



Clean Energy Options for Navajo Generating Station

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Navajo Generating Station (NGS) has been burning a thousand tons of coal per hour, each and every day for nearly four decades. It has also produced billions of tons of air pollution and used billions of gallons of water in the process of providing some of the least costly electricity in the country. This phenomenal consumption of strip-mined coal, clean air, and water is not sustainable.

NGS generates power for the Central Arizona Project (CAP) to pump 1.5 million acre feet of water uphill from the Colorado River to farms, homes, and businesses built in the deserts of southern Arizona. The power plant and coal mines on Black Mesa produce extraordinary economic benefits for distant centers of commerce. They are also among our nation's costliest polluters. They harm people's lungs, waste water, add to climate catastrophes, hurt the region's long-term economic and ecological health, and destroy sites sacred to native cultures.

The Environmental Protection Agency (EPA) has proposed new rules to reduce pollution from NGS as required by the decades-old Clean Air Act (CAA). The U.S. Department of the Interior (DOI) and other NGS owners must decide whether to retrofit the power plant with state-of-the-art pollution controls. Weighing against their decision are accumulating uncertainties that pose unprecedented risks to investing hundreds-of-millions of dollars to keep the aging coal plant running.

We request President Obama to direct his Council on Environmental Quality (CEQ) to initiate a comprehensive evaluation of alternative investments in renewable energy and other options as part of an effective transition plan for the future of Navajo Generating Station and communities affected by NGS and Black Mesa mining operations. The alternative assessment and transition plan would involve Hopi and Navajo stakeholders, DOI, Department of Energy (DOE), Office of Surface Mining (OSM), EPA, and other appropriate agencies and stakeholders.

The purpose of the assessment would be to identify cost-effective alternatives that will reduce and eventually eliminate NGS's pollution and that would better meet the long-term needs of communities affected by NGS and served by the Central Arizona Project. It should include risk assessments of the health and ecological impacts and costs at the current levels of exposures to toxic pollutants, at the current level of operation of NGS and Black Mesa mines, as compared to the health benefits and healthcare cost savings of cleaner air and other benefits— with comparisons among different transition scenarios.

NGS Liabilities

Navajo Generating Station is nearing the end of its original life expectancy. It has been producing low-cost power for Phoenix, Los Angeles, Las Vegas, and Tucson since 1974. It is the primary



source for electricity needed to lift water from the Colorado River and through the 336-mile-long Central Arizona Project canal and distribution system.

The price for electricity generated by NGS is some of the lowest in the nation because it was built with taxpayer assistance and federal ownership (24.3%). In addition, the Department of the Interior and other NGS owners pay relatively little for the land, water, and coal needed to operate it. Nor do they pay for the full life-cycle costs of mining and burning coal, disposing of its waste, and impacts to human health or the environment.

NGS is one of the nation's largest emitters of nitrogen oxide, carbon dioxide, particulates, mercury, and other life-threatening pollutants. Its owners estimate that significantly reducing nitrogen pollution alone will cost more than a half-billion dollars. Paying for the full cost of coal-generated electricity is foreclosing on its economic viability. The power plant is at a crossroads.

Today, higher operating expenses, regulatory uncertainties, and legal, political and environmental liabilities are rapidly erasing every economic rationale used in the federal decision to build NGS during the last century.

Risks to Navajo Generating Station's future include, but are not limited to, the following:

- Nitrogen oxide and particulate pollution impair visibility at Grand Canyon National Park and contribute to regional haze (EPA regulatory actions pending);
- Site lease with the Navajo Nation terminates in 2019 (its renewal cost and other leases for transmission, railroad, and other uses will increase);
- Los Angeles Department of Water and Power (a 21.2 % owner of NGS) has decided to sell its share of the power plant (potentially requiring rate payers from the other five owners to purchase a larger share of the power plant and to assume additional expenses for increasing liabilities);
- NGS operations are allowed to consume as much as 34,000 acre feet of water each year (three times the amount used by a city of 50,000 people) from an over-allocated Colorado River system, which is experiencing declining supplies and increasing demands due to regional growth, extended drought, evaporation, and system inefficiencies;
- NGS owners pay virtually nothing for water used to run the power plant (valued at more than \$30 million annually at rates for water in Flagstaff, Las Vegas, many other municipalities);
- Pending regulation of mercury (a neurotoxin) and carbon dioxide (a planetary threat) and associated cost increases;
- Pending regulation of coal ash as a hazardous waste and significant new costs for disposing combustion byproducts;
- Expiration of the Kayenta Mine lease 2026, when coal supplies are exhausted within the existing lease area;
- Peabody Coal's renewal of its mining permit is stalled (the Record of Decision for its Environmental Impact Statement was vacated on appeal by opposing interests);



- Significant groundwater depletion and contamination due to mining operations and coal slurry (local residents now have to haul water and pay exorbitant fees to Peabody for use of groundwater);
- Peabody's failure to replenish groundwater following its overdraft of the N-aquifer;
- Contaminated surface water from coal mine impoundments and discharges are killing livestock and likely harming people;
- Growing grass-roots and tribal government opposition to issuing new waste water discharge permits from Peabody's mines and impoundments;
- Surface water impoundments are dewatering Moenkopi Wash, resulting in claims that Peabody is violating tribal "reserve water rights;"
- Peabody's "reclamation" of strip-mined areas on Black Mesa is behind schedule and failing to meet established standards;
- Peabody not complying with lease requirements to find alternative source(s) of water;
- Mounting challenges by Hopi and Navajo governments to the terms of coal royalty contracts and to underpriced payments for use of groundwater pumped from beneath Black Mesa;
- Ten-year "reopener" to coal contract remains unapproved by tribes since 2007;
- Increasing pressure by local communities to shut down coal mining operations on Black Mesa due to health and water issues.

Navajo Generating Station owners have suggested that they might be "forced" to close the plant if the Environmental Protection Agency requires them to retrofit NGS with controls to reduce nitrogen oxide emissions. However, this partial list of the aging coal plant's liabilities suggests that its closure is imminent, regardless of EPA's ruling on nitrogen pollution. The multi-million dollar cost of new pollution controls might be better invested in replacing NGS with cleaner energy alternatives.

A Just Transition to Clean Energy

More than a half century ago, Navajo Generating Station was proposed to boost Arizona's economic growth by providing a massive and cheap source electrical power required to pump water from the Colorado River to the desert communities of Phoenix and Tucson. Secretary of the Interior Stewart Udall presented NGS as a political compromise, an alternative to building two more hydroelectric dams on the Colorado River that would have bracketed the Grand Canyon with reservoirs located above Lake Mead and below Lake Powell.

Federal resources and legislation needed to build Navajo Generating Station and the Central Arizona Project were championed by Arizona politicians and approved by Congress and the President. Concurrently, legal rulings and agreements with the Hopi Tribe and Navajo Nation (essential for unfettered access to Black Mesa coal, tribal lands, and water) were brokered by the U.S. Department of Interior and an unscrupulous attorney who "represented" the Hopi Tribe, while secretly being paid by Peabody Coal.



Today, millions of ratepayers benefit and shareholders profit by not paying for the full life-cycle costs of strip mining coal from Black Mesa and burning it at Navajo Generating Station. Promoters promised much-needed employment and coal revenues to economically depressed Native American communities. However, a vast number of people living in this region still lack jobs and essentials such as running water and electricity. And many now live in a polluted and desecrated landscape.

Native people living near NGS and Peabody Coal operations have, for decades, subsidized cheap power and profits by paying “externalized” expenses such as sacrificing their health and way of life. These costs include the forced displacement of thousands of people from homes where they had practiced subsistence living and sustained cultural traditions on sacred lands for generations. Now, many of those who were relocated or who resisted require federal assistance to survive. Or they have died during the prolonged and painful process.

Black Mesa once supplied coal to power the now-closed Mohave Generating Station (located in Laughlin, Nevada). Before its owners decided not to install pollution controls and to shut the plant in 2005, indigenous groups and others advocated for a “just transition” plan to help compensate for costs incurred by local communities and jobs lost by the abrupt closure of one of the mines. We are similarly advocating for just transition strategies toward clean energy alternatives for NGS.

Presidential Leadership is Essential

Unprecedented national leadership and investment of federal resources were required to build the Central Arizona Project and Navajo Generating Station. A similar, but more thoughtful, commitment of national leadership is now needed to repurpose this vast infrastructure into a sustainable system that can meet its original objectives, while establishing equitable economic opportunities for communities that have been adversely affected by NGS and Black Mesa coal mining operations.

Although enforcing Clean Air Act rules is required, unique circumstances in this case present opportunities to redesign and replace a dirty and unsustainable system to meet broader goals. Early in 2012, EPA Administrator Lisa Jackson recognized this opportunity and requested the departments of Interior and Energy “...to collaborate on creative solutions to protect the environment, human health and natural resources, while honoring tribal communities and advancing our nation’s renewable energy future.” Nearly a year later, a joint statement from the Department of the Interior, the Department of Energy, and the Environmental Protection Agency said that the agencies would work together to find ways to produce “clean, affordable and reliable power” while “minimizing negative impacts on those who currently obtain significant benefits from (the Navajo station), including tribal nations.”

The federal government is the largest owner of Navajo Generating Station and the sole owner of the Central Arizona Project. It has a trust responsibility to the tribes and is obligated under the National Environmental Policy Act to consider reasonable alternatives in all major decisions. It must consider cost-effective options to reduce NGS’s pollution and to meet the long-term needs of NGS-affected



communities and CAP customers. These should include replacing electricity, jobs, and revenues derived from coal with clean energy alternatives.

Clean Energy Alternatives

Top-level, executive leadership is essential to coordinate collaborative efforts of federal agencies in developing and financing alternative investments in renewable energy projects as part of a comprehensive and just transition to cleaner energy options. Visionary and deliberate actions are essential.

For the Central Arizona Project, these alternatives might include converting some of the CAP's considerable land and transmission assets into large-scale, solar energy projects as part of an overall strategy to provide clean energy revenues and power to sustain this federally funded water system. The 336-mile long canal and corridor offer unparalleled opportunities to generate large amounts of solar electricity within an area previously cleared of ecological and cultural considerations and that affords access to the electrical grid through distribution lines tied to each of its 14 massive water pumps.

Such a large-scale commitment of existing federal assets would stimulate solar and construction industries as well as the overall economy. In addition, it may be possible to create tribal ownership opportunities to allow revenues from the sale of renewable energy from CAP solar projects to replace some of the royalties lost when NGS closes. Tribally owned water rights might also be considered as collateral for acquiring equity positions in renewable energy projects.

Thousands of acres of reclaimed mining areas located on tribally owned Black Mesa offer enormous possibilities for developing utility-scale solar energy projects. As with the CAP corridor, ecological and cultural clearances were completed long ago, and Peabody has a well-established electrical infrastructure on Black Mesa. The location of these projects also provides employment opportunities for tribal members and potential profit centers for generating tribal revenues.

Other options include vast, sunny, and relatively flat areas located near Navajo Generating Station in Page Arizona and near 500 kilovolt transmission lines and substations found in the southwestern corner of both the Navajo and Hopi reservations. Not only do these areas offer excellent sunlight for generating solar electricity near the existing transmission infrastructure, they may have fewer encumbrances to new development.

Many Navajo and Hopi leaders have already committed to creating clean energy opportunities such as utility-scale wind and solar projects. There are ongoing efforts by both tribes, in partnerships with renewable energy developers, to identify suitable sites. In addition, native-owned renewable energy businesses are emerging to bring wind and solar generated electricity to the more than 20,000 homes located on the two reservations that are not connected to the utility grid and, in so doing, are beginning to train and employ a labor force essential to a clean energy economy.



Timing the Transition

Losses of jobs as well as fees and royalties paid to tribal governments through NGS and Peabody mining operations cannot be replaced overnight if the power plant were suddenly shut down, but they can be offset and benefits expanded over time. Similarly, while neither the ecological damages to Black Mesa itself nor the sacrifices endured by its peoples can be redeemed, an effective transition plan can provide environmental safeguards, protect culture and identity, promote economic vitality, and guarantee the health and well-being of generations yet to come.

We believe that an orderly plan to retire NGS by a specific date makes sense, given the accumulating obstacles that threaten the plant's continued operation. We support the concept of a well-planned, phasing in of cleaner energy projects prior to an orderly phasing out of NGS, provided that replacement revenues and job opportunities are created for Native American communities.

We believe that it is in everyone's long-term interest to support sensible solutions that will:

- phase out and end all NGS pollution,
- accelerate a "just transition" to clean energy options,
- reduce our region's dependence on coal, and
- stimulate sustainable economic development.

We urge all stakeholders to join together in creating a healthier, cleaner, and more just future as we consider strategies to end our region's dependence on a dirty, hazardous, climate changing, and finite source of energy.