

Navajo-Hopi Transition Impact Investment Fund: Four Opportunity Areas

*Plant/Mine Decommissioning; Site Reclamation;
Post-Coal Business Development; Asset
Repurposing*

Overview: A Post-Coal Focus

Navajo Generating Station (NGS) and Kayenta Mines have provided about 800 jobs and roughly \$40 million in revenue to the Hopi and Navajo Tribes. Due to competition from cheaper natural gas prices, falling prices across the renewables sector NGS owners have started the decommissioning process with an eye toward closing the plant in December. Until recently, much of the tribal focus regarding NGS has been on finding a way to keep plant and mine operations going.

Navajo Generating Station

Decommissioning

Equipment and material removal; upgrade buildings to comply with codes and permits; remove or demolish unnecessary assets.

Remediation

Clean up contamination at plant and surrounding area to support new uses.

Kayenta Mine

Reclamation

Several years of removing mining infrastructure and the initial phases of returning the landscape to pre-mining contours.

Land restoration

Long-term work of restoring the land and vegetation and doing environmental monitoring.

Revenue replacement through new business opportunities

Solar power and storage

Build utility-scale solar generation and battery storage, leveraging existing transmission and power infrastructure.

Manufacturing/industry

Plant site may be ideal for other industrial uses like manufacturing.

Tourism, retail and other

Explore other uses, including tourism and retail.

Repurposing NGS and Kayenta Mine assets

NGS

Repurpose existing facilities and power infrastructure for new uses, such as battery storage or other power-industry purposes.

Kayenta Mine

Find new business or community uses for the Kayenta-NGS railroad, mine and plant buildings, and the airstrip near the mine.

With the decision made now to close NGS and Kayenta mine, tribal policy must shift quickly to sensible immediate opportunities that will help ensure that the Hopi and Navajo tribes are in a position to develop solutions that will minimize impacts to their economies. Cleanup work at NGS and Kayenta will take at least five years to complete, by federal government estimates, activity that can create a viable bridge toward a more diversified regional economic base. Additional solutions are immediately needed, however.

Four Opportunity Areas Post-NGS and Kayenta Mine

A prudent five-year transition strategy must support Navajo and Hopi entrepreneurs and must develop the regional business community across **four opportunity areas**:

1. Decommissioning of the NGS and the Kayenta Mine;
2. Reclamation of the power plant site and mine lands;
3. Revenue replacement through community-based business opportunities ranging from utility-scale solar generation to tourism, manufacturing, and retail trade.
4. Repurposing of existing facilities at NGS and of other assets such as the railroad, buildings and airstrip associated with the plant and the mine.

Development across these four key opportunity areas will require significant effort and investment. Beyond initiatives to mobilize entrepreneurs and the supporting workforce, serious need exists for investment in the form of grants and low-interest financing.

We recommend an impact investment fund of at least \$20 million be formed promptly to provide critical capital to Native American-owned contractors bidding on opportunities within the first three areas of start-up/expansion. Such funding will provide joint venture equity to support partnering with experienced larger contractors, purchase of equipment, and crucial cash flow.

Ample and long-term opportunities for contractors and business owners exist now, and it is of paramount importance to move swiftly, as the master contractor at Salt River Project—the main owner of NGS—has already begun decommissioning work at the plant.

Navajo-Hopi Transition Impact Investment Fund capitalization sources would include the former and current owners of the mine and plant, the federal government, foundations, impact investors, opportunity-zone investors, possibly Navajo and Hopi government business development programs, and Treasury Department certified community development finance institution (CDFI) investors. The fund would be managed by an experienced team of strategic organizers able to organize across institutions that include chapter/village councils, local elders, outside investors and companies, and Hopi and Navajo Nation government.

Opportunity Analysis

The opportunities for immediate business and employment development in the imminent closure of NGS and Kayenta Mine are vast.

For example, **Opportunity 1**, involving plant and mine decommissioning, will require advocacy work aimed at power plant and mine owners to ensure local contractors and workers are hired to carry out the work. Many tribal contractors have the requisite skills and can mobilize their companies given the right support and opportunity. A cost-effective solution would also include bonding and insurance for smaller construction firms.

Major reclamation tasks exist now just at the power plant. The following is a list from the September 2017 environmental assessment for an NGS renewal permit application that helps illustrate the scope of work that will be required:

- “Identify all assets suitable for salvage or recycling, such as scrap metals, operating equipment, spare equipment, warehouse stock, process chemicals and fuels, and catenary railroad equipment.”
- “Use a variety of heavy equipment including cranes, loaders, dozers, scrapers, and excavators to implement retirement activities. Use blasting to bring down some structures.”
- “Remove all foundations and concrete structures to no less than 12 inches below final grade.”
- “Remove all hazardous and universal wastes and regulated substances, and drain and remove all fluids from equipment, pipes, and storage facilities.”
- “Remove oil-containing subgrade structures where practicable.”
- “Cap and abandon in place large underground piping and electrical utilities, filling those where traffic is anticipated.”
- “Demolish and remove the overhead catenary system, electrical distribution lines, supporting superstructure, concrete foundations, and transformers for the railroad.”
- “Close and cap in place the solid waste landfill using a minimum of 12 inches of cover soil with vegetation to reduce erosion of the cover.”
- “Transport generated wastes to the existing solid waste landfill or to a newly constructed solid waste landfill designated within the ash (CCR) disposal area but not within the existing ash (CCR) landfill.”
- “Close in place the ash (CCR) landfill in accordance with U.S. Environmental Protection Agency (EPA) rules and regulatory guidance (80 Fed. Reg. 21301; 40 CFR Part 257; EPA 2017f).”

- “Identify the extent, amount, and quality of perched water and develop and implement methods to remove the perched water.”
- “Modify the existing topography to maintain proper drainage and replant native vegetation with a seed mix developed in consultation with the Navajo Nation Division of Natural Resources during restoration following removal of non-retained facilities.”
- “Use the existing (or new) on-site solid waste landfill for suitable inert demolition debris.”
- “Transport and dispose of hazardous materials in compliance with the Resource Conservation and Recovery Act (RCRA; 42 USC §6901 et seq. (1976) and other applicable requirements.”
- “Develop and implement a drainage plan around the remaining structures.”
- “Repair roads damaged during retirement activities and retain perimeter fences.”

The table below lays out the number of available jobs, roughly speaking, and the length of work required around Opportunity 1 (plant and mine decommissioning), **Opportunity 2** (plant and mine reclamation), and the utility-scale solar portion of **Opportunity 3**.

Table 1: Job Opportunities for NGS-Kayenta Post-Closure Operations, Remediation and Reclamation, and Utility-Scale Solar Construction

Required Work	Timeframe
Primary NGS decommissioning/remediation (hundreds of jobs)	5 years
Ongoing NGS remediation (limited jobs) (Ash/toxic waste cleanup)	Up to 30 years
Kayenta mining operations decommissioning (multiple jobs)	1 year
Primary Kayenta Mine reclamation (175 jobs)	5 to 7 years
Ongoing Kayenta Mine reclamation (limited jobs)	7 to 35 years
Utility-scale solar construction 2020 and beyond (at least 1,000 jobs per project for two years; at least three projects over 10 years)	10 years
Utility-scale solar operations – 25 to 35 years each. (limited jobs) across maintenance, panel and vegetation cleanup	35 years

Beyond utility-scale solar, revenue replacement will require investment in infrastructure, community development organizing, joint venture equity finance, start-up and expansion financing, and availability of operating capital. The potential

is endless: Lechee is developing extensive tourism-related products and an off-grid solar joint venture; Kaibeto has recently moved forward with a tourism program and development of a retail area; Cameron is moving forward with tourism and a major farming initiative; Moenkopi is hoping to build a water line and has prime land ready for major retail and lodging.

Much more tourism activity can be built regionally around strategic moves that include transition of the railroad between Kayenta Mine and the power plant in Page, or even highway activity between I-40 and Cameron. A new casino or a large development in any area would create opportunity and competition alike.

How **Opportunity 4** proceeds—the repurposing of the plant, the mine and associated assets—depends largely on the Navajo Nation. Significant investment, partnerships with tribal companies, outside companies, and local chapters will be very important to making the most of the opportunity. There has been discussion, for example, about turning the railroad into a tourism transport system. While the operational cost and maintenance would be challenging, analyze exactly what is possible will require partnership with the affected communities and appointment of a team to find a compatible major investment partner.

This is not a radical idea. A similar railroad connects Williams with the Grand Canyon, and the area has developed opportunities around that project. Antelope Point and Canyon have become major destinations and are now adding lodging. Locals have already provided a vision for development of a major tourist connection loop that would room from Lake Powell/Antelope Canyon to Tonalea to Shonto to Black Mesa to Kayenta to Monument Valley. We also see tourism potential fed by a growing middle class of visitors from China and India.

Visitation to Grand Canyon National Park now exceeds six million annually, and park managers want to encourage visitors to explore other destinations in the area. Kayenta and Monument Valley have large lodging and tourism offerings that can be further developed. Shonto is building a major hotel. Tonalea and Kaibeto are also investing in tourism.

Opportunities for partnership, investment, major entrepreneurial initiatives, and significant revenue are apparent, and become increasingly so in the wake of the NGS and Kayenta closures.

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