



U.S. DOE OFFICE OF INDIAN ENERGY

INDIAN ENERGY BEAT



News on Actions to Accelerate Energy Development in Indian Country

SUMMER 2012

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Eleven Tribes Jump START Clean Energy Projects



Left: During a START site visit, Alexander Dane of NREL repairs the tracking motor of the community-owned solar photovoltaic (PV) array in Venetie, Alaska. Photo by Brian Hirsch, NREL/PIX 20893. Right: Paul Dearhouse of Dearhouse Consulting and Kevin Davidson of the Hualapai Tribe Planning and Economic Development Department discuss utility-scale solar and wind project potential during a START site visit in Arizona. Photo by Bob Springer, NREL/PIX 21044.

The U.S. Department of Energy Office of Indian Energy Policy and Programs (DOE-IE) has selected 11 Tribes—five in Alaska and six in the contiguous United States—to receive on-the-ground technical support for community-based energy efficiency and renewable energy projects as part of DOE-IE’s Strategic Technical Assistance Response Team (START) Program.

START finalists were selected based on the clarity of their requests for technical assistance and the ability of START to successfully work with their projects or community. Technical experts from DOE and its National Renewable Energy Laboratory (NREL) will work directly with community-based project teams to analyze local energy issues and assist the Tribes in moving their projects forward. In Alaska, the effort will be bolstered by DOE-IE’s partnership with the Denali Commission, which will provide additional assistance and expertise, as well as funding to fuel the Alaska START initiative.

There were 22 applicants for START assistance in Alaska and 24 applicants in the lower 48 states. The selected Tribes and the technical assistance activities planned for their key projects are highlighted below.

“Tribal communities, entrepreneurs, and small businesses will benefit greatly from the technical resources and expertise provided by DOE. START will help Native American and Alaska Native communities increase local generation capacity, enhance energy efficiency and conservation measures, and create job opportunities in the new clean energy economy.”

—DOE-IE Director Tracey A. LeBeau

START ALASKA: SELECTED TRIBES AND ASSISTANCE ACTIVITIES

- **Arctic Village Council**—optimize the community’s powerhouse generators, support power cost equalization (PCE) reinstatement, install pre-pay meters for residential buildings, and explore feasibility of community-scale solar energy generation.
- **Native Village of Kwinhagak/Quinhagak**—develop a community energy plan, increase residential energy efficiency, implement a heat recovery project, produce a wind-to-heat report, and prepare the village for additional funding opportunities.

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ELEVEN TRIBES JUMP START CLEAN ENERGY PROJECTS (CONTINUED)

- **Native Village of Teller**—address long-term bulk fuel storage capacity needs; identify opportunities to increase residential energy efficiency, including education and training; implement energy efficiency retrofits and repairs for public facilities; and prepare for additional funding opportunities.
- **Organized Village of Kake**—develop a community energy plan, relocate a wind met-tower closer to the village, conduct biomass and hydro generation feasibility studies, identify bulk diesel improvements, and initiate residential energy efficiency activities.
- **Venetie Village Council**—develop a community energy plan, repair public utility generation infrastructure, support PCE reinstatement, develop a utility rate structure, install PV monitoring equipment, and conduct a biomass feasibility study with project design review.

START 48 CONTIGUOUS STATES: SELECTED TRIBES AND ASSISTANCE ACTIVITIES

- **Campo Band of the Kumeyaay Nation (CA)**—provide technical and financial analysis assistance for commercial-scale renewable development project(s).
- **Forest County Potawatomi Tribe (WI)**—conduct technical and financial analysis assistance to support the development of a community-scale biomass project to generate power for tribal government facilities.
- **Hualapai Tribe (AZ)**—provide updated resource assessment analysis and project feasibility analysis, with primary focus on a renewable energy project to help power the Tribe's Grand Canyon West development.
- **Pascua Yaqui Tribe (AZ)**—assist Tribe in completing prioritization and feasibility analysis for solar power generation development to meet tribal economic development goals.
- **Passamaquoddy Tribe of Indian Township (ME)**—provide technical and financial analysis for a proposed wind farm, including analysis of wind ownership options for the Tribe.
- **Pueblo of Zuni (NM)**—assist tribal project prioritization and provide later-stage technical analysis to support proposals for identified clean energy and infrastructure development options and opportunities.

The START Program furthers DOE's commitment to provide Tribes with the tools and resources they need to foster tribal energy self-sufficiency and sustainability, advancing economic competitiveness and job creation.



MESSAGE FROM THE DIRECTOR TRACEY LEBEAU

Dear Friends,

In the past few months, our quest to accelerate energy generation on tribal lands has taken us to the farthest reaches of Indian Country. During site visits to northern Alaska, Arizona, California, Maine, New Mexico, and Wisconsin, our START team members have spent long days poring over project proposals, studying maps, walking project sites, performing early technical assess-

ments, and gathering energy performance data. We've uncovered a great deal of potential for bringing vital, life-enhancing energy improvements to tribal communities.

But as you all know very well, plans and data are nothing but pictures and words on a page without the *action* needed to bring them to life. Ultimately, it is the *people*—committed tribal leaders and staffs and determined community energy champions—we meet along the way who give us a glimpse into the future of energy development in Indian Country. Our role is to help bring *their* vision into focus while providing the tools, training, and expertise needed to break down the barriers and provide a path forward.

The reality, of course, is that energy projects everywhere are contending with some pretty significant barriers to getting off the ground. And in Indian Country, which is blessed with nearly 7 million megawatts (MW) of renewable resource potential, one of the most significant can be transmitting the energy from where the resource is to where the load is needed. So it's essential that Tribes engage with developers, utilities, and federal officials early in the energy planning process to address transmission issues and avoid surprises that add extra costs and complications that can cause projects to stall.

To help head off potential problems and challenges related to transmission, DOE-IE is partnering with DOE's Office of Electricity Delivery and Energy Reliability (OE) and Western Area Power Administration (WAPA) to provide Tribes throughout the country with the training, information, and resources they need to succeed in bringing their energy projects to market. It's collaborative efforts like these that help fuel community development initiatives with the potential to yield ongoing benefits for Tribes, such as increased energy security, new revenue sources, and a steady stream of clean energy jobs. You'll learn more about how we are working to improve transmission for Tribes in the Building Bridges and Opening Doors sections of this issue.

—Tracey A. LeBeau

OPENING DOORS

NEW ENERGY RESOURCE LIBRARY FOR TRIBES

Be sure to check out DOE-IE's new energy resource library, which provides links to more than 85 publications, websites, and other helpful resources for Tribes on energy project development and financing in Indian Country. Find information on such topics as community-scale development, legal and regulatory issues, project checklists, strategic energy planning, renewable energy technologies, transmission, tribal case studies, and more. Access the library at <http://energy.gov/indianenergy/resources/energy-resource-library>.

EDUCATION PROGRAM IN DEVELOPMENT

For the past several months, DOE-IE and NREL have been working to develop an educational curriculum specifically for tribal leaders and professionals on tribal energy project development and financing. To assist us in completing the course development and ensure that it will be useful to Tribes, we invited key stakeholders to participate in a two-day pilot session June 7–8, 2012, to review the content and delivery of the course material.

The program includes foundational courses that provide a baseline understanding of energy strategy, planning, and resources, as well as advanced leadership and professional courses that take an in-depth look at the energy project development framework and various financing options. The final product will be a comprehensive suite of educational information for Tribes that will be offered both online and in person over the coming months. Watch our website for additional details and sign up to receive email updates: <http://energy.gov/indianenergy/resources/education-and-training>.

BUILDING BRIDGES

Transmission in Indian Country



It is well known that the energy development potential in Indian Country is compelling. To get an accurate picture of this, DOE-IE is currently updating data on just how much energy resource potential exists on tribal lands. However, the nexus between energy potential and transmission in Indian Country is not well known. To help paint a more accurate picture for Tribes, and the nation, of what that realizable opportunity represents, DOE-IE has commissioned an initial study to begin scoping out this tribal renewable and transmission nexus and is undertaking other transmission market analysis to provide helpful tools to Indian Country. The initial results of this work will be finished later this summer.

DOE OFFICES TEAM UP TO PROVIDE TRIBAL TECHNICAL ASSISTANCE

Whether Tribes are looking to bring tribal energy to market or interconnecting to a power distribution system, a variety of complex grid standards, processes, regulatory requirements, and market issues come into play. DOE-IE, along with OE and WAPA, are joining forces to arm Tribes with training and resources to address these challenges, including:

- **Tribal Energy Transmission Webinars**—This series of free webinars focused on tribal energy development is presented by DOE-IE, the DOE Office of Energy Efficiency and Renewable Energy's Tribal Energy Program, the U.S. Environmental Protection Agency's Green Power Partnership Program, and WAPA. Upcoming webinars include "Grid Reliability – Impacts to Tribal Renewable Projects" on July 25, 2012, and "DOE Office of Indian Energy's START Program Status Updates" on September 26, 2012. Visit DOE-IE's education page to register for these and view previous webinars: <http://energy.gov/indianenergy/resources/education-and-training>. If you have ideas for future webinars, please send them to indianenergy@hq.doe.gov.
- **Distributed Wind/Solar Interconnection Workshops**—Every year DOE and WAPA, in partnership with the American Public Power Association, National Rural Electric Cooperative Association, and the Utility Wind Integration Group, host the Distributed Wind/Solar Interconnection Workshop. Held at WAPA's Electric Power Training Center (EPTC) in Golden, Colorado, the two-day workshop delves into the ins and outs of integrating wind, solar, and other distributed generation applications, as well as large-scale renewable generation, onto the grid. Attendees also get to tour EPTC's hands-on miniature power system. The next workshop will be held in early 2013, and a limited number of travel scholarships will be available. Watch the EPTC website, www.eptc.wapa.gov, for details.

SHARING KNOWLEDGE

Energy Surety Microgrid

Electricity is often unreliable for many rural and remote communities in Indian Country. Tribes must use a combination of distributed generation sources, such as solar power, fossil fuels, and hydropower, which generally provide intermittent power or are not optimized to serve tribal energy demands. DOE's Sandia National Laboratories have developed a methodology called the Energy Surety Microgrid (ESM) to address these issues, which demonstrates five elements of optimal electricity delivery: safety, security, reliability, cost effectiveness, and sustainability. ESM places priority on developing a balanced energy system that can appropriately meet all the essential energy needs for a rural or remote community.

The ESM methodology evaluates existing distributed generation sources and electrical infrastructure and takes into account plans for new generation and infrastructure upgrades, including smart grid technologies. The methodology enables a community to measure existing energy resources, assess outage potential and energy demand requirements, and identify needed infrastructure improvements based on the community's load requirements and energy system performance and protection goals. Learn more at http://energy.sandia.gov/wp-content/gallery/uploads/ESM_Fact_Sheet_SAND2008-4464.pdf.

WINNING THE FUTURE

Native Village of Teller Addresses Heating Fuel Shortage, Improves Energy Security

Challenge: The Native Village of Teller in Alaska has long been challenged by bulk fuel storage limitations. Alaska Village Electric Cooperative (AVEC) is the village's electric utility, which runs its own diesel fuel bulk storage facility for the diesel generators. However, residential heating oil and fuel for all public buildings except the school are provided by the Native Village Corporation (Teller Native Corporation [TNC]) and stored in a separate bulk fuel facility. The limited capacity of TNC's fuel storage came to a head this past winter. Extreme cold and increased demand for heating fuel resulted in fuel supply running short. To obtain heating fuel, villagers were making daily trips to Brevig Mission (a village six miles away) on snow machines over a frozen inlet of the Bering Sea, to tow small amounts of heating oil back to Teller.

Brevig Mission, which was also running low on fuel, had plans to increase the price per gallon, thus raising the cost for Teller residents. There also were restrictions on the amount of fuel Teller could purchase (200 gallons per day for the entire village).

Solution: While on a START Program site visit to Teller in April 2012, DOE-IE's START team facilitated the transfer of a 600-foot fuel hose owned by Nome Joint Utilities to pump and transfer fuel from an AVEC tank to a TNC tank. The START team helped coordinate activities among Nome Joint Utilities, AVEC, and the Teller Native Corporation.

With the assistance of AVEC personnel, 10,000 gallons of fuel were successfully transferred into TNC fuel storage, allowing community residents and public facilities to eliminate daily fuel trips and secure their heating supply for the remaining months of winter.

Benefits:

- Reduced costs and energy use related to fuel procurement
- Avoided fuel cost increases
- Increased village energy security



The combination of the Native Village of Teller's limited fuel storage capacity and a harsh winter led to a supply shortage. Photo by Alexander Dane, NREL/PIX 20891

ON THE HORIZON

JULY 17-20

First Stewards Symposium
Washington, D.C.

JULY 25

Grid Reliability: Impacts to Tribal Renewable Projects
WAPA Webinar

AUG. 7-9

DOE-IE and Tribal Energy Program Workshop
Forest County Potawatomi Community, Forest County, Wisconsin

AUG. 13-15

Oklahoma Indian Gaming Association Annual Conference
Oklahoma City, Oklahoma

AUG. 19-22

GovEnergy 2012: The Gateway to Smart Energy Solutions
St. Louis, Missouri

SEPT. 10-11

Native American Finance Officers Association Annual Conference
San Diego, California

SEPT. 27-28

American Council on Renewable Energy Finance Forum (REFF-West)
San Francisco, California

OCT. 16-17

Alaska Native Village Energy Conference
Anchorage, Alaska

OCT. 16

Renewable Energy Development in Indian Country Pre-Conference Session for RETECH
Washington, D.C.

OCT. 17-19

Renewable Energy Technology Conference & Exhibition (RETECH)
Washington, D.C.

OCT. 18-20

Alaska Federation of Natives 2012 Convention
Anchorage, Alaska

OCT. 21-26

National Congress of American Indians 69th Annual Convention
Sacramento, California

STORY IDEAS?

Indian Energy Beat is a publication of the DOE Office of Indian Energy that highlights opportunities and actions to accelerate energy development in Indian Country. If you have suggestions for feature stories, interviews, or news relevant to Indian energy, please submit your ideas to indianenergy@hq.doe.gov.

LEARN MORE

For more information on DOE-IE's efforts to accelerate next-generation energy development in Indian Country and build a 21st century tribal energy economy, visit:

www.energy.gov/indianenergy

or e-mail:

indianenergy@hq.doe.gov

LEADING THE CHARGE HAROLD "GUS" FRANK

Change doesn't happen on its own. It's led by dedicated and passionate people who are committed to empowering Indian Country to energize future generations. Leading the Charge is a regular feature spotlighting the movers and shakers in energy development on tribal lands.



Name: Harold "Gus" Frank

Tribe: Forest County Potawatomi (FCP) Community

Title/Role: Chairman and 2012 White House "Champion of Change"

Areas of expertise: Patience

Current projects: The Tribe is undertaking a number of energy projects to help meet its goal of energy independence using only sustainable, carbon-free, or carbon-neutral resources. It

has completed the request for proposal (RFP) process for a 2-MW biogas facility on fee lands in Milwaukee, Wisconsin. It is also exploring potential biomass, biogas, solar, and wind projects on or near its reservation. In addition, the Tribe continuously investigates and implements energy efficiency measures.

Two of its biggest energy projects, which are being conducted with DOE's assistance, are energy efficiency retrofits at Wundar Hall, a historic property on the Tribe's trust lands in Milwaukee, and an energy efficiency feasibility study at the Potawatomi Carter Casino and Hotel. The Tribe continues to track its progress toward energy goals by conducting quarterly audits that demonstrate its diminishing carbon footprint.

How did you become involved in tribal energy? The Tribe's culture and traditions establish a duty to help protect and enhance environmental resources, both on reservations and throughout the world. Tribal energy projects, particularly renewable energy and energy efficiency projects, are an obvious and effective way to meet that duty.

What are the greatest opportunities for Indian Country? Many Tribes, including the FCP Community, have land holdings and natural resources (e.g., sun, wind, timber) necessary for renewable energy projects. However, more funding and training are necessary for Tribes to fully recognize these opportunities. Also, for Tribes that don't have a significant land or resource base, energy efficiency upgrades at tribal buildings (especially casinos) can provide them with a great opportunity to save money and reduce their carbon footprint.

What are the biggest challenges? Not surprising to anyone, funding and project economics are some of the biggest challenges. Learning how to "speak DOE" has been a challenge. Also, due to the nature of the FCP Community's land holdings, with trust and fee lands scattered in Forest County and Milwaukee County, it can be a challenge to ensure that everyone understands the nature and extent of the Tribe's projects and how they relate to its energy and environmental goals.

What is the best part of your job? Knowing that the tough decisions we are making today will help the environment and future generations of our tribal members.

What is your vision of the future? Tribes taking steps to produce sufficient clean power to meet all of their members' needs, with Tribes sharing knowledge to help other Tribes become energy independent.

Favorite quote: One of our elders said, "Let us share our natural resources for the good of our People. Let us work for clean air and water and pray for the courage to stand up to those who would abuse our Mother Earth."