DOE OFFICE OF INDIAN ENERGY

DOE Indian Energy Program Overview: Tribal Energy Development and Deployment

House Committee on Energy and Commerce



U.S. DEPARTMENT OF ENERGY | Office of Indian Energy

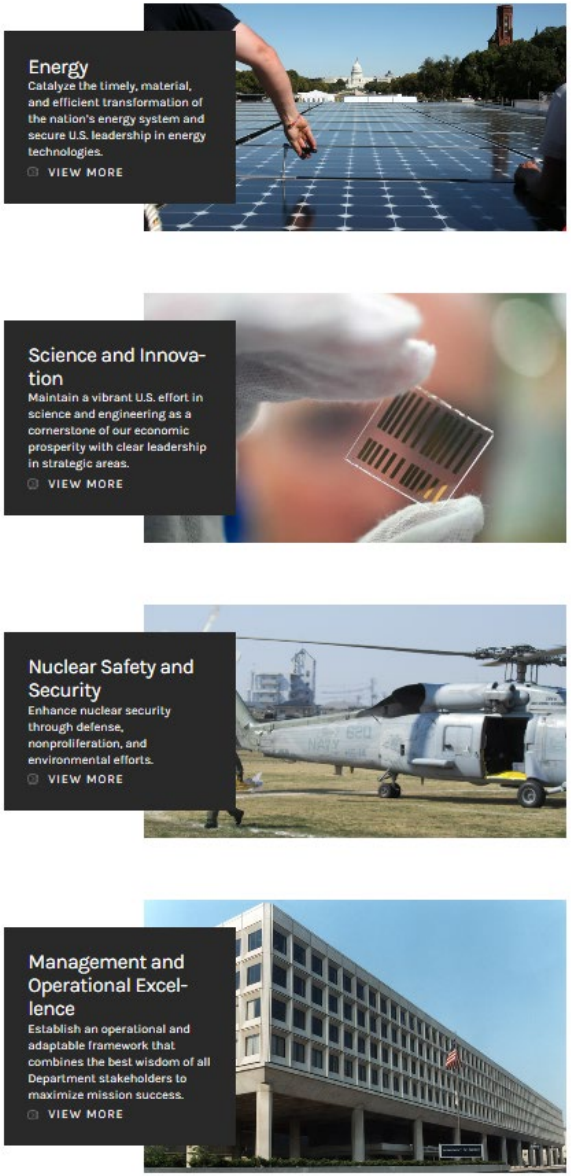
July 7, 2020

Department of Energy

Mission

Ensure America's security and prosperity by addressing its energy, environmental and nuclear challenges through transformative science and technology solutions.

- Energy
- Science and Innovation
- Nuclear Safety and Security
- Management and Operational Excellence



Department of Energy

Program Offices

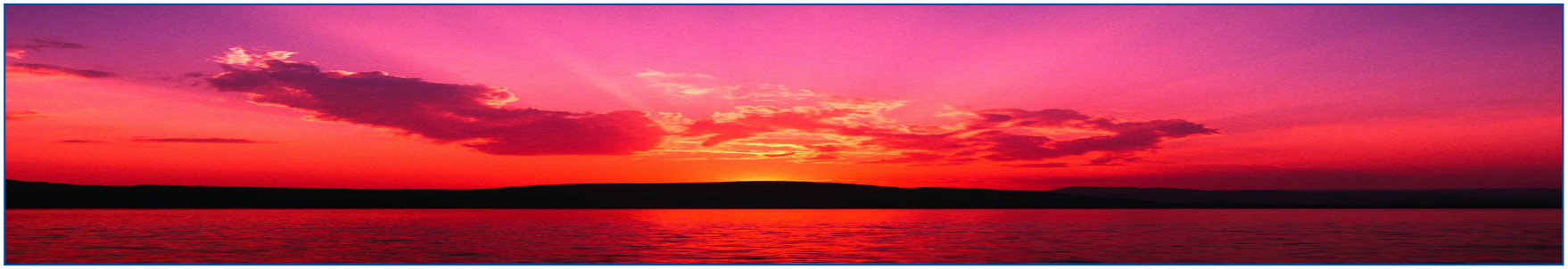
- Cybersecurity, Energy Security, and Emergency Response
- Advanced Research Projects Agency – Energy
- Energy Efficiency and Renewable Energy
- **Indian Energy Policy and Programs**
- Environmental Management
- Office of Electricity
- Loan Program Office
- Office of Fossil Energy
- Legacy Management
- Nuclear Energy
- Office of Science

Office of Indian Energy

Authorized under the Energy Policy Act (EPAct) of 2005 and charged by Congress to:

(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."

Statutory Authority



Indian Energy Education Planning and Management Assistance (25 USC § 3502(b))

"(1) The Director shall **establish programs to assist consenting Indian tribes in meeting energy education, research and development, planning, and management needs**.

"(2) In carrying out this subsection, the Director **may provide grants, on a competitive basis, to an Indian tribe, intertribal organization or tribal energy resource development organization for use in carrying out—**

- "(A) **energy, energy efficiency, and energy conservation programs**;
- "(B) **studies and other activities supporting tribal acquisitions of energy supplies, services, and facilities**, including the creation of tribal utilities to assist in securing electricity to promote electrification of homes and businesses on Indian land;
- "(C) **activities to increase the capacity of Indian tribes** to manage energy development and energy efficiency programs;".
- "(D) **planning, construction, development, operation, maintenance, and improvement of tribal electrical generation, transmission, and distribution facilities** located on Indian land; and
- "(E) **development, construction, and interconnection of electric power transmission facilities** located on Indian land with other electric transmission facilities.

Statutory Authority

Department of Energy Loan Guarantee Program

(25 USC § 3502(c))

Implemented through the DOE Loan Program Office

Secretary of Energy may provide loan guarantees for an amount equal to not more than 90 percent of the unpaid principal and interest due on any loan made to an Indian tribe for energy development.

The aggregate outstanding amount guaranteed by the Secretary of Energy at any time under this subsection shall not exceed $2,000,000,000.

Program Mission

To maximize the development and deployment of strategic energy solutions that benefit tribal communities by providing American Indians and Alaska Natives with the knowledge, skills, and resources needed to implement successful strategic energy solutions.

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.

ICEIWG

The **Indian Country Energy and Infrastructure Working Group (ICEIWG)** works collaboratively with the DOE Office of Indian Energy to assist in surveys, analysis, and recommendations related to program and policy initiatives that fulfill DOE's statutory authorizations and requirements.

May 2018 ICEIWG meeting at Sandia National Laboratories

Deployment Program

Access to Capital

We facilitate access to capital for energy project development through financial assistance (competitively awarded grants), Tribal Energy Loan Guarantee Program and innovative financing strategies.

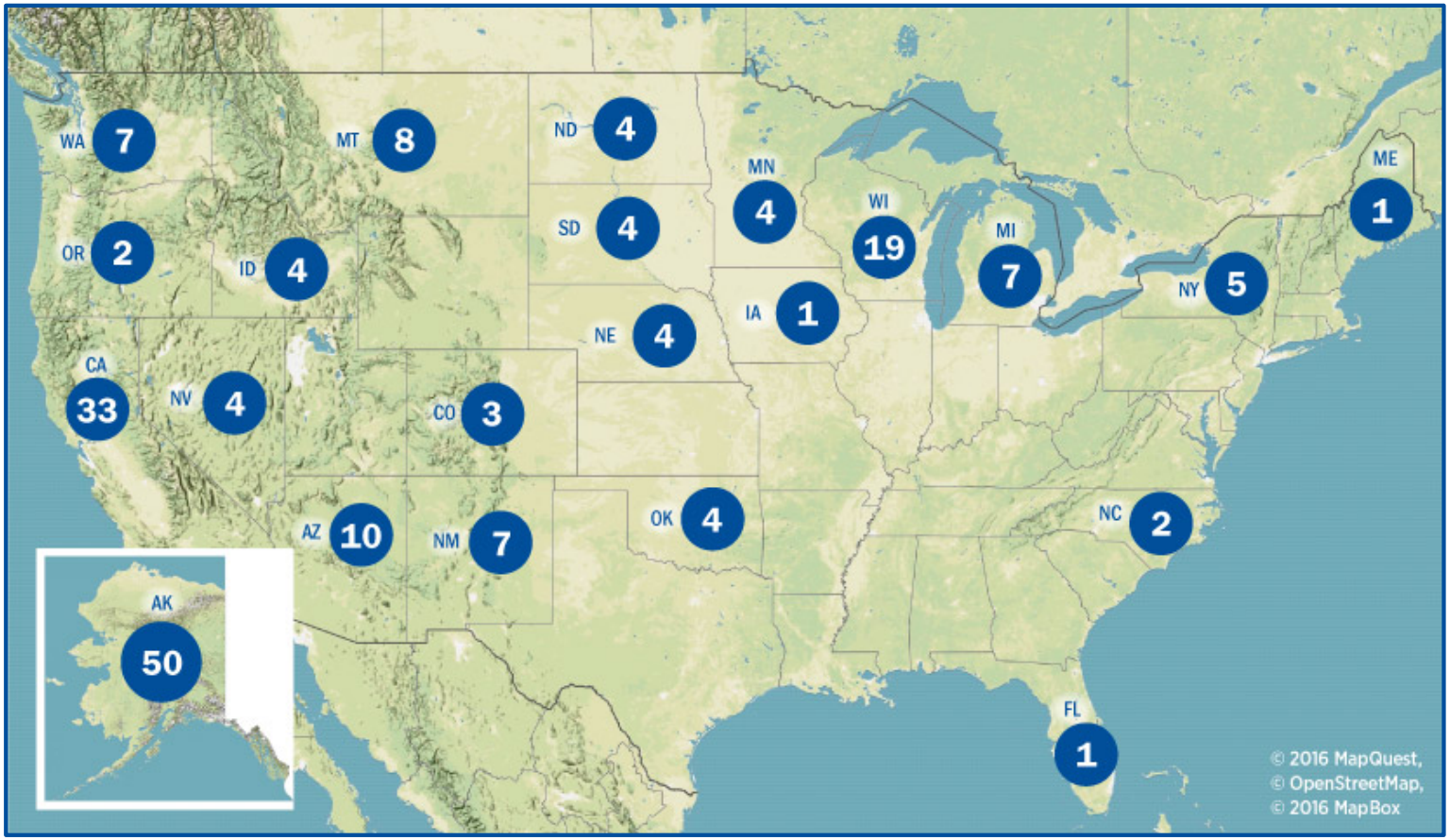
Technical Assistance

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.

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 nearly $85 million in more than 180 tribal energy projects valued at over $180 million *(2010-2019)*



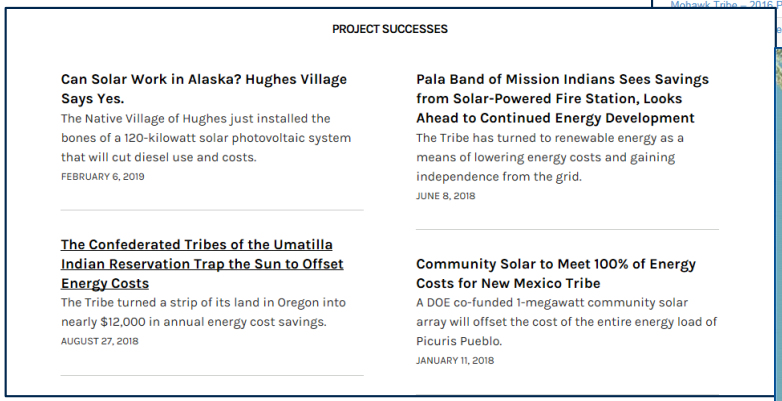
Tribal Energy Investment Transparency

Online Tribal Energy Projects Database

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


Show 10 entries

Project	Tribe	State	Year
Agua Caliente Band of Cahuilla Indians - 2010 Project	Agua Caliente Band of Cahuilla Indians	California	2010
Agua Caliente Band of Cahuilla Indians - 2012 Project	Agua Caliente Band of Cahuilla Indians	California	2012
Agua Caliente Band of Cahuilla Indians-2015 Project	Agua Caliente Band of Cahuilla Indians	California	2015
Ahtna Intertribal Resource Commission – 2016 Project	Ahtna Intertribal Resource Commission	Alaska	2016
Akiachak Native Community – 2017 Project	Akiachak Native Community	Alaska	2017
Akwesasne Housing Authority on behalf of St. Regis Mohawk Tribe – 2016 Project	Akwesasne Housing Authority	New York	2016
...alth Consortium (ANTHC) –	Alaska Native Tribal Health Consortium (ANTHC)	Alaska	2016

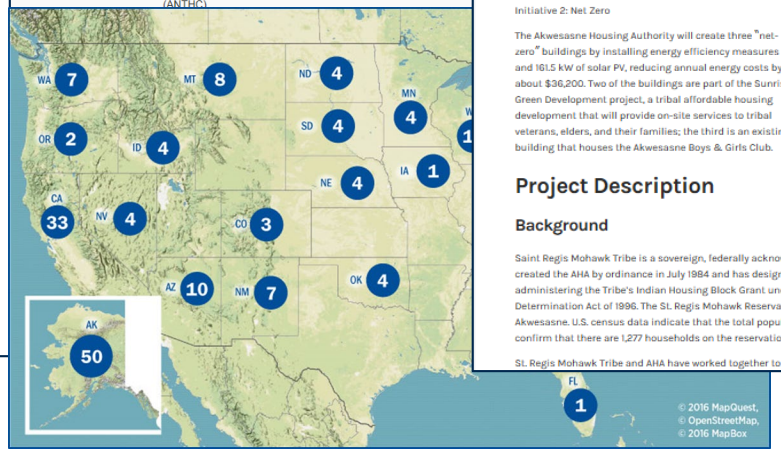

PROJECT SUCCESSES

Can Solar Work in Alaska? Hughes Village Says Yes.
The Native Village of Hughes just installed the bones of a 120-kilowatt solar photovoltaic system that will cut diesel use and costs.
FEBRUARY 6, 2019

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

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 $12,000 in annual energy cost savings.
AUGUST 27, 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 11, 2018




Akwesasne Housing Authority on behalf of St. Regis Mohawk Tribe – 2016 Project

Office of Indian Energy Policy and Programs

Home ▸ Akwesasne Housing Authority on behalf of St. Regis Mohawk Tribe – 2016 Project

Summary

Initiative 1: Go Solar

Under the Community-Scale Akwesasne Housing Authority (AHA) Go Solar Initiative, the St. Regis Mohawk AHA will install approximately 614.74 kilowatts (kW) of solar photovoltaic (PV) systems in Franklin County, New York, to serve 159 housing-related buildings on the Tribe's reservation. The ground-mounted PV systems will be installed on a 25-acre parcel owned by the Tribe, and the generated electrical power will be utilized under National Grid's net metering programs to offset energy use and costs for AHA's buildings and tribal members' residences.

This project will serve 5% of the total tribal community's residential energy load and 4% of the total electrical energy usage including governmental and commercial buildings. When considering all fuels used on the reservation, the project provides a 3.35% reduction of total energy load on the reservation.

Initiative 2: Net Zero

The Akwesasne Housing Authority will create three "net-zero" buildings by installing energy efficiency measures and 161.5 kW of solar PV, reducing annual energy costs by about $36,200. Two of the buildings are part of the Sunrise Green Development project, a tribal affordable housing development that will provide on-site services to tribal veterans, elders, and their families; the third is an existing building that houses the Akwesasne Boys & Girls Club.

Project Overview

Tribe/Awardee
Akwesasne Housing Authority

Location
Hogansburg, NY

Project Title
Community-Scale AHA Go Solar Initiative and Net Zero Initiative

Type of Application
Deployment

DOE Grant Number
DE-EE0000038

Project Amounts
DOE: $1,500,000
Awardee: $1,837,831
Total: $3,337,831

Project Status
See project status

Project Period of Performance
Start: July 2016
End: June 2019

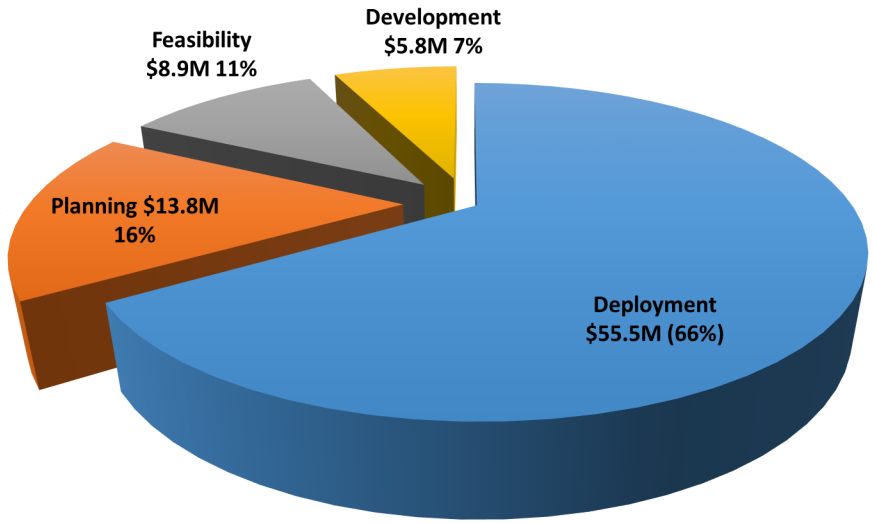
Project Description

Background

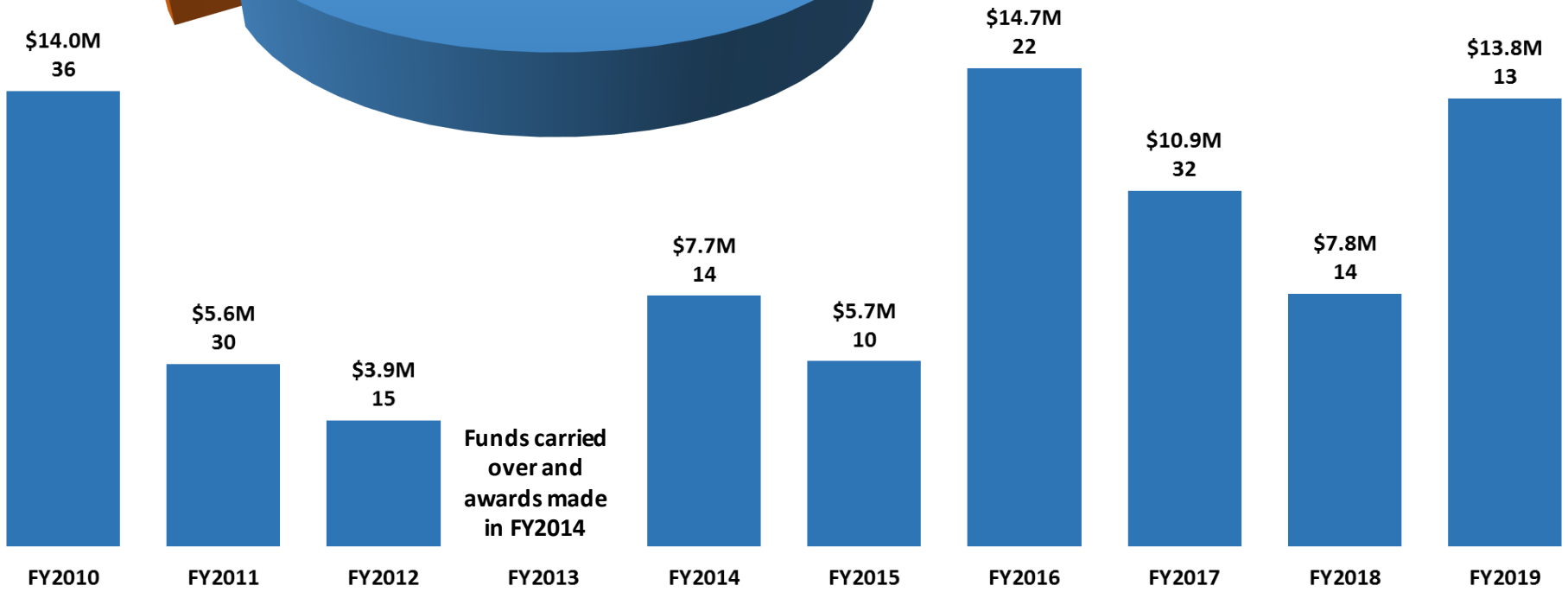
Saint Regis Mohawk Tribe is a sovereign, federally acknowledged Indian tribe. The Tribal Council created the AHA by ordinance in July 1984 and has designated the AHA as its agency for purposes of administering the Tribe's Indian Housing Block Grant under the Native American Housing and Self-Determination Act of 1996. The St. Regis Mohawk Reservation is also known by its Mohawk name Akwesasne. U.S. census data indicate that the total population is 2,919, and U.S. Post Office data confirm that there are 1,277 households on the reservation.

St. Regis Mohawk Tribe and AHA have worked together to develop a 10-Year Tribal Strategic Energy

Financial Assistance Investments (2010-2019)

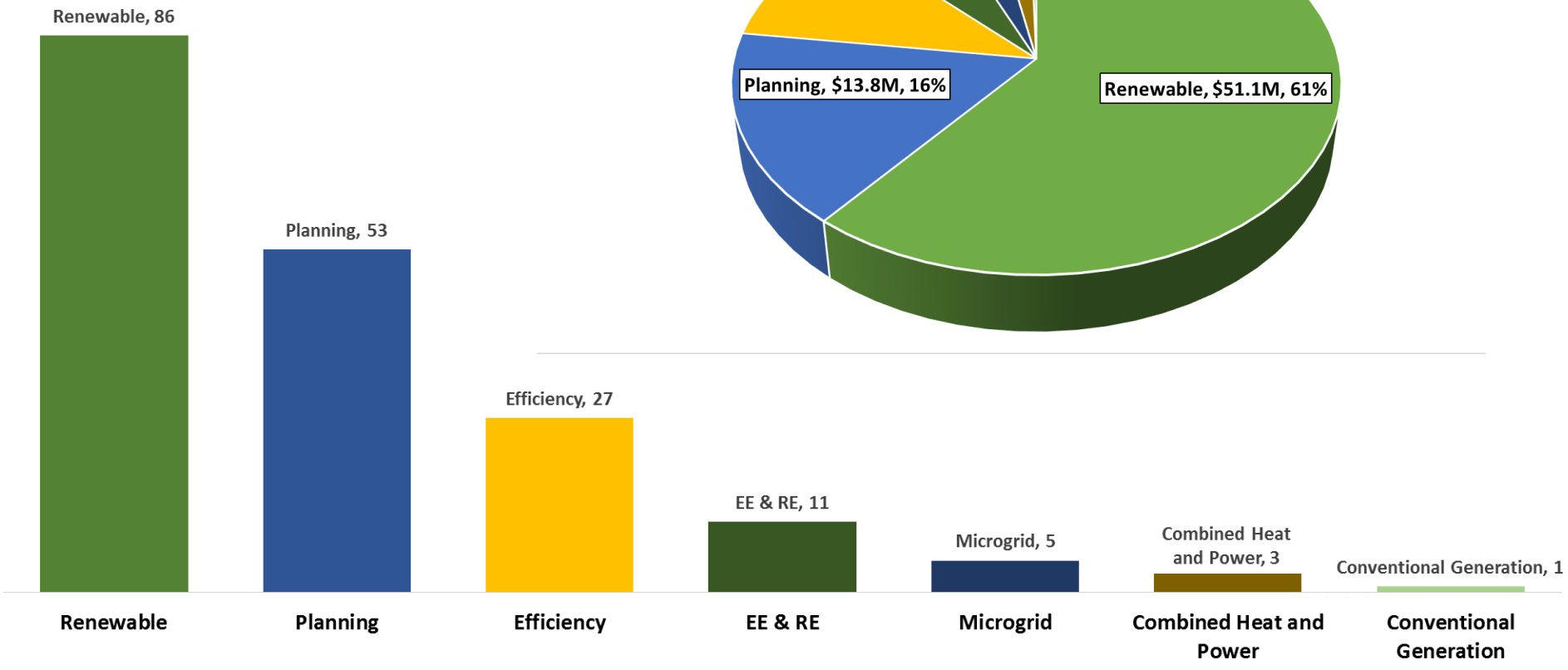


Nearly $85 million in more than 180 tribal energy projects (average of ~$8.4M per year)



* FY2018 selections awarded and started in FY2019

Investments by Technology (2010-2019)



Tribal Energy Successes

Clockwise from top right: Seneca Nation's 1.5 MW turbine (2017) (NY); Rosebud Sioux (SD) solar system on low-income home (2016); Chaninik Wind Group (AK) thermal stove install (2013); Southern Ute (CO) 1.3 MW Oxford Solar Project (2017).; Huslia Tribal Council's (AK) Biomass Project (2018); and Nunamiut people of Anaktuvuk Pass (AK) energy efficiency measures (2013).

Annual Program Review

Unique Tribal Forum for Sharing and Learning

- Forum for Tribes to meet and learn from other each other and to share their successes and challenges
- Networking & learning opportunity
- Typically forty to fifty (40-50) Tribal energy projects presented
- Typically ~200 participants

Sheraton Denver West Hotel in Lakewood, Colorado

Typically the 3rd week of November

For more, see https://www.energy.gov/indianenergy/projects/program-review

Financial Assistance

Competitive Process (2010-2019)

- **16 Funding Opportunity Announcements (FOAs) issued**
  (Includes FOA's issued in 2009 for award in 2010)
- **Accepted a total of 610 applications, valued at $625 million**
- **Funded 95% of all meritorious applications** (Total of 186 out of 196)
- **Funded ~30% of all applications received** (186 out of 610)
  DOE average is ~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.

2020 Funding Opportunity

This FOA is consistent with the principles of tribal sovereignty and self-determination, and with an all of-the-above energy strategy that recognizes the breadth of energy resources on Tribal Lands, and each Tribe's right to use them as they see fit. Projects sought under this FOA are **fuel and technology neutral**.

Specifically, DOE's Office of Indian Energy is soliciting applications from **Indian Tribes, which include Alaska Native Regional Corporations and Village Corporations, Intertribal Organizations, and Tribal Energy Development Organizations**. Applications may also be submitted on behalf of Indian Tribe(s) by an authorized Tribal Organization, provided evidence of that authority is supplied as part of the application.

Closes July 30, 2020

2020 Funding Opportunity – Topic Areas

Energy Technology Deployment on Tribal Lands – 2020

Funding Opportunity Announcement (FOA)

Number: DE-FOA-0002317

1) Install energy generating system(s) and energy efficiency measure(s) for Tribal Building(s) (Topic Area 1); or,
2) Deploy community-scale energy generating system(s) or energy storage on Tribal Lands (Topic Area 2); or,
3) Install integrated energy system(s) for autonomous operation (independent of the traditional centralized electric power grid) to power a single or multiple essential tribal facilities during emergency situations or for tribal community resilience (Topic Area 3); or,
4) Deploy energy infrastructure and integrated energy system(s) to electrify Tribal Buildings (Topic Area 4).

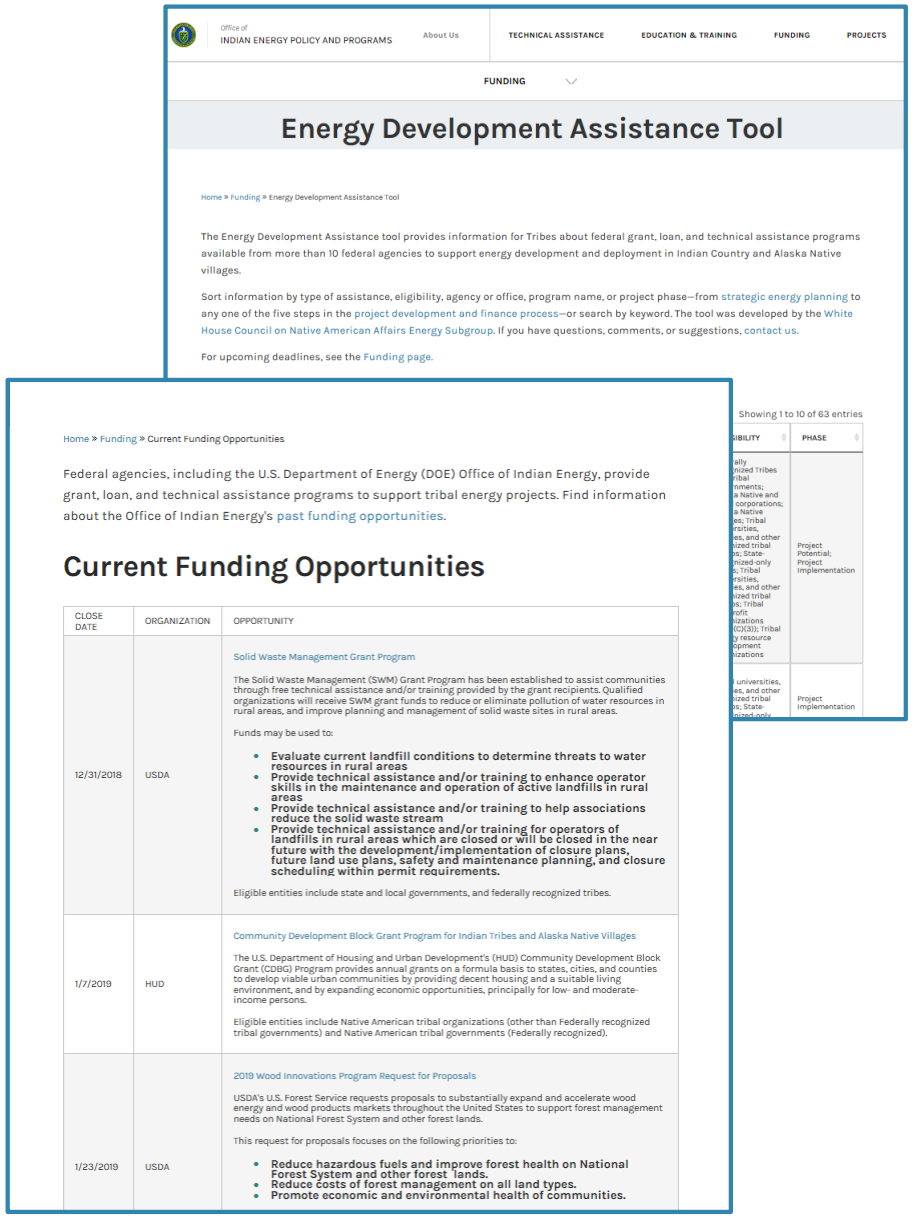
Funding Resources

- **Energy Development Assistance Tool**
  Information for Tribes about federal grant, loan, and technical assistance programs available from more than 10 federal agencies to support energy development and deployment in Indian Country and Alaska Native villages

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

- **Ongoing Opportunities**
  Links to ongoing technical assistance, grant, loan and loan guarantee programs

http://energy.gov/indianenergy



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.

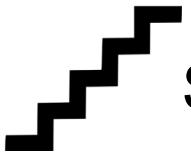
http://energy.gov/indianenergy

"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

Technical Assistance Types

Technical Analysis

Assistance in technical analysis generally involves analysis and modeling, expert review, transmission and/or utility assessment, market access, and energy efficiency reviews. This assistance is intended to address a specific project needs and result in a tangible product or deliverable to move a specific project forward.

Financial Analysis

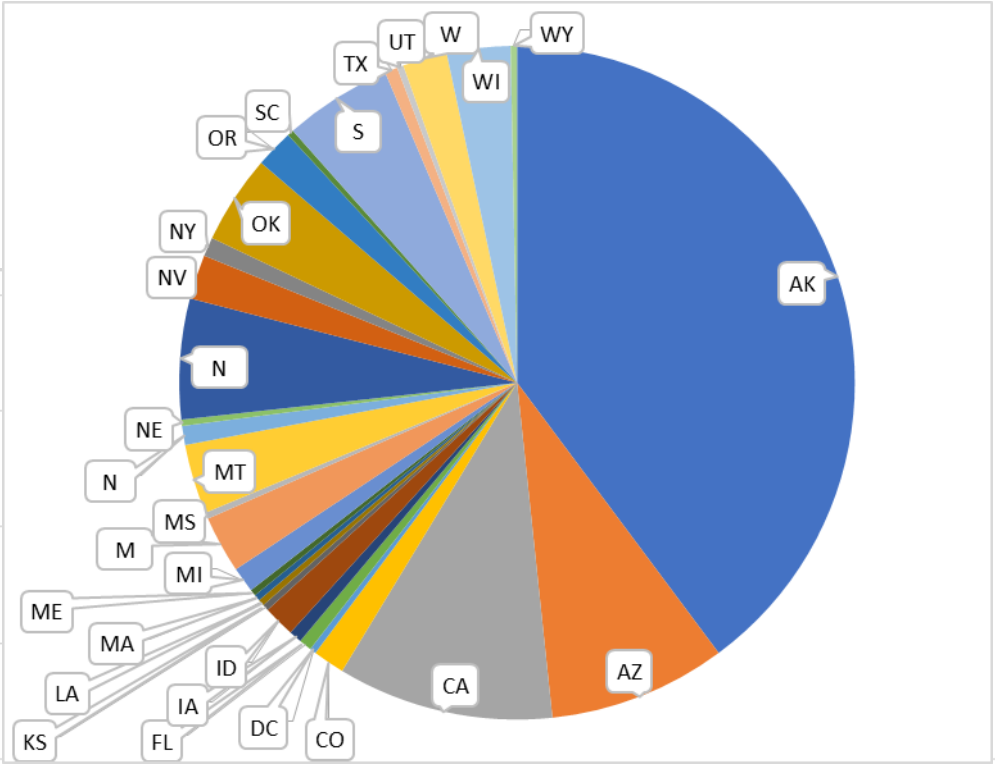
Financial analysis assistance is intended for decision makers in the early stages of energy development, including economic or market analysis. This assistance may include modeling for payback periods, net present value (NPV), and levelized cost of energy (LCOE).

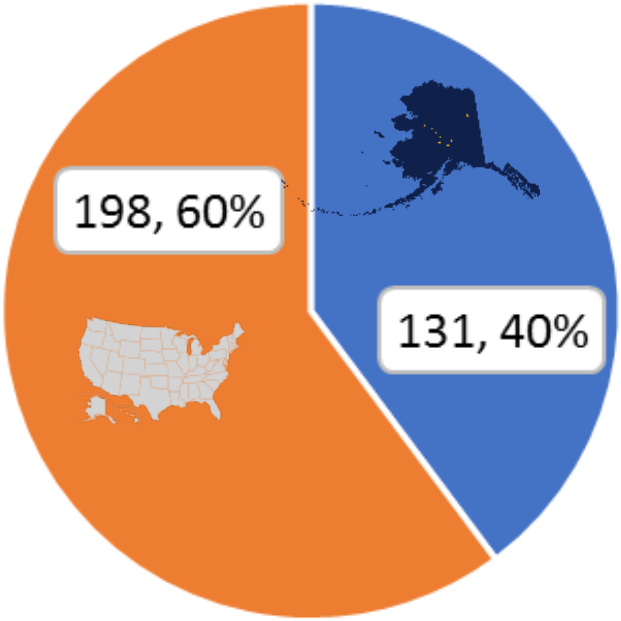
Strategic Energy Planning

Assistance in strategic planning may provide an initial resource assessment, energy options analyses, and development of a viable roadmap for development. This assistance typically includes an on-site workshop facilitated by tribal energy expert(s) to assist tribal leaders, elders and staff develop an energy plan.

Strategic Energy Planning

Technical Assistance Requests (Completed, 2010-June 2019)





Technical Assistance Feedback

"This was very helpful! Now we have to figure out what we want to do. The study was very detailed. We appreciate the work by WAPA."

"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."

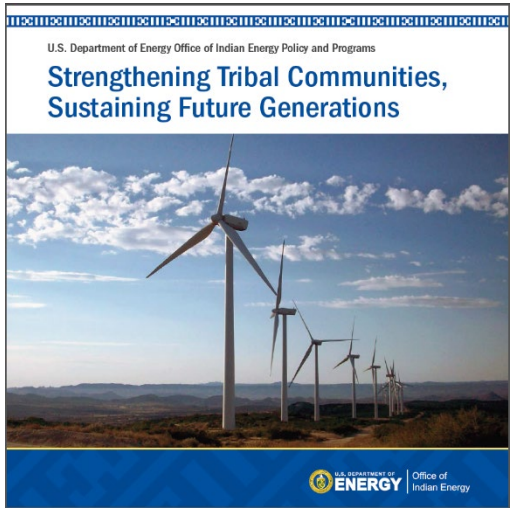
"This was perfect assistance. NREL and AEA helped us find the problems and correct them. Thank you for your help."

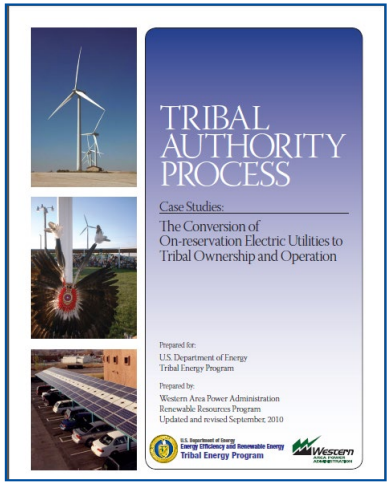
"The WAPA market analysis was very useful."

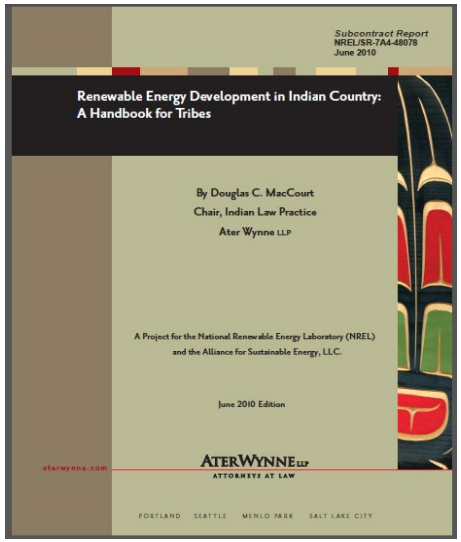
"This was so good for us! We are saving more money now so we can buy more gas to go hunting and fishing."

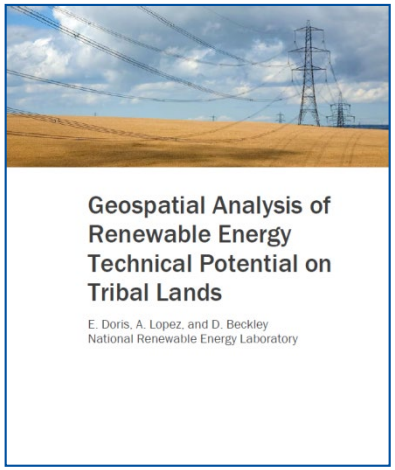
Resources

- **Information Resources**
  - **Energy Resource Library**
    Provides links to helpful resources for tribes on energy project development and financing on tribal lands. The library includes links to topically relevant publications, websites, videos, and more.
  - **Curriculum Foundational and Advanced Courses**
    Educational webinars on strategic energy planning, project development, resources technologies, and advance concepts such as business structures and financing
- **Workshops & Webinars**
  - **Monthly Webinars**
    Monthly webinars provide foundational information, resources and case studies
  - **Periodic Workshops**
    Workshop on specific topics









http://energy.gov/indianenergy

Resources

Research

- Identifying Barriers and Pathways for Renewable Energy Development on American Indian Lands
- Solar Energy Prospecting in Remote Alaska (2016)
- Tribal Energy System Vulnerabilities to Climate Change and Extreme Weather (2015)
- Venetie, Alaska Energy Assessment (2013)
- Geospatial Analysis of Renewable Energy Technical Potential on Tribal Lands (2013)
- Financing Opportunities for Renewable Energy Development in Alaska (2013)

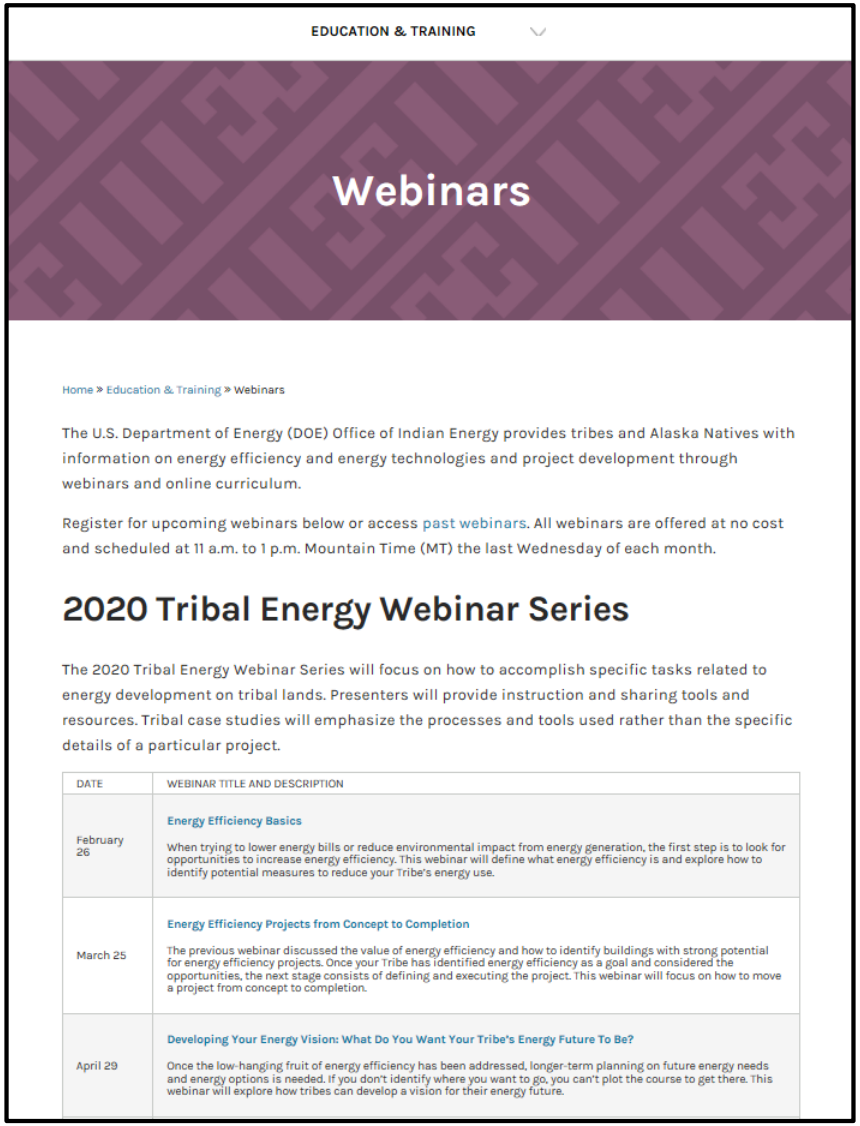
Posted on the Energy Resource Library

Monthly Webinars

Sponsored by the Office of Indian Energy

The U.S. Department of Energy (DOE) Office of Indian Energy provides tribes and Alaska Natives with information on energy efficiency and energy technologies and project development through webinars and online curriculum.

Register for upcoming webinars below or access past webinars. All webinars are **offered at no cost and scheduled at 11 a.m. to 1 p.m. Mountain Time (MT) the last Wednesday of each month.**



EDUCATION & TRAINING

Webinars

Home » Education & Training » Webinars

The U.S. Department of Energy (DOE) Office of Indian Energy provides tribes and Alaska Natives with information on energy efficiency and energy technologies and project development through webinars and online curriculum.

Register for upcoming webinars below or access past webinars. All webinars are offered at no cost and scheduled at 11 a.m. to 1 p.m. Mountain Time (MT) the last Wednesday of each month.

2020 Tribal Energy Webinar Series

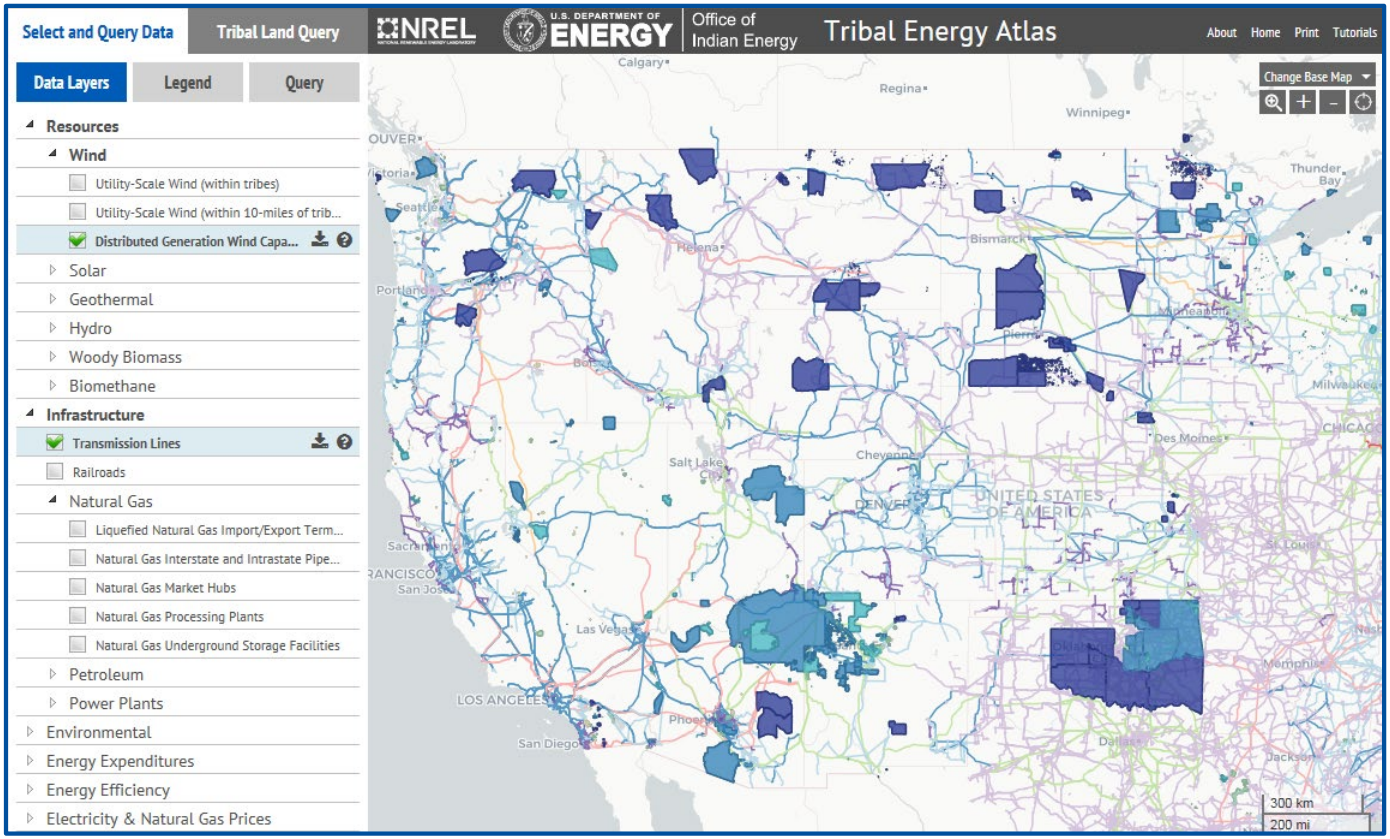
The 2020 Tribal Energy Webinar Series will focus on how to accomplish specific tasks related to energy development on tribal lands. Presenters will provide instruction and sharing tools and resources. Tribal case studies will emphasize the processes and tools used rather than the specific details of a particular project.

DATE	WEBINAR TITLE AND DESCRIPTION
February 26	**Energy Efficiency Basics** When trying to lower energy bills or reduce environmental impact from energy generation, the first step is to look for opportunities to increase energy efficiency. This webinar will define what energy efficiency is and explore how to identify potential measures to reduce your Tribe's energy use.
March 25	**Energy Efficiency Projects from Concept to Completion** The previous webinar discussed the value of energy efficiency and how to identify buildings with strong potential for energy efficiency projects. Once your Tribe has identified energy efficiency as a goal and considered the opportunities, the next stage consists of defining and executing the project. This webinar will focus on how to move a project from concept to completion.
April 29	**Developing Your Energy Vision: What Do You Want Your Tribe's Energy Future To Be?** Once the low-hanging fruit of energy efficiency has been addressed, longer-term planning on future energy needs and energy options is needed. If you don't identify where you want to go, you can't plot the course to get there. This webinar will explore how tribes can develop a vision for their energy future.

To register, see the Indian Energy website at www.energy.gov/indianenergy

Tribal Energy Atlas

First-of-its-kind interactive geospatial application that enables tribes to conduct their own analyses of installed energy projects and resource potential on tribal lands.



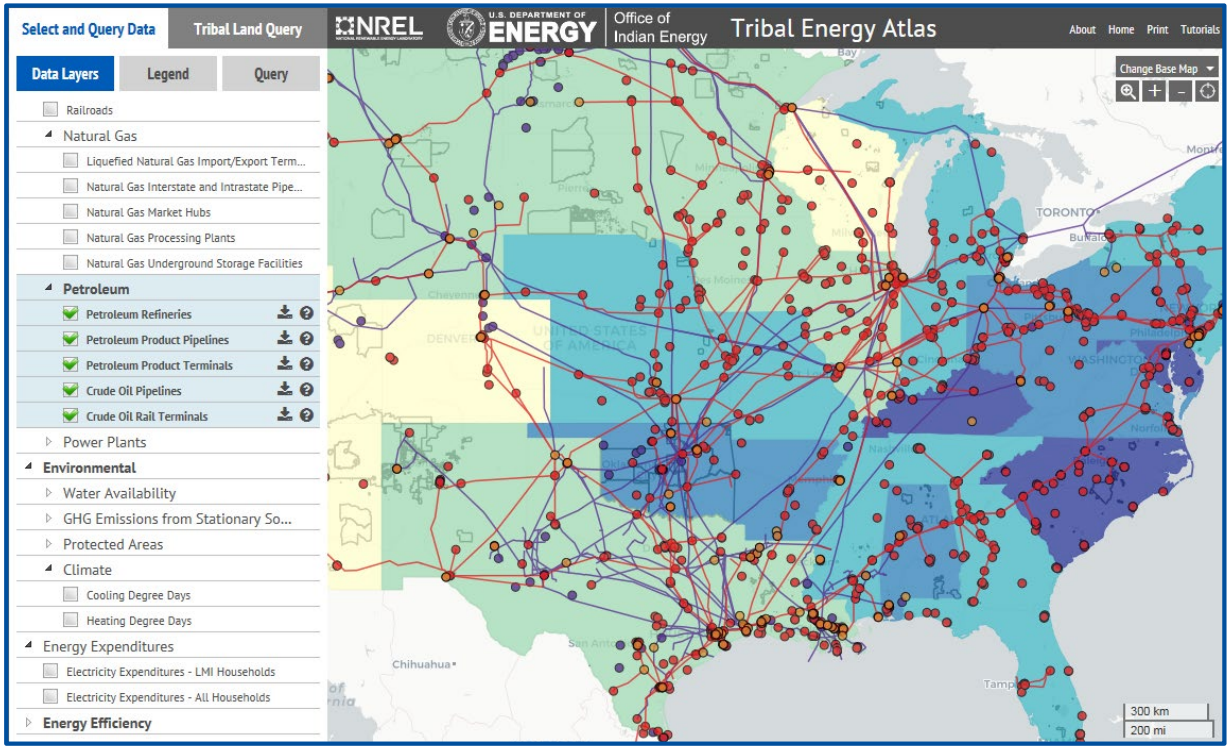
To access, see the Indian Energy website at www.energy.gov/indianenergy

Tribal Energy Atlas

Includes the most current technical and economic tribal energy potential estimates

Includes:

- Energy resource data
- Infrastructure information
- Environmental information
- Energy efficiency
- Electricity and natural gas prices



To access, see the Indian Energy website at www.energy.gov/indianenergy

Tribal Energy Successes

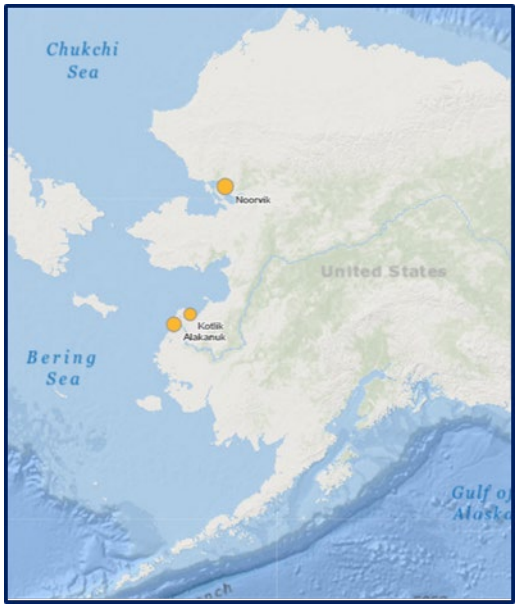
Seneca Nation of Indians (NY) installation of 1.5 MW turbine (April 2017)

Picuris Pueblo (NM) completion of the 1 MW solar photovoltaic system (October 2017)

Tribal Energy Successes


Selawik, Alaska

Alaska Native Tribal Health Consortium (AK) sanitation energy efficiency retrofits for Alakanuk, Kotlik and Noorvik saving over $200,000 annually (September 2017)



Alaska Native Tribal Health Consortium (AK) upgraded sanitation facilities in Selawik reducing expenses by 32%, or about $217,227 annually (2016)

Tribal Energy Successes

The **Pala Band of Mission Indians (CA)** installed a 91 kW solar system on their Fire Station which will save $52,000 each year or $1.3 million over the life of the system (May 2016)

The **Spokane Tribe's (WA)** Children of the Sun Solar Initiative (COSSI) will add 650 kilowatts (kW) of solar capacity to tribal buildings and save the community an estimated $2.8 million over the next 30 years (June 2019)

Tribal Energy Successes

Yukon River Inter-Tribal Watershed Council (AK) installed energy efficiency measures for the Nunamiut people of Anaktuvuk Pass to reduce energy use by 34%

Chaninik Wind Group (AK)
Thermal heating using wind energy (November 2012)

The **Gwichyaa Zhee Gwich'in Tribal Government (AK)** installed a 18 kW solar system on the Tribal Office to save $11,338 annually (January 2016)

Tribal Energy Successes

Huslia Tribal Council's (AK) Biomass Project (2018)

Future Site of **Hughes** Solar PV Array (AK)

Oct 30th 2018 **Hughes, AK** North of the Arctic Circle (2018)

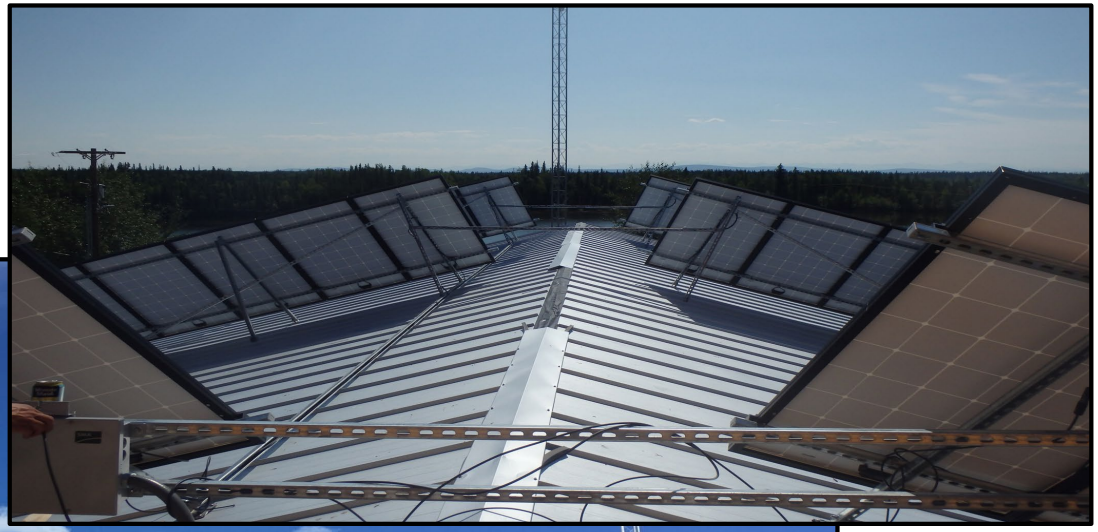
Tribal Energy Successes

The **Bishop Paiute Tribe (CA)** Residential Solar Program with two grants from DOE will install 178 kW on 56 homes (April 2017)

Soboba Band of Luiseño Indians (CA)
1 MW solar installation (July 2016)

Tribal Energy Successes

Northway Village (AK) "Resilient and sustainable through Energy Efficiency and Solar PV Power (2018)



Tribal Energy Successes

Menominee Tribal Enterprise (WI) Ribbon cutting for biomass combined heat and power system (April 2016)

Southern Ute Indian Tribe (CO) Construction completed on the 1.3 MW Oxford Solar Project (June 2017).

Rosebud Sioux Tribe (SD) installed a solar system on low-income home (August 2016)

Tribal Energy Successes

NANA Regional Corp. Solar Project
(Buckland, Deering, and Kotzebue, AK (2018)

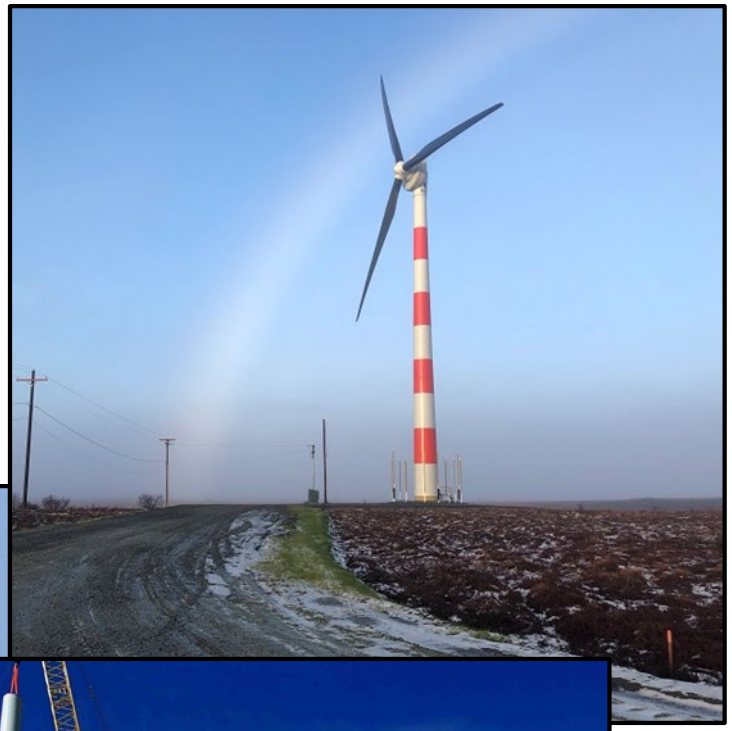
Buckland, AK

Tribal Energy Successes

Council Of Athabascan Tribal Governments and Gwitchyaa Zhee Corporation (AK) Combined Heat and Powerhouse (below) and the Old Power Plant (top) (December 2017)

Oneida Nation (WI) installed 800 kilowatts of solar photovoltaic for 6 buildings (November 2017)

Tribal Energy Successes



Alaska Village Electric Cooperative, Inc. (AVEC) and Bethel Native Corporation's (BNC) "Bethel Wind Energy Construction Project" to benefit the communities of Bethel and Oscarville, AK (September 2018)

Assisting Tribes Achieve Their Energy Vision

Clockwise from top right: **Nunamiut 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).