

2020 Light Up Navajo Information





From the desk of the General Manager

Light Up Navajo II is Mutual Aid without the Storm

Greetings,

On behalf of the Navajo Tribal Utility Authority and the Navajo people, I am sending you this thank you letter for your interest in Light Up Navajo II.

In 2018, we partnered with the American Public Power Association (APPA) to create an innovative, pioneering project to connect the homes of Navajo families to the electric grid. In the spring of 2019, a pilot project was initiated and called Light Up Navajo! It was held from late March to Mid-May 2019.

I am very happy to report Light Up Navajo (LUN) was a tremendous success. Through LUN, 233 Navajo families now have access to electricity. The successful outcome of the pilot has now led to Light Up Navajo II because there is still a tremendous need. Thousands of Navajo families are still not connected to the electric grid.



While they were here, many of the LUN Volunteers could not believe that there were still American people living without electricity in the United States. Within the timeline of the LUN pilot project, they witnessed families flipping light switches for the very first time. They heard the heartfelt emotions – family members speaking with tear-filled eyes saying “thank-you” over, over, and over.

These LUN Volunteers saw that the countless prayers of these families had been answered.

While the lives of 233 families have been dramatically changed, there are thousands of other families who are still waiting. An estimated 15,000 families are still without basic electricity. Thanks to the LUN pilot project, we now have a blueprint for connecting homes at an expedited pace.

Based on the lessons learned from the LUN pilot we have put together a more affordable and efficient Light Up Navajo II. Our goal is to connect at least 300 families to the grid and we are sending a call out for Volunteer electric line crews.

NTUA’s mission is to enhance the quality of life for Navajo people. With an unemployment rate of 48.5% (9 times the National average) on Navajo and 38% of the Navajo people living below the poverty line, financing the cost to construct electric service is secondary to meeting their basic needs of food, medicine and shelter.

It is with these challenging facts that I appeal to your compassion and respectfully request that you become a LUN II partner. Light Up Navajo has not only made a life lifting impact on the Navajo people but also the Volunteers and their Communities. Mike Hyland with APPA had described LUN as “Mutual Aid without the Storm”.

We sincerely hope that you and your company will join us and be a part of LUN II in 2020. The following pages will provide you the basic information about the upcoming project and Volunteer line crew participation. Your interest today has demonstrated the true humanitarian American spirit – people wanting to help people.

Thank you & May God Bless You.

Sincerely,

A handwritten signature in black ink that reads 'Walter W. Haase'.

Walter W. Haase, P.E.
NTUA General Manager



Light Up Navajo II Request for Volunteer Electric Line Crews

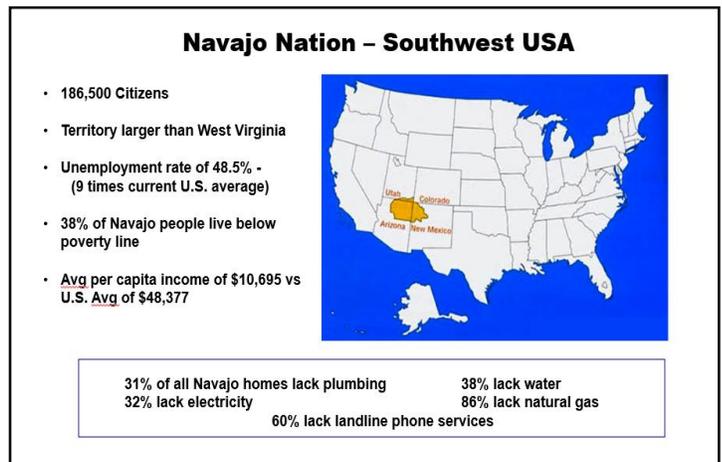
In Spring 2019, the Navajo Tribal Utility Authority (NTUA) partnered with the American Public Power Association (APPA) to connect Navajo homes to the electric grid, creating an innovative, pioneering project called Light Up Navajo (LUN). It was modeled much like the concept of providing mutual aid. The pilot resulted in 233 families being connected to the electric grid for the very first time.

Based on the success of the LUN Pilot Project, NTUA will host Light Up Navajo II. We want to provide the same opportunity to families still waiting for electricity. With the help of your electric line crew, Light Up Navajo II (LUN II) will again fulfill hopes and answer countless prayers.

NTUA History: The Navajo Tribal Utility Authority was created 1959 by Navajo tribal leaders to meet the utility needs of the Navajo people. Currently, 15,000 families on the Navajo Nation currently live without electricity.

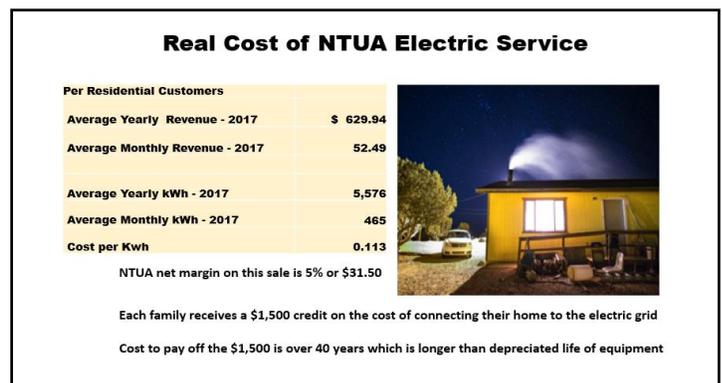
Navajo Nation reality. The slide to the right are some key statistics pulled from the 2010 U.S. Census. NTUA clearly has incredible challenges.

Over the past 11 years – NTUA has connected an average of 474 homes per year. Even as a not-for-profit – NTUA contributes \$1,500 to each new connection. To connect all homes is a huge goal and a necessity. NTUA works tirelessly to help families get electricity.



Cost of Electricity: Many times NTUA is questioned about undertaking the financial task of connecting the 15,000 homes. The slide to the right shows that in 2017 an average residential customer paid \$630 per year for electric services.

As you can see, the net margin is \$31.50. The depreciated life of the equipment is 40 years. NTUA will never recover the contribution cost.



Cost of electric connections: The cost to connect one family averages \$40,000 home; thereby costing NTUA \$600 million to connect 15,000 families, including \$350 million for transmission and substations.

The total price would be an estimated \$1 billion to connect 15,000 families to the electric grid. Even if NTUA were to borrow the necessary capital with a zero percent interest rate – the average NTUA residential bill would go from \$630 per year to over \$6,000 per year.

In the last three years - the average cost to connect one family - \$40,000

- > 15,000 families without electricity @ \$40k = \$600 million
- > \$350 million for transmission lines and electric substations



> \$950 million to \$1.0 Billion to connect all 15,000 families

To connect all families in 10 years with borrowed money from RUS over 40 years - @ zero interest rate

The average annual NTUA residential bill - will go from \$630 per year to over \$6,000 per year

NTUA customers could not afford that increase. Taking this route would create a man-made disaster on the Navajo Nation.

Partnerships Make Progress Possible

The success of the Light Up Navajo Pilot Project is largely due to communities who sent linemen and equipment to extend power lines to homes of Navajo families. The added resources we received from companies was incredibly tremendous – therefore - we are again requesting the same assistance for the LUN II.

We are focusing on a specialized labor force and crew composition for LUN II, specifically a crew of four (4) comprised of a Foreman and Journeyman Linemen. Apprentices are welcomed when accompanied by their Foreman or Journeyman.

If you are unable to send a crew of four (4) lineman, then we have the ability to merge or combine a smaller crew or individuals with another volunteer linemen crew of the same composition. Our community projects will require a large work force due to the length of the power lines. In these situations, we may have Volunteer Crews join forces to build the project. Any help is very much appreciated.

Our goal is to have four crews per week to participate in Light Up Navajo II. Work sites will be throughout the Navajo Nation. LUN II is scheduled to run 12 weeks, beginning April 6 and ending June 26, 2020.

	Crew 1	Crew 2	Crew 3	Crew 4
Week 1				
Week 2				
Week 3 etc.				

Joining Light Up Navajo II

Light Up Navajo was modeled after the mutual aid concept and launched as a pilot project. Like with the pilot, NTUA can not provide compensation for labor or equipment, nor will insurance coverage be provided.

We will however provide lodging and meals for the Volunteer Crews during their stay, beginning from the day of arrival and ending the day of departure from the Navajo Nation.

Entities can begin signing up for spots after the planning meeting October 1-2, 2019. Should your entity decide to be a part of LUN II, we ask that you notify us to reserve your place by November 6, 2019. Priority will be given to Volunteer Crews who commit to two or more weeks.



2019 LUN crew in Western Navajo

We ask that you identify a primary contact person for your company. This individual will serve as the liaison between NTUA and your entity to relay information on the registration process for the crews, equipment and logistical information (i.e. itineraries, flight information).

Each volunteer will need to complete registration forms and submit documentation (i.e. identification, liability release, medical coverage etc.). The registration process will take place from December 2019 to January 2020.

Gearing Up to Travel to the Navajo Nation

Due to the terrain on Navajo, much of the electric line construction will be work on the pole; therefore the linemen should bring their climbing gear including, FRC clothing and tools. There will be situations where the terrain may obstruct the use of bucket trucks.

Each crew will need to be outfitted with the below equipment. NTUA will ask you to complete an equipment survey - which will help determine if additional equipment is needed for the crews.

60-ft Bucket Truck
Two Utility Trucks

Pressure Digger
Pole Trailer

Digger Derrick

Most of the work on Navajo is off road. If you are sending your equipment with your crews, we highly recommend units be equipped with 4-wheel drive. You will be responsible for insuring your equipment.

Typical Work Week for Volunteer Lineworkers

If the Lineworkers are traveling to the Navajo Nation by vehicle they are expected to arrive at their designated hotel on the Navajo Nation on Saturday. Should your crew require transport from an airport, we can shuttle them from Albuquerque, New Mexico, which is approximately 171 miles (2.5-hour drive) from NTUA Headquarters. It is the closest major airport to the Navajo Nation. If they are flying in they will be picked up from the Albuquerque Sunport Airport by NTUA personnel on Saturday.

Sunday Arrival: On Sunday the volunteers will meet for breakfast. NTUA will provide a three-hour orientation session. The orientation sites will be strategically located, based on your travel route to the Navajo Nation and your Monday morning worksite location.

Orientation topics will include: safety & emergency procedures, logistics, cultural awareness, construction information and objectives of the project. After the orientation, the Volunteer Crews and their NTUA liaison (a Foreman), will drive to their lodging establishment for the week.



Scene from Sunday Orientation

Work Week: The workday will begin Monday morning at 7 A.M. departure from your hotel and will end daily at 7 p.m. back at the hotel. Project sites will likely be in a remote rural areas, though there may be projects located within a community or nearby a community. Visiting crews should expect to travel over an hour to get to most project sites. Daily lunches/snacks will be provided at the job site. If Lineworkers volunteer for more than one week; Friday and Saturdays will be full 12 hour work days. Sunday work will be optional.

Construction projects: Construction is primarily single phase (14.4 kV) with a service line drop or just a service drop to the home. Bucket trucks may not be used most of the time due to the sandy terrain; therefore, climbing poles is necessary.

The Volunteer crew will work along the side of our NTUA Line Foreman. Because of the remoteness of project sites and the language barrier with customers (Navajo speaking only), it's important that a NTUA Line Foreman accompany the visiting crew at all times.

Expressions of Gratitude: It is customary of the Navajo People to give thanks and express their gratitude for the services they receive.

We will provide them this opportunity to share and express their gratitude to the Volunteer crews during an appreciation dinner that will be held every Thursday evening within the local community served. The work day will end early on Thursdays to allow the crews travel time to the appreciation dinner.

The Last Day: The last work day on Navajo will likely be short. This will allow time for the visiting crew to prepare for their return home.



Tears of Gratitude. The Lynch family has been waiting over 20 years for electricity

Planning Meeting Set for October 2019

NTUA will host a Planning Meeting on October 1-2, 2019 in Window Rock, Arizona for those interested in participating in Light Up Navajo II. This meeting is not mandatory, especially for groups who were part of the Light Up Navajo Pilot Project.

The purpose of the meeting will be to present the overall objectives of Light Up Navajo II, share the success of the Light Up Navajo Pilot Project, share information about our utility and its infrastructure, share the dynamics of the project and the processes, and visit a project site in construction and a family receiving electric service for the very first time.

You can call Shannon Burnette to register for the Planning Meeting scheduled on October 1, 2019. Her number is 928-729-6248. We will also have webinar teleconferences October 23, 2019, November 20, 2019, December 18, 2019, January 22, 2020 and February 26, 2020.

The webinar teleconference is designed to present or inform you of the process for completing your registration and the forms, provide you contact information, logistical information (lodging, meals, shuttles), and project schedules. Your entity will also have the opportunity to ask questions to items we may have not discussed. In the meantime, if you have any questions, please contact Shannon Burnette at 928-729-6248, shannonb@ntua.com or Deenise Becenti at 928-729-6221, dbecenti@ntua.com.

October LUN II Planning Meeting Agenda

Light Up Navajo II
Planning Meeting Agenda (TENTATIVE)
Day 1 - October 1, 2019
10:00 A.M.

Welcome to NTUA – Introductions
Review of Light Up Navajo Project
Project Planning and Schedule
Logistics
Meeting Adjourned

Light Up Navajo II
Planning Meeting Agenda (TENATIVE)
Day 2 - October 2, 2019
8 A.M.

Carpool or meet shuttle to the project site
Project site or Field Tour
End of Field Visit



Contact information about participation and/or donation to Light Up Navajo

Should your utility be interested in sending a crew to the Navajo Nation to be a part of LUN 2020, please contact:

**NTUA Deputy General Manager
Engineering Division**

**Srinivasa Venigalla
928-729-6281
srinivasav@ntua.com**

**Light Up Navajo
Project Administrator**

**Shannon Burnette
928-729-6248
shannonb@ntua.com**

Tax deductible donations can be made as a financial contribution or equipment shipped to the Navajo Tribal Utility Authority. You can also mail checks payable to:

NTUA Light Up Navajo

**Navajo Tribal Utility Authority
ATTN: Thomas W. Nelson, CFO
P.O. Box 442
Window Rock, AZ 86515**

Or contact:

**Chief Financial Officer
Tom Nelson
928-729-6211
Email: tomn@ntua.com**

**Administrative Coordinator
Alvina Reid
928-729-6125
alvinar@ntua.com**

For any other information: visit www.ntua.com – Light Up Navajo

Or contact:

**General Manager
Walter “Wally” Haase
928-729-6201
walterh@ntua.com**

**Public Affairs Manager
Deenise Becenti
928-729-6221
dbecenti@ntua.com**

Navajo Tribal Utility Authority Light Up Navajo II

Extending electricity to hundreds of Navajo families



The Navajo Tribal Utility Authority (NTUA) has continuously served the Navajo people for nearly six decades. The NTUA was established by Navajo leaders on January 22, 1959, to address the absence of utilities on the Navajo Nation. The NTUA is organized for the operation, maintenance and expansion of electric, communications, natural gas, water, wastewater and generation, including residential solar services for the Navajo people at a low and reasonable cost. The fundamental goals of the NTUA are to improve the health and welfare of regional residents, create employment opportunities, and raise the standard of life on the Navajo Nation.

#LIGHTUPNAVAJO II Another Year to fulfill Hopes and answer Prayers



During April and May 2019, a total of 138 volunteers from 28 communities and 13 states traveled to the Navajo Nation to work alongside NTUA linemen to bring electricity to families who have been waiting for many years. Within seven weeks, the burden of having no electricity was erased for 233 families.

“The Volunteers who helped us imagined a life without electricity for television, computers, cell phones or refrigerators,” said NTUA General Manager Walter Haase. “Realizing these real-life, present day situations they decided they were going make a difference. With the financial support of their communities, they did.”

Based on the outcome of the 2019 Light Up Navajo Pilot Project that successfully extended electricity to 233 families, NTUA will host another year to positively change the lives of families still waiting for basic access electricity.

Life has indeed dramatically changed for Light Up Navajo Pilot Project families who enjoying the basic modern conveniences like refrigerated food, electric heating, air conditioning, and televisions. They are making coffee or toast at home for the first time ever. As another school year begins, their children or grandchildren now study without kerosene lamps, candles, or flashlights.

“We prayed for electricity for so many years because Navajo life can be hard,” said Phyllis Littlefoot, of Tonalea, Ariz., who waited more than 10 years for electricity. “Now that we have power, we can go shopping for a week at a time.”

Project built upon Conversation leading to Partnerships & Teamwork

The Light Up Navajo Pilot Project was created from conversations NTUA General Manager Walter Haase had with members of the American Public Power Association (APPA). In 2017, he was Chairman of APPA. He spoke at various events and during his speeches – he shared the NTUA challenges of extending electricity to homes without. Utility representatives were astonished to hear that thousands of families within the United States are living without electricity.

“APPA has a mutual aid program that sends electric crews to areas hit by natural disasters like hurricanes and tornadoes,” Haase said. “It was suggested that the same model could be used to deploy crews to the Navajo Nation under the banner Light Up Navajo.”

“The Pilot Project set the foundation and provided us with a blueprint of how we can extend electricity at an accelerated pace he said. “We want to help other families in need of electricity and with the help of our sister utilities, we certainly can.”

About the Navajo People

The Navajo Nation is the largest Native American tribe in the United States with an estimated population of 300,000 people; approximately 190,000 reside within Navajo territory. The landbase is comparable in size to the state of West Virginia; it spans over 27,000 square miles and occupies portions of northern Arizona, northwestern New Mexico and southern Utah. The Navajo Nation is a Nation within a Nation.



It's important to Navajo families to maintain traditional ties to the ancestral land. The homes are in very remote areas and the core of the family, or the elders, maintain the family homesteads where their families have lived generations. Historically, Navajo people have a traditional economy based upon farming and grazing of livestock. This practice has continued into modern times, especially among the elders. A consequence of this practice is that Navajo people often live on large parcels of land, creating significant distances between neighboring homes, producing the lowest number of utility customers per mile in the U.S. and a high cost of providing service. As a result, it is often cost-prohibitive to provide utility services to individual homes on much of the Navajo Nation. Therefore – the work to connect electricity to families living in rural areas is great but funding is limited.

Connection to Electric Power will help make Life easier

On the Navajo Nation, approximately 15,000 homes do not have electricity. This contributes to the 75% of all households in the United States that are without electricity. NTUA continues to collaborate closely with Navajo Nation Chapters (like local municipalities) to seek funding for their power line projects. Although we made some progress to bring electric service to families throughout the region, there is still a tremendous need.

Our Mission is to improve the quality of life for Navajo families. With an unemployment rate of 48.5% (9 times National average) on Navajo and 38% of the Navajo people living below the poverty line, financing the cost to acquire electric service is secondary to meeting their basic needs of food and shelter. NTUA continues to explore other avenues to bridge the gap. Seeking altruistic activities like corporate volunteering is an avenue that would impact and improve the lives of the Navajo people.

To connect all homes is a daunting goal to meeting this goal requires solutions that are innovative and pioneering. Through the Light Up Navajo initiative, the platform to energize more homes will continue in 2020 under Light Up Navajo II or #LIGHTUPNAVAJO2.



Most housing on the Navajo Nation is comprised of mobile homes, modular buildings, and standard homes



- 32% lack electricity
- 31% of all homes lack complete plumbing
- 38% lack water services
- 86% lack natural gas services
- 60% lack landline tele phone services.

In addition to 15,000 families without electricity – there are 18,000 Navajo homes without running water. There are more people without natural gas service. There's only eight thousand served by natural gas. On the communications side, only forty percent of homes have access to a landline phone in their home. Sixty percent don't have a landline. This reality on the Navajo Nation. Electricity can change these disheartening numbers

How you can Help



We have set up a tax deductible donation process for this worthwhile and meaningful project. Extending electricity to one household is an expensive endeavor. Each household, on average, requires 1 transformer, 0.6 miles of wire, 9 powerline poles, 16 insulators, and 2 arrestors to connect to the electric grid. This amounts to an average material cost of around \$5,500. We ask for your help to provide or cover the cost of the materials to connect the homes of families for the very first time. Your charitable donation will be used to purchase electric connection materials and supplies, including offsetting the lodging costs for the visiting volunteer utility crews. We thank you for your consideration and your generosity. Ahe'hee' (which means with deepest gratitude in Navajo).

“Now I don't have to worry...”, “The darkness has lifted...”



< Grandma Nez received electric power in May 2018 after waiting more than 20 years.

Meanwhile, 55 miles away > another elderly Grandmother is waiting to be connected to electricity. She's been waiting more than 30 years.



For More Information:
www.publicpower.org/LightUpNavajo

Contacts:

Srinivasa Venigalla – 928-729-6281 or SrinivasaV@ntua.com

Lester Lee – 928-729-6223 or lesterl@ntua.com

Deenise Becenti – 928-729-6221 or dbecenti@ntua.com

Shannon Burnette – 928-729-6248 or shannonb@ntua.com



Tax deductible donations can be made as a financial contribution or equipment shipped to the Navajo Tribal Utility Authority.

You can also mail checks payable to:

NTUA Light Up Navajo

and send to the following address:

Navajo Tribal Utility Authority

ATTN: Thomas W. Nelson, CFO

P.O. Box 442

Window Rock, AZ 86515

2019 Light Up Navajo Media Coverage



'I used to stay here in the dark': Utility workers from across the country light up the Navajo Reservation



A brighter future for Navajo families now connected to the grid

Fullscreen

Herman Lynch watches Navajo Tribal Utility Authority and Salt River Project crews, May 13, 2019, hook power up to his home in Oak Springs, on the Navajo Reservation.

OAK SPRINGS — At the sound of a click, Ella and Herman Lynch’s house was connected to electricity after 19 years.

“Yes!” Ella shouted after the utility meter was connected outside her home. She eagerly turned on a light, powered for the first time by power lines instead of a generator or propane.

“Ahhh, look at that,” she said happily, pointing at the ceiling light. “We can walk around in here all night long.”

“We did it!” she said to her son, Thurman, with a hug and a huge smile as she started to cry. Her husband, Herman, walked up beside her and pulled her into a tight embrace.

“I’m crying because we had no lights, I’m so happy that we have our lights,” she said wiping the tears from her face as she looked at the utility crew. “Thank you so much.”

Workers with the Navajo Tribal Utility Authority and the Salt River Project worked for over eight hours to connect the home to power in Oak Springs, Arizona, on the Navajo Reservation. They installed three power poles, connecting the house to existing power lines over 600 feet away.

The work was done as part of Light Up Navajo, a pilot project launched by tribal utility authority and the American Public Power Association, with a goal to bring electricity to 300 homes over six weeks.

Light Up the Navajo Nation

The project was the brainchild of Navajo Tribal Utility Authority's general manager Walter Haase. In 2017, he traveled across the country giving presentations about the authority and its efforts to connect Navajo families to the grid. Haase is the immediate past chairman of the American Public Power Association, which advises more than 2,000 public utilities on electricity policy, technology, trends, training and operations.

After his presentations, people often said they had no idea families were still living without power and then asking what could be done.

“Those questions led to a bigger conversation with APPA,” said Deenise Becenti, government and public affairs manager with Navajo Tribal Utility Authority.

The Light Up Navajo project was partially inspired by an American Public Power Association mutual aid project that sends public power crews around the country to restore electricity when extreme weather hits. The concept of Light Up Navajo is simple: provide electricity to families without it. It builds on the idea of mutual aid, bringing partnerships beyond singular events to an ongoing initiative.

“It's the first time a project of this sort has ever been done here in the U.S.,” Becenti said.

Every week, visiting utility crews from across the U.S. were paired with Navajo Tribal Utility Authority crews and sent to various locations across the Navajo Reservation. It took the tribal utility authority more than a year to prepare for the project, working with families from 63 different Chapter Houses in 70 communities. There are 110 chapter houses across the Navajo Reservation acting similarly to a local government for communities.

This project is truly impacting lives, Haase said, because the crews are not just building these power lines for one family, they're building it for future generations.

On the Navajo Reservation, approximately 15,000 families do not have electricity, according to the tribal utility authority. Assuming there are about four people per home, that's about 60,000 people without electricity.

Becenti said the crews from seven districts across the Navajo Reservation normally hook up 480 homes a year. The effort from Light Up Navajo will push them well over their yearly average.

The Lynches and other selected families have been on a waiting list to get connected and were “shovel ready,” meaning all the required paperwork was done and fees covered. Becenti said families can wait anywhere from 5 to 10 years before they can be connected.

Living without power

The Lynch home is located right off Indian Route 12 in Oak Springs, about 35 miles west of Gallup, New Mexico. In 2001, the family moved from Hunters Point to a home on the family land, which had been used for planting.

The land has been passed down through generations of Ella's family. It has never had running water or electricity.

"I used to stay here in the dark," Ella said. The steps in front of her trailer have solar-powered lights taped to the railing for them to see where to step.



Mattie Roam, Herman Lynch's sister, and Alfred Yazzie make fry bread, May 13, 2019, at the home of Ella and Herman Lynch in Oak Springs, on the Navajo Reservation. (Photo: Mark Henle/The Republic)

They'd use propane gas lights, flashlights or battery-powered tap lights when needed. There was a stock of batteries to load the radio with. When they finally got a generator, they were able to use it for about five hours a night, just for necessities. They could watch TV for a bit and plug in a light here and there. Each night before bed, Herman would walk outside and turn the generator off.

The sun-faded green generator still sits about 50 feet from the house near a small shack. It takes six gallons of gas to fill. A long yellowish extension cord plugged into it stretches across the dirt into the house, where it's connected to a power strip in the living room. The family has gone through four generators since 2001.

No electricity meant the trailer did not have a heating or cooling system. The family installed a wood stove in their living room and used wood and coal to heat the house. During the summer, they left the front door and windows open to let cool air in or set up a fan by the front door.

The trailer does have a fridge, but it wasn't filled with food. Ella kept non-perishable items in there, like vinegar, lard and some utensils. In the freezer, she had a small suitcase and some plastic bags. They would only buy a single day's worth of food at a time, keeping it cool using an ice-packed cooler.

"I've been living out here without lights for so long."

Ella Lynch, whose home in Oak Springs, on the Navajo Reservation, until recently was not connected to the power grid

"We don't buy big bags of groceries and we don't stock them up," Ella said. Before the lights came on, most of the food would go to waste without a fridge.

Ella and Herman's son, Thurman, 30, still lives in Hunters Point, about six miles away. He remembers growing up in the trailer without electricity. He often did his homework at the kitchen table using a propane or oil lamp.

His current home has electricity, and when his parents needed a reliable power source, they visited. The trip has been made more often since his father got a pacemaker over a year ago and they need electricity to monitor it.

"I've been living out here without lights for so long," Ella said.

It's had an impact on her life in several ways, like limiting the amount of food they buy, and her kids don't visit often because there is no electricity. They even had to disconnect their cable because it didn't have a constant power source.

Getting connected

Herman said they reached out to the Navajo Tribal Utility Authority to get electricity throughout the years because the poles were so close, only about an eighth of a mile away. But cost estimates were too high when they first moved in, around \$22,000.

"We didn't have that kind of money," Herman said. So, they waited, hoping the price would go down. When they went in for a re-estimate over a decade later, it went down to \$12,000.

In the past three years, the average cost to get a family connected to electricity is \$40,000, Becenti said. Families only pay for a portion of the true cost to connect their home to the grid. That \$40,000 includes labor, materials, any distance and terrain complications, and right of way and environmental clearances.



Tommy Skye (bottom) of the Navajo Tribal Utility Authority and Jake Haines of the Salt River Project work on a pole May 13, 2019, at the home of Ella and Herman Lynch in Oak Springs, on the Navajo Reservation. (Photo: Mark Henle/The Republic)

If families come to the tribal utility authority as part of a chapter house project, the chapter house covers most costs and families pay for the price of the pole connecting their home. If not, Becenti said the utility works with the family on the cost, and they're allowed to make payments.

The tribal utility authority also gives \$1,500 credit to all families getting connected for the first time, Becenti said.

With help from their local chapter house in Oak Springs, Ella said they were able to get funds for their estimated cost and start working with the Navajo Tribal Utility Authority to get connected.

Ella was contacted to be part of the Light Up Navajo project weeks ago, and to make sure she got connected, they made a down payment on the \$1,600 metering equipment pole on May 6.

Over 200 homes now on the grid

Volunteers with the Light Up Navajo project connected 228 homes to the grid as of May 18. The project has 125 volunteers from 26 utility companies across 12 states and hopes to wrap up by Saturday.

Navajo Tribal Utility Authority foreman Valentino Billy has connected many Navajo families to the grid over his 15 years. It never fails to make him happy to see a family react to getting electricity.

“I like it when I see the person for the first time getting power. It’s great to me whenever I see that. It makes my job worth doing for my people.”

“I like it when I see the person for the first time getting power,” he said. “It’s great to me whenever I see that. It makes my job worth doing for my people.”

All four linemen working from SRP had never visited the Navajo Reservation before the Light Up Navajo project. SRP foreman Chris Stinski said he volunteered to go because he wanted to bring a sense of community to different parts of the state.

“We do emergency work at home,” Stinski said. “It’s kind of a sense of community to get out there and help these people get back in power when they’re out of power. We figured let’s take this sense of community and take it into a different part of town.”

About 30 SRP employees participated in the Light Up Navajo project, according to a press release from SRP. They set 249 poles, strung 26 miles of overhead wire and donated 3,250 man-hours.

Stinski was the one who clicked in the meter at the Lynches' home. He said when he heard they had been waiting 19 years for power, it was a humbling moment.



Ella Lynch serves lunch to the Navajo Tribal Utility Authority and Salt River Project crews May 13, 2019, at her home in Oak Springs, on the Navajo Reservation. (Photo: Mark Henle/The Republic)

“Most people in America kind of just take it for granted,” Stinski added.

The Lynch family said they are grateful for the work that Navajo Tribal Utility Authority and SRP did for them as part of the project.

“It makes their life a lot easier,” Thurman Lynch said of his parents getting connected. “I’m glad that they finally got this. This really brings joy to them.”

Ella said she looks forward to buying a freezer to stock up on meat now that she doesn’t have to buy it on a day-to-day basis anymore.

As for her husband, he said he’s going to put away his generator and the extension cord.

Power to the people: Utilities from around the U.S. pitch in to bring electricity to Navajos

By Laurel Morales | KJZZ

Monday, June 3, 2019



Because homes on the Navajo Reservation are so far apart, hooking up one home to the grid costs on average of \$40,000. (Photo by Laurel Morales/KJZZ)

DILKON – Neda Billie has been waiting to turn on the lights for 15 years.

“We’ve been living off of those propane lanterns,” Billie said. “Now we don’t have to have flashlights everywhere. All the kids have a flashlight, so when they get up in the middle of the night, like to use the restroom, they have a flashlight to go to (the outhouse).”

Billie, her husband and their five kids live in a tiny one-room hogan, a traditional Navajo dwelling. The family’s three sheep graze on sagebrush that carpets the rolling hills around Dilkon.

They watched two workers in a cherry picker hook up the last electrical wire to their home. Billie said they’ve gone through too many generators to count.

“My two boys, they have really bad allergies, and they have asthma, so sometimes they need the nebulizer, so we usually go to my mom’s house, travel in the middle of the night over there back and forth,” Billie said.

The Billies are not alone. About one in 10 Navajos live without electricity. And as many as 40 percent of the tribe have to haul their water and use outdoor toilets.

A poll of rural Americans conducted by NPR, the Robert Wood Johnson Foundation and the Harvard T.H. Chan School of Public Health found more than a quarter of Native Americans have had problems with access to electricity, water and the internet.

Manley Begay Jr., a professor of applied indigenous studies at Northern Arizona University, said the true numbers probably are even higher. Begay, who is Navajo, said electricity provides more than just light.

With electricity, a family can pump water, charge their cellphones, store food – even find and keep a job. “Electricity itself provides a tremendous amount of convenience and having access to the world at large,” he said. “You can just imagine if you were to fill out an application for a job, you do it online and you send it in. Or you’re Googling for information; if you don’t have electricity, you’re in trouble.”

Begay said he saw a strange sight recently when he pulled into a hotel parking lot in Window Rock, the Navajo capital, where a group of teenagers were sitting in their cars, the interior lights on.

“You could tell they were high school students,” Begay said. “And so they were doing their homework outside this hotel in the parking lot. They had the light on in their cars and doing their homework. It became quite clear that they didn’t have internet.”

Outside the Billies’ home, Neda and husband Christopher waited patiently for the crew to finish the hookup. Brian Cooper from PNM Electric, a Santa Fe utility, had an update.

“We’ll get a meter going and you should have electricity,” Cooper said. “Can’t wait to see the real smile here in a minute. Don’t cover it up, I want to see it. That’s what joy looks like.”

The New Mexico utility was among 21 from around the country that volunteered their crews this spring to provide power under an initiative called Light Up Navajo, led by the Navajo Tribal Utility Authority and the nonprofit American Public Power Association. Workers came from near (Utah, New Mexico and California) and far (Ohio, Massachusetts and Arkansas).

Homes on the 27,000-acre Navajo Nation are so spread out that connecting a single home to the power grid costs an average of \$40,000. And among the 157,000 Navajos living on the reservation, about half are unemployed. So the Navajo utility can’t raise rates to energize all those homes.

According to the American Public Power Association, those 15,000 Navajo homes represent 75% of all unelectrified households in the United States.

“I had no idea that there were people still in 2019 without power,” Cooper said. Finally, after waiting for so many years, the Billies watched the foreman turn on the meter behind their house and snap the cover shut. Neda then ran inside to flip the switch.

“It’s so exciting to finally have electricity here after so many years without it,” Billie said. “My kids are going to be so happy. Every day ... they go, ‘Mom we’re going to have light! We’re going to finally have light!’” Now the family will wait and pray for running water and connection to the internet.



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Parts of the Navajo Nation Are Still Off the Grid—but That's Changing

A six-week pilot program connected 200 homes, but more than 15,000 remain without electricity

By Maria Gallucci



Photo: Alysa Landry/American Public Power Association

Grid Work: Linemen from Ohio set a pole in the Chinle region of the Navajo Nation.

David Hefner and his crew rumbled toward Arizona in bucket trucks, digger derricks, and vehicles full of materials. The Oklahoma linemen typically drive their fleet to storm-ravaged communities after hurricanes and tornadoes disrupt power for days. But when the team set off in April, it wasn't to repair battered poles and wires. Instead, they helped bring light to homes left in the dark for generations.

About 60,000 people in the Navajo Nation—a vast swath of high plains and desert in Arizona, New Mexico, and Utah—still can't access the electric grid from their homes. Thousands more lack running water. In recent years, the Navajo Tribal Utility Authority (NTUA) has doubled down on efforts to extend power lines, build substations, and provide residents with off-grid renewable energy units. Now, public utilities across the United States are pitching in to accelerate the country's longest-running rural electrification campaign.

“We have our own American people right here in our backyard that don’t have what we consider the modern necessities,” said Hefner, the distribution power line superintendent at Grand River Dam Authority, a nonprofit utility in Vinita, Okla. “We wanted to be a part of helping build this infrastructure.”

For six weeks in April and May, about 125 volunteers from two dozen utilities partnered with Navajo crews and met with families through Light Up Navajo, an initiative by NTUA and the American Public Power Association (APPA). In the coming months, organizers will assess how to replicate the program in years to come.

Teams in the pilot session installed poles, transformers, lines, and meters to connect more than 200 houses to the grid—including the home of an elderly man who planned to buy his first refrigerator. NTUA itself has connected about 4,900 homes in the past 10 years, though the work remains costly and painstakingly slow, said Walter Haase, the general manager.



Photo: Alysa Landry/American Public Power Association
Workers from Massachusetts connect a distribution line in the Shiprock region.

The utility spends about US \$40,000 on average to hook one home up to the grid, including thousands of dollars in fees to use a federal right-of-way (since the reservation is on federal land). Homeowners must pay more than \$3,000 to wire their houses and connect electric meters—a considerable expense. The average NTUA customer pays about \$630 a year for electricity, which is not nearly enough for the utility to recoup its infrastructure costs.

At the current pace, NTUA says it will take 40 years to connect the remaining 15,000 off-grid homes, or about a third of the houses scattered throughout the 70,000-square-kilometer reservation. “That’s just too long to wait,” Haase said from his office in Fort Defiance, Ariz.

Under the Rural Electrification Act of 1936, the U.S. government provided financial incentives to help utilities and newly formed cooperatives bring electricity to far-flung farms and towns. Yet the movement largely bypassed Native American lands. Along with Navajo households, thousands of Hopi families in Arizona and numerous Alaska Native households still aren’t connected to the grid.

The Navajo Nation formed NTUA in 1959 to address this oversight. The utility’s first large solar plant, the 27.3-megawatt Kayenta facility, came on line in 2017. A 28-MW addition is slated for completion in June. Revenues from the solar electricity help fund the utility’s rural electrification efforts.

Haase said the idea to partner with outside utilities came after a rash of extreme weather blasted grids in Puerto Rico, Texas, and Florida. Workers arrived in droves to restore power through mutual-aid agreements. Haase recently chaired APPA's board, and members frequently asked about using a similar approach for the Navajo effort. APPA awarded the utility a \$125,000 grant to design and launch the pilot program, and NTUA and volunteers are raising more money through GoFundMe campaigns.



Photo: Alysa Landry/American Public Power Association



Photo: Alysa Landry/American Public Power Association
A lineman unspools a wire in the Navajo Nation.

Through a multimillion-dollar project with the U.S. Department of Energy, the utility has also provided hundreds of off-grid units to Navajo families, including hybrid models that combine an 880-watt solar array, a 400-W wind turbine, and a small battery bank.

The units supply a few hours' worth of electricity in the evening. For elderly couples or people living alone, this can be sufficient. But large families and younger residents, accustomed to round-the-clock power off the reservation, tend to use more electricity than the units are designed to support. In those cases, grid power makes more sense, said Sandra Begay, an engineer and Navajo Nation member who helped facilitate the project for Sandia National Laboratories.

She said the rural electrification efforts aren't intended to push modern infrastructure on Navajo families, but rather to give them the same access enjoyed by residents in the rest of the country. "It's really about choice," Begay said. "I don't ever want to have it where somebody doesn't have a choice."



Photo: Alysa Landry/American Public Power Association

This article appears in the June 2019 print issue as "Plugging in the Navajo Nation."

A powerful Navajo project

Some on reservation without electricity get connected to the grid

KAIBETO, ARIZ.

Miranda Haskie sits amid the glow of candles at her kitchen table while her husband, Jimmie Long Jr., fishes for the wick to light a kerosene lamp as the couple and their 13-year-old son prepare to spend a final night without electricity.

In the morning, utility workers who recently installed four electric poles outside their double-wide house trailer will connect it to the power grid, meaning they will no longer be among the tens of thousands of people without power on the Navajo Nation, the country's largest American Indian reservation.

Haskie and Long are getting their electricity this month thanks to a project to connect 300 homes with the help of volunteer utility crews from across the U.S.

The Navajo Tribal Utility Authority connects from 400 to 450 homes a year, chipping away at the 15,000 scattered, rural homes without power on the 27,000-square-mile reservation that lies in Arizona, New Mexico and Utah. At that rate, it would take the tribal utility about 35 more years to get electricity to the 60,000 of the reservation's 180,000 residents who don't have it.

The couple's home at the end of rutted dirt roads outside the small town of Kaibeto was about a quarter-mile from the closest power line.



Jimmie Long Jr. places the glass on an oil lamp a few days before his home on the Navajo reservation in Arizona was connected to the power grid.

"It's not that bad. Growing up, you get used to it, being raised like that," Long said.

The family's weekday routine included showering, cooking and charging cellphones, battery packs and flashlights at Haskie's mother's house 2 miles away, down dirt roads that turn treacherous in stormy weather.

Navajos without electricity also pack food or medication in coolers with ice or leave it outside in the wintertime. Children use dome lights in cars or kerosene lamps to do their homework at night. Some tribal members have small solar systems that deliver

intermittent power.

No electricity typically means no running water and a lack of overall economic development. Creating the infrastructure to reach the far-flung homes on the reservation is extremely costly.

Hooking up a single home can cost up to \$40,000 on the reservation, where the annual per capita income is around \$10,700 and half the workforce is unemployed, said Walter Haase, general manager of the Navajo Tribal Utility Authority.

For the recent power hookup project called Light Up Navajo, the utility raised funds from an online campaign, collected donations from employees, businesses and communities, and used revenue from solar farms on the reservation to cover the utility's \$3 million cost. Money that isn't raised will be borrowed and the repayment passed on to customers via their rates, Haase said. The project started in March and ends this month.

The volunteer crews spent days on the reservation, learning about Navajo culture, the language and the landscape before setting out to job sites often hours away from their hotel rooms.

Ken Wagner was part of a four-man crew from Piqua, Ohio, that weathered rain, dust storms and sandy terrain as they traveled through the western part of the reservation in Arizona earlier this month.

"It's kind of crazy to think about the different things you take for granted on a daily basis," he said. FELICIA FONSECA (AP)

LIGHT UP NAVAJO PROJECT

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The number of homes that the Light Up Navajo project had hooked up with electricity as of Thursday. Volunteer crews from 26 utilities in 12 states traveled to the reservation to help, installing 1,500 power line poles and more than 35 miles of electric lines. The project started in March and ends this month, and it was designed with a \$125,000 grant from the American Public Power Association. (AP)

JAKE BACON (AP)