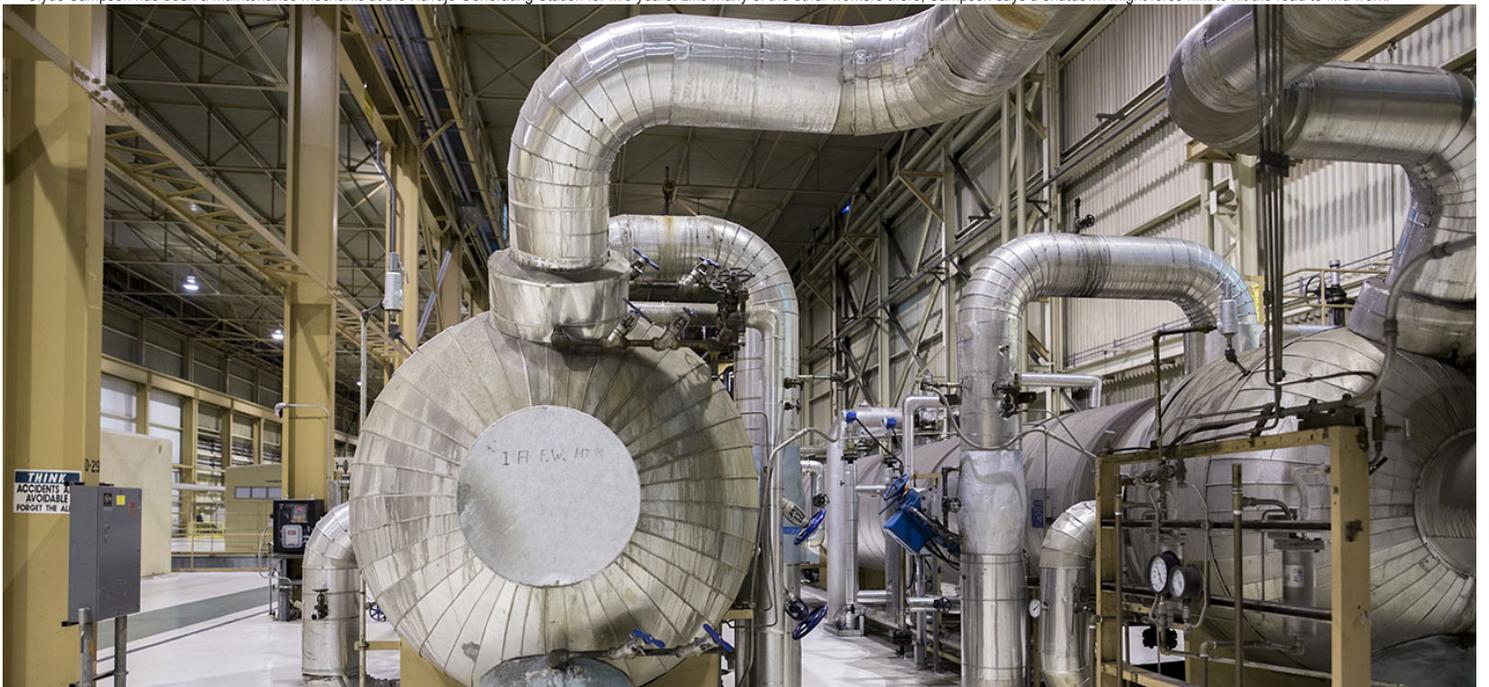




A trainload of coal leaves the silo at the Kayenta Mine and begins the 78-mile journey to the Navajo Generating Station, the largest coal-fired power plant in the West.



Clyde Sampson has been a maintenance mechanic at the Navajo Generating Station for five years. Like many of the other workers there, Sampson says a shutdown might force him to hit the road to find work.





Inside the Navajo Generating Station, these heaters pre-heat water before it enters the coal-fired boiler.

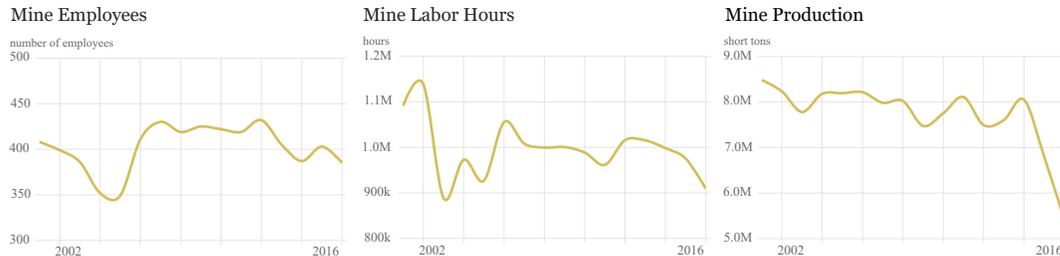
The Navajo lease with the plant operators runs out on Dec. 23, 2019. But as recently as 2012 that date looked like it would be extended. The tribe and its utility partners (Salt River Project, the Interior Department's Bureau of Reclamation, Arizona Public Service, NV Energy of Nevada and Tucson Electric Power) agreed to terms to keep NGS open another 25 years, until 2044.

That deal also upped lease payments to the Navajo from \$860,000 a year to \$32 million annually, according to Begaye, the Navajo president. Importantly, the extension would have given the tribe another 27 years to figure out how to build a post-coal economy.

But with power customers slipping away, the utilities never signed the new lease. The utility that pumps water south said it could have paid \$38 million less in 2016 using cheaper alternatives to coal. A crucial blow came when the Salt River Project (SRP), the utility that helped build modern Arizona and the lead operator of the Navajo plant, said it had locked in 10-year contracts for cheap natural gas.

Navajo Nation leaders like Begaye were floored. They said a shutdown would be ruinous — taking 400 jobs at the power plant and another 325 at the coal mine, the vast majority of them held by Navajos, under employment preference agreements. On the smaller Hopi reservation, then-Chairman [Herman G. Honanie](#) found the potential gutting of the tribal budget so disturbing he said he could not sleep.

#### Kayenta mine workload Reduced use of coal, less work for miners



As customers demanded less power from the Navajo Generating Station, the power plant has needed less coal from its sole supplier, the Kayenta Mine. Source: U.S. Energy Information Administration

Peabody Energy does not intend to go quietly. The company commissioned an economic [analysis](#) that insisted coal could compete with natural gas. A shutdown of NGS, another [study](#) suggested, could lead to power blackouts around the Southwest. (These were [countered by a study](#) that found users would have to pay an extra \$2.4 billion by 2030 if they continued to rely on coal-fired power.)

The coal mine announced in October that “highly qualified potential investors” had expressed an interest in buying out some of the current power plant operators, with the intention to keep burning coal. Peabody said it intended to have new ownership in place by the end of the first quarter of 2018, though it declined to name the partners willing to buck the nationwide trend.

“There are 195 million tons of coal still left up here,” said Audry Rappleyea, a 30-year veteran of western mining, who oversees operations at Kayenta, “and there’s no reason we shouldn’t mine every last crumb of it.”





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But at the plant, most workers seem resigned to the end. The Salt River Project already has a program to find its workers jobs at other locations. And some employees have already moved on.

A Salt River Project spokesman said plans must soon be put in place to tear down NGS's miles of ducts, its mammoth boilers and the signature smokestacks. The important thing, workers here say, is to avoid accidents and to keep the power flowing as long as they can. Stickers on the workers' hard hats sport a new motto: "Finish Strong."

### **A loss of fresh air, abundant water**

To some Navajos, the pursuit of extractive industries like coal mining tears at the very core of their traditional teachings. Black Mesa is considered a female deity. Dynamite, tractors and hulking scoopers known as "draglines" effectively rip at the guts of this sacred figure.

"They are destroying the female," said Percy Deal, an activist with the environmental group Diné Care. "They are interrupting a way of life, a way of religion and harmony and balance between man and nature."

And there are more practical concerns, which environmental activists detailed one day this fall, in a meeting 25 miles south of the mine. They gathered in a remote niche of the reservation, in a hogan, one of the circular homes in which some Navajo still live. After a lunch of tacos on traditional fry bread, the activists took turns describing the trouble NGS has brought to the reservation.

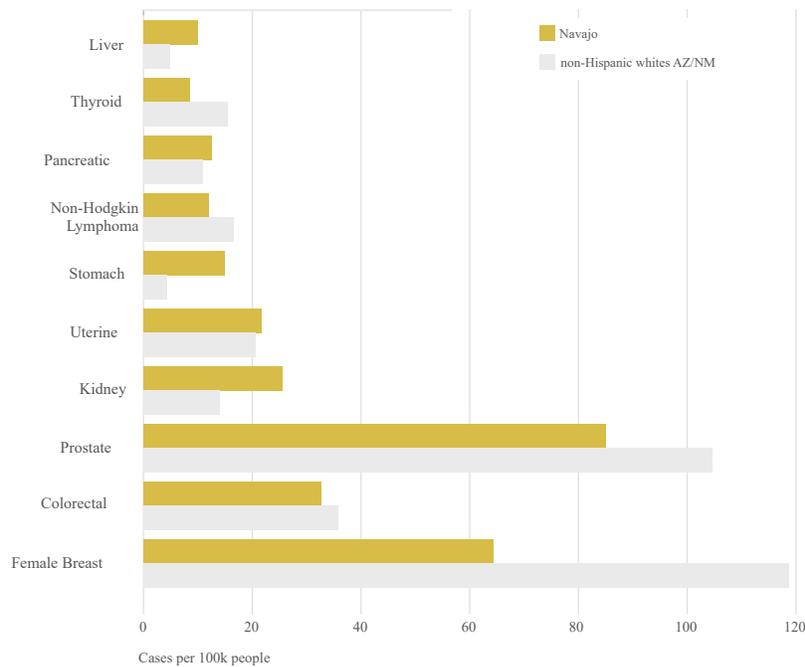


The 2,250-megawatt Navajo Generating Station near Page, Arizona, is the largest coal-fired power plant in the western United States. It has been a mainstay of the Navajo economy for 43 years, but the utilities that operate the plant said they intend to close it in 2019.

Shirley Peaches, a public health worker, read from a yellow legal tablet, recounting the multiple reports of cancer in one rural community downwind from the power plant. A nonsmoker recently came down with lung cancer, another contracted pancreatic cancer and a couple others report malignant growths in their stomachs, Peaches said.

No authoritative long-term health study of the impacts of the power plant's emissions has been undertaken. A [study](#) completed in 2013 found that rates for many cancers, including lung cancer, were substantially lower among Navajos than among whites in New Mexico and Arizona. The report also showed that the Navajo suffered substantially higher rates of stomach, liver and kidney cancers.

**A mixed diagnosis** Most commonly diagnosed cancers among the Navajo<sup>1</sup> compared to non-Hispanic whites, average age-adjusted cancer incidence rates<sup>2</sup>, 2005 to 2013, males and females combined, all ages



<sup>1</sup>American Indian/Alaska cancer incidence data in the six counties that comprise most of the Navajo Nation were used as a proxy for Navajo cancer incidence rates; the counties included: Apache County (AZ), Coconino County (AZ), Navajo County (AZ), McKinley County (NM), San Juan County (NM), San Juan County (UT). <sup>2</sup>Rates are per 100,000 persons and are age-adjusted to the 2000 U.S. standard population. Source: The Navajo Epidemiology Center (NEC) / Arizona Cancer Registry, New Mexico Tumor Registry and Utah Cancer Registry

The Clean Air Task Force, an organization promoting clean energy alternatives, produced a report in 2014 that projected negative health outcomes connected to coal emissions nationwide. It said Navajo Generating Station emissions would cause 12 deaths, 19 heart attacks and 230 asthma episodes annually, above what would be expected without the plant.

A plant spokesman said those projections were not “science-based,” adding that NGS has “some of the most sophisticated pollution control systems in the country.” The spokesman said anecdotes about ill health, tied to the plant, had no basis in science.

“They talk only about how this shutdown is going to impact workers and jobs,” Peaches said. “But they are not looking at the health impacts from the plant, if it keeps going, and how it is really hurting our people.”

Annie Walker, a former academic supervisor for the Bureau of Indian Affairs, said she made home visits to children not able to attend school. She recalled a few with “severe” neurological issues, so debilitating they were bedridden. To Walker, NGS emissions must have caused the illnesses.

By far the most routine complaint about the coal industry is that it consumes a flood of water that the desert reservation can’t afford to lose. The power plant slurps up 32,000 acre-feet of Colorado River water per year for pollution control and cooling, enough to supply about twice that many homes. (An acre-foot is enough water to cover an acre of land with a foot of water, or about 325,000 gallons.)

The Black Mesa Mine, immediately adjacent the Kayenta Mine, once pumped more than 1 billion gallons of groundwater a year, which it used to create a coal and water slurry that was then piped for 273 miles to the now-shuttered Mohave power plant. A couple of years after the mine’s 2005 closure, water levels wells that had been drying out began to increase again, according to the U.S. Geological Survey.





Edith Simonson weaves rugs in the Navajo tradition. She and other weavers worry that native plants, needed to dye wool, are suffering because of a lack of water.



Hopi harvest corn. The tribe gets 87 percent of its general fund revenue from coal and related payments. But some native people worry that burning coal contributes to climate change and drought.

But Navajo and Hopi who live nearby say natural springs in the region have never recovered. Nadine Narindrankura, who farms and raises sheep just north of the isolated community of Hard Rocks, said her extended family has seen paltry harvests from severe drought. And with plants like NGS creating greenhouse gases that warm the earth, the region can only grow warmer, she said.



The host of the activists' meeting was Deal, who has lived here all his life. He is agitated about many of the impacts of the coal industry, but particularly disturbed that the 2,250 megawatts of electricity from NGS travel hundreds of miles to big cities, while one third of Navajo reservation homes are still without power. And 40 percent of homes, including Deal's, don't have running water, meaning a 34-mile round-trip each week to truck in water.

"We feel it's our water," Deal said. "We want it back."

Government officials at the national, state and tribal level say they would like to expand water and electric service across the reservation. But with 180,000 people spread over an area the size of West Virginia, many of the homes are so isolated that laying pipe or electric lines would be prohibitively expensive, they say.

One of the biggest looming fights, if the power plant closes, will be over the 50,000 acre-feet of water that had been set aside for its operation. The Navajo believe they should get the water. But under the byzantine Colorado Compact, which divides the river's water among seven states, the allocation is promised to the state of Arizona. The tribe will have to fight for a share.

The anti-coal group gathered around Deal's table nodded in assent as Ron Milford, a public health worker on the reservation, summed up. "Water is more important than anything," he said. "It's the bottom line for health. It's the bottom line for the economy. It's the bottom line for life."

### The miners who keep the lights on

In May, the U.S. Interior Department — which holds a 24-percent stake in the power plant through the Bureau of Reclamation, in order to pump water across Arizona — held hearings on the future of the Navajo Generating Station.

Filing much of the room at the first "listening session" were rows of workers in matching blue and white "Kayenta Mine" T-shirts. Men, and a few women, took turns talking about how the mine had changed their lives. Many had been itinerant workers, following construction jobs all over the West. But once they landed jobs at Kayenta they could stay home, help raise their kids and become part of the community.

Their fear is not of the unemployment line, but of joining the long parade of Navajos who have had to leave the tribe's homeland. Workers at the power plant expressed the same fears of loss of culture and community.

One tribal member, Lelandolph Watson, has managed to afford a ranch house and three acres in Page, Arizona, thanks to his seven years working at the power plant. He can ride his horse out back and even rope a calf — at least the mechanical kind, towed behind his all-terrain vehicle.

Lelandolph Watson ropes a mechanical calf in the backyard of his Page, Arizona, home. "Everything I ever wanted, I have now," says Watson, a 36-year-old father of three and seven-year employee at the power plant. If NGS closes, Watson expects to move away from a land he loves.

If NGS closes, Watson expects to move to San Diego, where he served in the Navy, or to Phoenix, far away from the outdoor life and rodeos that his ranching family raised him to love. "Everything I ever wanted, I have now," said Watson, a 36-year-old father of three. "For my life, my wife's life and the kids, it's going to be a really big disruption."

No one should underestimate how much their labor spreads benefits well beyond their families, the workers said.

"I tell these guys they contribute every day," said Jarvison Littlesunday, a supervisor at NGS. "They provide the power, the power that makes monitors run in hospitals and lights go on in schools and air conditioning everywhere. That is the stuff that we make."

"How are people going to stay warm in the winter? Coal is what keeps them warm," says Lawrence Gilmore, a truck driver at Kayenta Mine. "They don't look at the health hazard. Out here it's about poverty and hunger."

"I tell these guys they contribute every day," said Jarvison Littlesunday, an NGS supervisor, with a shirt that encourages employees to stay on the job until the end. "They provide the power, the power that makes monitors run in hospitals and lights go on in schools and air conditioning everywhere."

Mine workers said that even some people who oppose coal mining seem to forget their opposition when the weather turns cold. They see the naysayers lining up in Kayenta's public "load out" area, where tribal members are welcome to fill their pickup trucks with loads of free coal to burn in their homes.



“We have given our land all that time for them to make money ... and provided all the water here to turn on their faucets,” Justice said. “Now you want to walk away from all of this? I don’t think that is right.”

Like hundreds of other Navajo miners at Kayenta, truck driver Lawrence Gilmore, 57, could use at least a few more years on the job to get himself to a proper retirement age. With his kids mostly on their own, he would like to spend some of his money to build a retirement home in the hills near Pinon.

Gilmore was as happy as any of his colleagues when he heard the report from Peabody that new owners might be coming to rescue the power plant. “Everything’s not gloom and doom,” he told a visitor. But in the next moment, he recalled a conversation in which he told his 28-year-old son, Quanah, that he could see the mine closing some day.

“It’s probably a good idea,” he said, “to just let it heal.”

On some mornings, Gilmore will pull his pickup to a stop high on Black Mesa. He has been to this scrubby hillside enough that, even in the pre-dawn dark, he can find a familiar pinon pine tree that’s become something like an altar. Facing the tree, not much taller than he is, Gilmore will sprinkle a little white corn meal, an offering for the coming day.

In his native Navajo, he’ll address the mountain underneath his feet. “I thank you for providing for me and my family,” Gilmore will say. “I want safety for everyone. I am not here to harm you.”

A worker at the Kayenta Mine silo blows coal dust and debris off the tracks after a train has left the depot on its way to the Navajo Generating Station.

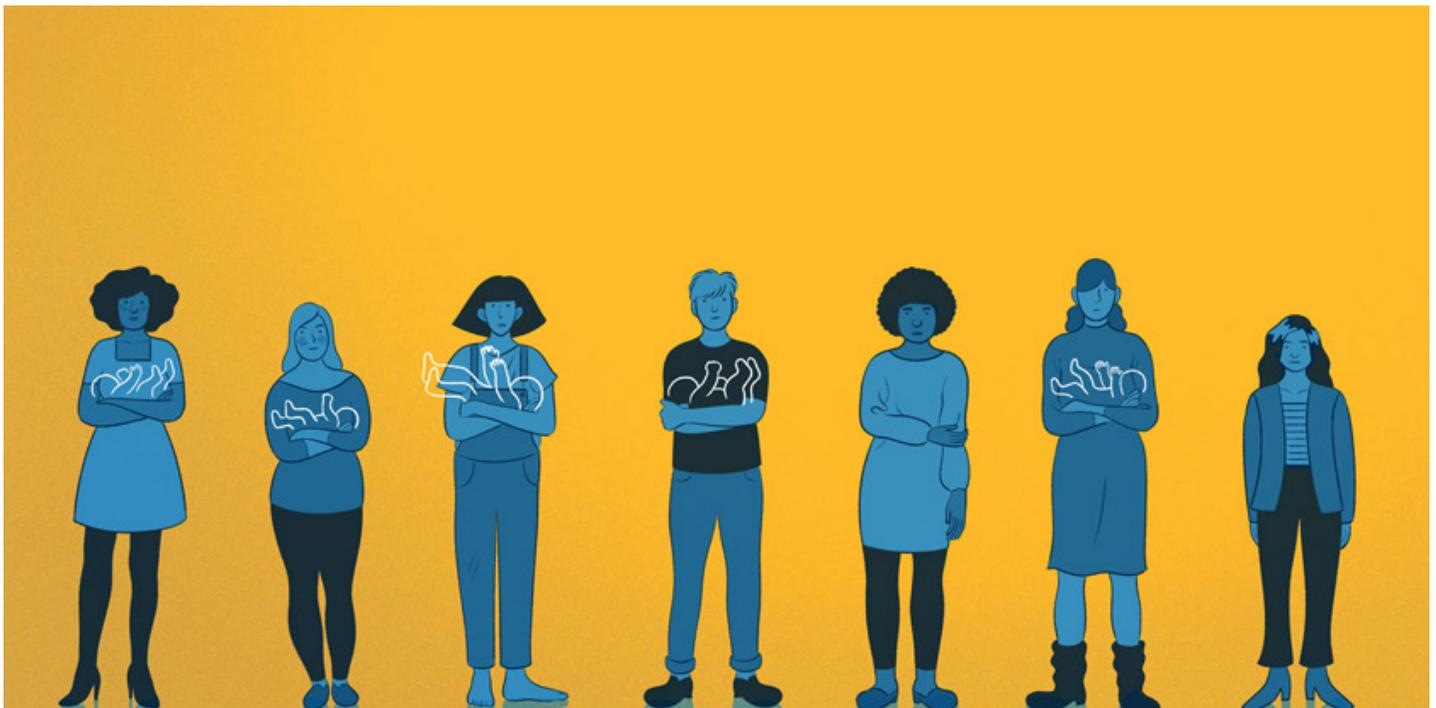
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