



Navajo Nation Kayenta Solar Program (Phase I & II), Arizona

The Navajo Nation in Arizona's Monument Valley, in the State's northeastern corner, is part of the largest Indian reservation in the United States—with approximately 173,000 total members. Ceremonies and rituals are a major part of their culture, especially ones for healing and maintaining harmony and balance with Mother Earth. While the Nation has a rich heritage, 43 percent of tribal members live below the poverty line and the unemployment rate is 42 percent.

Financial Need and Indicative Solution

With their extractable energy sources exploited, the Navajo Nation faced high energy bills and many homes did not have electricity. A new, less expensive energy source was needed. Because living as one with nature and protecting it are important to the Navajo, it had to be clean, renewable energy. Ideally, the energy source would also create badly needed jobs and tax revenue.

The solution that would accomplish all of this was a value capture tribal solar project. A significant amount of available land and a nearby transmission line with extra capacity were required for the project, and the Navajo Nation in Monument Valley had both.

Value capture tribal solar projects tap into the vast potential of renewable energy on tribal lands across the United States. Created by Federal and tribal officials working together, they provide new jobs, economic growth, a reduced carbon footprint, and greater self-sufficiency—with significant energy savings that are reinvested into tribal community programs. These projects can generate so much revenue for reservations, they have been described as the “new casinos.”

Navajo Nation Kayenta Solar Program

On December 16, 2015, the Navajo Tribal Utility Authority (NTUA) announced it would work with the Salt River Project (SRP), a community-based nonprofit utility serving the Phoenix area, to develop the Navajo Nation Kayenta Solar Program near Monument Valley. This was its first two-phase utility-scale solar plant.

The cost for Phase I was \$61 million, with \$55 million for construction and \$6 million to interconnect the solar farm with the grid, and the cost for Phase II was \$42 million for construction. There was no cost for interconnection because this was already set up in Phase I.

Phase I began in 2016 to supply electricity to an estimated 18,000 homes in the Navajo Nation. NTUA contracted with Isolux Corsan to create a 27.3 megawatt (MW) solar plant on 198 acres outside Kayenta, Arizona. This included building the solar project and training approximately 200 Navajos in the high-level technical procedures required to assemble and install the plant's tracker and foundation system.



NTUA used a financing model that created a for-profit taxable entity to use the Federal solar investor tax credits and a two-year power purchase and renewable energy credit agreement with SRP, covering the loan repayments for the plant's construction.

Phase I generated over \$3 million in taxes to the Navajo Nation and the first year's tax revenue exceeded \$200,000. Over 30 years, the project is expected to generate nearly \$7.6 million. At the height of construction, 85 percent of the nearly 300 project workers were of Navajo descent. Many long-term solar and maintenance jobs for Navajo people were also created. Phase I paid \$5.2 million in construction and generated \$15.6 million in economic activity, which helped pay for the installation of electricity in Navajo homes.

Phase II, which had solar panels installed by Swinerton Renewable Energy, opened on September 20, 2019. It creates an additional 27.3 MW of energy, enough to power 36,000 homes. Construction created 150 jobs, with 90 percent going to local Navajo people, and generated \$15.5 million in economic impact and \$3 million in taxes to the Navajo Nation. The first year's tax revenue exceeded \$200,000, with a 30-year total estimated at nearly \$7.6 million.

The total power generated by both phases is 56 MW. The power stays within the Navajo Nation and the community has a new energy workforce with 4,700 hours of specialized solar training. The increased revenue helps fund the *Light Up Navajo* initiative that brings power to families without electricity and allows the community to increase scholarships and internships for Navajo students.

Based on the Kayenta Solar Program's success in offering electricity to 233 families, NTUA set a new goal of connecting 300 families to the power grid. NTUA and SRP signed a long-term solar confirmation to develop at least 500 MW of renewable energy projects over the next 5 to 10 years.

Sources:

[American Public Power Association – Opening of Kayenta Solar Facility](#)

[U.S. Department of Energy – Kayenta Solar Presentation](#)

[Goodnet – Navajo Nation's First Solar Project](#)

[GX Contractor - Project Profile: Kayenta Solar Facility](#)

[Grist – Sun's Up](#)

[KNAU - Kayenta Solar Project](#)

[NTUA – Press release](#)

[Office of Scientific and Technical Information – An Assessment of the Potential for Utility-Scale Solar Energy Development on the Navajo Nation](#)

[Soltec – Kayenta Case Study](#)

[NativeBusiness Mag – Navajo Nation's Renewable energy Future Takes Big Step Forward With Completion of Kayenta Solar II](#)