DOE OFFICE OF INDIAN ENERGY

DOE Indian Energy Program Overview

Lizana Pierce, Senior Engineer and Deployment Supervisor

November 15, 2021
Lizana Pierce
Senior Engineer, Deployment Supervisor, Office of Indian Energy Policy and Programs, Colorado

Lizana Pierce duty stationed in Colorado and serves as the principal engineering expert for the Director and Deputy Director on deployment programs. Mrs. Pierce is responsible for implementing the Office’s Deployment Programs: Technical Assistance, Financial Assistance; and Education and Capacity Building. Ms. Pierce has 25 years of experience in energy technologies, project development, and management, and has dedicated 20 of those years to assisting Indian tribes in developing their energy resources. Ms. Pierce holds a Bachelor of Science degree in mechanical engineering from Colorado State University, and she pursued a Master’s in Business Administration through the University of Northern Colorado.
The DOE Office of Indian Energy is charged by Congress under the **Indian Tribal Energy Development and Self Determination Act of 2005** (Title V of the Energy Policy Act of 2005) to “provide, direct, foster, coordinate, and implement energy planning, education, management, conservation, and delivery programs that –

1. promote Indian tribal energy development, efficiency, and use;
2. reduce or stabilize energy costs;
3. enhance and strengthen Indian tribal energy and economic infrastructure relating to natural resource development and electrification; and
4. bring electrical power and service to Indian land and the homes of tribal members located on Indian lands or acquired, constructed, or improved (in whole or in part) with Federal funds.”

Clockwise from top right: Seneca Nation’s (NY) 1.5 MW wind turbine, Fort Yukon’s (AK) combined heat and powerhouse, Coeur d’Alene Tribe’s (ID) Benewah Market energy efficiency project, Sokaogon Chippewa Community (WI) Housing Project, and Chippewa Cree Tribe’s (MT) Residential Solar.
Meet the Team

Office of Indian Energy

Comprised of 13 Federal employees and 9 contractors

The Director, Deputy Director, Senior Advisor, Budget Officer and Management Analyst (4 FTE’s) and two (2) contractors located in Washington, DC

The Deployment Supervisor, Deployment Specialist, a Project Officer and two Engineers (5 FTE’s) and seven (7) contractors' duty-stationed in Golden, Colorado. Financial assistance support received through the DOE Golden Field Office.

AK Senior Policy Advisor and two (2) Engineers duty-stationed in Alaska.
Deployment Program

Financial Assistance
We facilitate tribal energy project development through financial assistance (competitively awarded grants).

Technical Assistance
We provide federally recognized Indian tribes, including Alaska Native villages, regional and village corporations, tribal energy resource development organizations, and other tribal groups and communities, with technical assistance to advance tribal energy and infrastructure projects, at no charge.

Education and Capacity Building
Thorough regional workshops, webinars, and college student internships, we support tribal efforts to build internal capacity to develop energy projects and navigate energy markets.
Invested over $100 million in more than 190 tribal energy projects valued at over $180 million (2010-2020)
In 2020, invested $5 million in funding in nine (9) tribal energy infrastructure projects, valued at over $10 million. Combined, these projects add up to over 3.7 megawatts of new installed generation that will power over 180 tribal buildings, with combined lifetime savings of over $24 million.

Provided cost share reductions valued at $14.8 million to 27 grantees to provide some financial relief to Native communities struggling with COVID.
In July 2021, an additional $12 million was announced for 13 American Indian and Alaska Native communities across the nation. Collectively, those selected projects are estimated to result in nearly 3.5 megawatts of clean energy generation and over 3.5 megawatt-hours of battery storage, serving over 1,300 tribal buildings and saving those communities a combined $1.8 million annually.

Significant investments that will yield tangible results
Financial Assistance Investments (2010-2020)

Over $100 million invested in more than 190 tribal energy projects (average of ~$9.1M per year)

Includes cost share reductions
Investments by Technology and State (2010-2020)

- $56.88 Renewable (54.8%)
- $13.76 Planning (13.3%)
- $15.96 Microgrid (15.4%)
- $9.31 Efficiency (9.0%)
- $4.33 EE & RE (4.2%)
- $0.67 Conventional Generation (0.6%)
- $0.75 Conventional & RE (0.7%)
- $2.10 Combined Heat and Power (2.0%)
Invested nearly $75 million in more than 90 tribal energy hardware installation projects valued at over $140 million \((2010-2020)\)

Tangible Results

- More than 40 MW of New Generation Installed
- More than 7 MWh of Battery Storage Installed
- Over $12.6 Million Saved Every Year
- Over $275 Million Saved Over System Lifetimes
- $3.68 Saved for Every DOE Dollar Invested
- Over 8,000 Tribal Buildings Affected
Financial Assistance

Competitive Process (2010-2020)

- 17 Funding Opportunity Announcements (FOAs) issued
  (Includes FOA’s issued in 2009 for award in 2010)
- Accepted a total of 637 applications, valued at nearly $667 million
- Funded nearly 31% of all applications received (196 out of 637)
  DOE average ~5 to 10%

All Funds Awarded through a Competitive Process

The Office of Indian Energy has primarily fulfilled the requirements under 42 U.S.C. § 7144e by providing cost shared federal funding to Indian tribes and tribal entities through competitive financial assistance awards.
Financial Assistance

Nearly $200M in Unfunded Requests

69.2% of Applications Received Not Funded

FY2020 includes $12.52M in cost share reductions
Tribal Energy Successes

Clockwise from top right: Ute Mountain Ute Tribe’s (CO) 1 MW solar system; San Xavier (AZ) solar installation at their Education building (2021); Winnebago Tribe’s (NE) solar installation; Igiugig Village’s (AK) 35 kW RivGen system and energy storage microgrid.
Clockwise from the right: Hughes Village (AK) 150 kW solar system (2018); Tolowa Dee-ni’ Nations (OR) Fish Hatchery 114 kW solar project (2020); Flandreau Santee Sioux Tribe’s (NE) Solar Installation (2020).
Clockwise from top right: Fort Mojave Tribe and Aha Macav Power Services (AZ) 2.3 MW solar installation (2020); Blackfeet /Community College (MT) 53.2 kW solar installation (2021); Nuvista Kwethluk (AK) 670 kWh Energy Storage Project (2021)
Funding Resources

- **Current Funding Opportunities**
  List of open tribal energy related funding opportunities from federal agencies and other sources

- **Ongoing Funding Opportunities**
  Provides ongoing sources of funding including grants, loans, loan guarantees and other incentives across the Federal government

- **Past IE Funding Opportunities**
  Provides information on prior Office of Indian Energy funding opportunities

http://energy.gov/indianenergy
Tribal Energy Investment Transparency

Online Tribal Energy Projects Database

- Project Map (Interactive Map)
- Project Database (Sortable)
- Project Successes
- Project Summaries
  - Annual Presentations
  - Final Reports

The Native Village of Hughes just installed the boxes of a 100-kilowatt solar photovoltaic system that will cut diesel use and costs.
FEBRUARY 6, 2019

The Confederated Tribes of the Umatilla Indian Reservation Trap the Sun to Offset Energy Costs
The Tribe turned a strip of its land in Oregon into nearly $23,000 in annual energy cost savings.
AUGUST 27, 2018

Pala Band of Mission Indians Sees Savings from Solar-Powered Fire Station, Looks Ahead to Continued Energy Development
The Tribe has turned to renewable energy as a means of lowering energy costs and gaining independence from the grid.
JUNE 8, 2018

Community Solar to Meet 100% of Energy Costs for New Mexico Tribe
A DOE co-funded 1-megawatt community solar array will offset the cost of the entire energy load of Picuris Pueblo.
JANUARY 2, 2016

Summary

Under the Community Solar Awesomina Housing Authority (ASHA) Solar Initiative, the St. Regis Mohawk will install an estimated 15,000 solar photovoltaic (PV) systems in the community under the National Grids, net-metering programs, to offset energy use and costs for the buildings and tribal members’ residences.

This project will save 5% of the total community’s residential energy load and 4% of the total energy load for all other buildings. The savings will be generated through the use of the projected proceeds from the sale of energy back to the grid.

This project will provide a $1.3 million reduction in total energy load on the reservation.

Project Overview

ASHA Solar Initiative

Location
Hogansburg, NY

Project Title
Community Solar and Solar in Schools and Net Zero Initiative

Type of Application
Deployment

DOE Grant Number
DE-EE0001008

Project Amount
$4,904,840

Awards
$1,338,351

Total
$5,243,191

Project Status
See project status

Impacts
Perceived Energy Savings

Start: July 2016
End: June 2019

Background

The Awesomina Housing Authority will create three “food—are” buildings by installing energy efficiency measures and an estimated 15,000 solar PV, reducing annual energy costs by about $23,000. Two of the buildings are part of the Greene Green Development project, a tribal affordable housing development that will provide energy services to tribal members, elders, and their families; the third is an existing building that houses the Awesomina Irrigation District.

Project Description

St. Regis Mohawk Tribe and the New York State Energy Research and Development Authority (NYSERDA) partnered to develop this Project, with grant funding from the U.S. Department of Energy (DOE) and with the support of the NYSERDA. This project is designed to help reduce the Tribe’s energy costs by supporting the installation of solar photovoltaic systems on households, schools, and public buildings.

St. Regis Mohawk Tribe and the Office of Indian Energy at the U.S. Department of Energy (DOE) have worked together to develop a 15-Year Tribal Strategic Energy Plan (STE), which includes the implementation of renewable energy projects, energy efficiency improvements, and the development of a Tribal Energy Policy. The STE aims to enhance the community’s sustainability and wellness while promoting economic development and community well-being.

San Juan Bank and Trust and MHR have worked together to develop a 15-Year Tribal Strategic Energy Plan (STE), which includes the implementation of renewable energy projects, energy efficiency improvements, and the development of a Tribal Energy Policy. The STE aims to enhance the community’s sustainability and wellness while promoting economic development and community well-being.

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Technical Assistance

The goal of technical assistance is to **address a specific challenge or fulfill a need that is essential to a current project's successful implementation.**

The intended result of this technical assistance is a **tangible product or specific deliverable** designed to help move a project forward.

“This is government money well spent. This assistance is helping our people afford to live in the village. Thank you!”

### Types of Technical Assistance

- Technical Analysis
- Financial Analysis
- Strategic Energy Planning

http://energy.gov/indianenergy
Completed Technical Assistance Requests (2010-2020)

Topic Areas of Completed Technical Assistance Requests (366) (2010-2020)

- Financial Analysis, 87, 24%
- Technical Analysis, 178, 49%
- Strategic Energy Planning, 82, 22%
- Other, 19, 5%

Geographic Distribution Completed Technical Assistance (366) (2010-2020)

- 224, 61%
- 142, 39%

Completed Technical Assistance Requests (366) By State (2010-2020)

- AK: 34
- AZ: 39
- CA: 6
- CO: 1
- CT: 1
- DC: 2
- FL: 2
- IA: 6
- ID: 1
- KS: 2
- LA: 1
- MA: 2
- ME: 4
- MI: 10
- MN: 12
- MS: 5
- MT: 1
- ND: 21
- NE: 16
- NM: 16
- NV: 3
- NY: 7
- OK: 7
- OR: 1
- SC: 2
- SD: 1
- TX: 9
- UT: 10
- WA: 1
- WI: 1
- WY: 1
Total Technical Assistance Requests (2010-2020)

This is government money well spent. This assistance is helping our people afford to live in the village. Thank you!

“This was perfect assistance. NREL and AEA helped us find the problems and correct them. Thank you for your help.”

“This was so good for us! We are saving more money now so we can buy more gas to go hunting and fishing.”

“The workshop was very good. We knew we had energy resources but not how many! This also helped us understand how to better plan for our future energy needs.”
Informational Resources

- **Information Resources**
  - Energy Resource Library
    publications, websites, videos, and more.
  - Curriculum Foundational and Advanced Courses
    Educational webinars

- **Workshops & Webinars**
  - Monthly Webinars
    Monthly webinars provide foundational information, resources and case studies
  - Periodic Workshops
    Workshop on specific topics

- **Tribal Energy Atlas**
  - Interactive Geospatial Tool

http://energy.gov/indianenergy
Assisting Tribes Achieve Their Energy Vision

Clockwise from top right: Nunamiat people of Anaktuvuk Pass (AK); Assiniboine & Sioux Tribes (MT); Picuris Pueblo (NM); Tonto Apache Tribe (AZ); Chaninik Wind Group (AK); Assiniboine & Sioux Tribes (MT); and in the center, Pueblo of Laguna (NM).
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