

DOE OFFICE OF INDIAN ENERGY

DOE Indian Energy Program Overview

New Mexico Tribal Solar Economic Forum

Tweedie Doe, Project Officer



U.S. DEPARTMENT OF
ENERGY

Office of
Indian Energy

October 15, 2021

■ Agenda

Background

Authorities

Deployment Program

- Financial Assistance
- Technical Assistance
- Education and Outreach

Resources

FY2022 Goals & Priorities



Primary Constituents (EPA Act 2005)

- **574 Federally Recognized Indian Tribes including:**
 - **347 Indian tribes**
 - **227 Alaska Native villages**

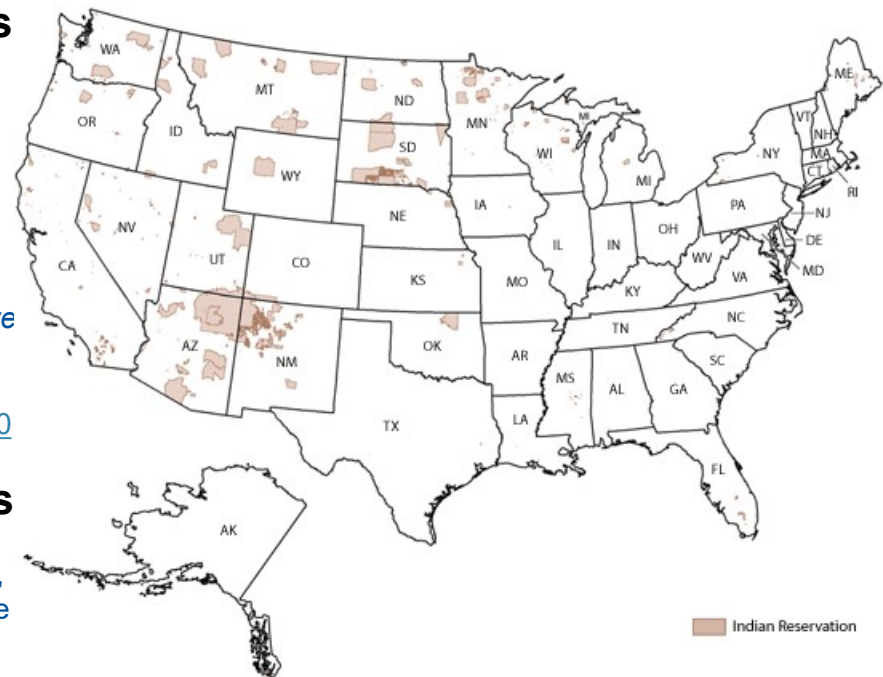
As listed in [Indian Entities Recognized and Eligible to Receive Services from the United States Bureau of Indian Affairs](#), published by the Department of Interior's Bureau of Indian Affairs in the Federal Register on [January 30, 2020, 85 FR 20](#)

- **200+ Alaska Native village corporations**

"Alaska Native Village Corporations" or "Village Corporation", are as defined in or established pursuant to the Alaska Native Claims Settlement Act (43 U.S.C. § § 1602(J)).

- **13 Alaska Native Regional Corporations**

"Alaska Native Regional Corporations", as defined in and established pursuant to the Alaska Native Claims Settlement Act (43 U.S.C. § § 1602(g)), where the 13th represents non-resident Alaska Natives.



Department of Interior's (DOI's) trust responsibility limited to trust land

Majority of Alaska Land owned by Regional Corporations



■ Potential Renewable Resources

Table ES-1. Utility-Scale Technical Potential on Tribal Lands in the Contiguous 48 States

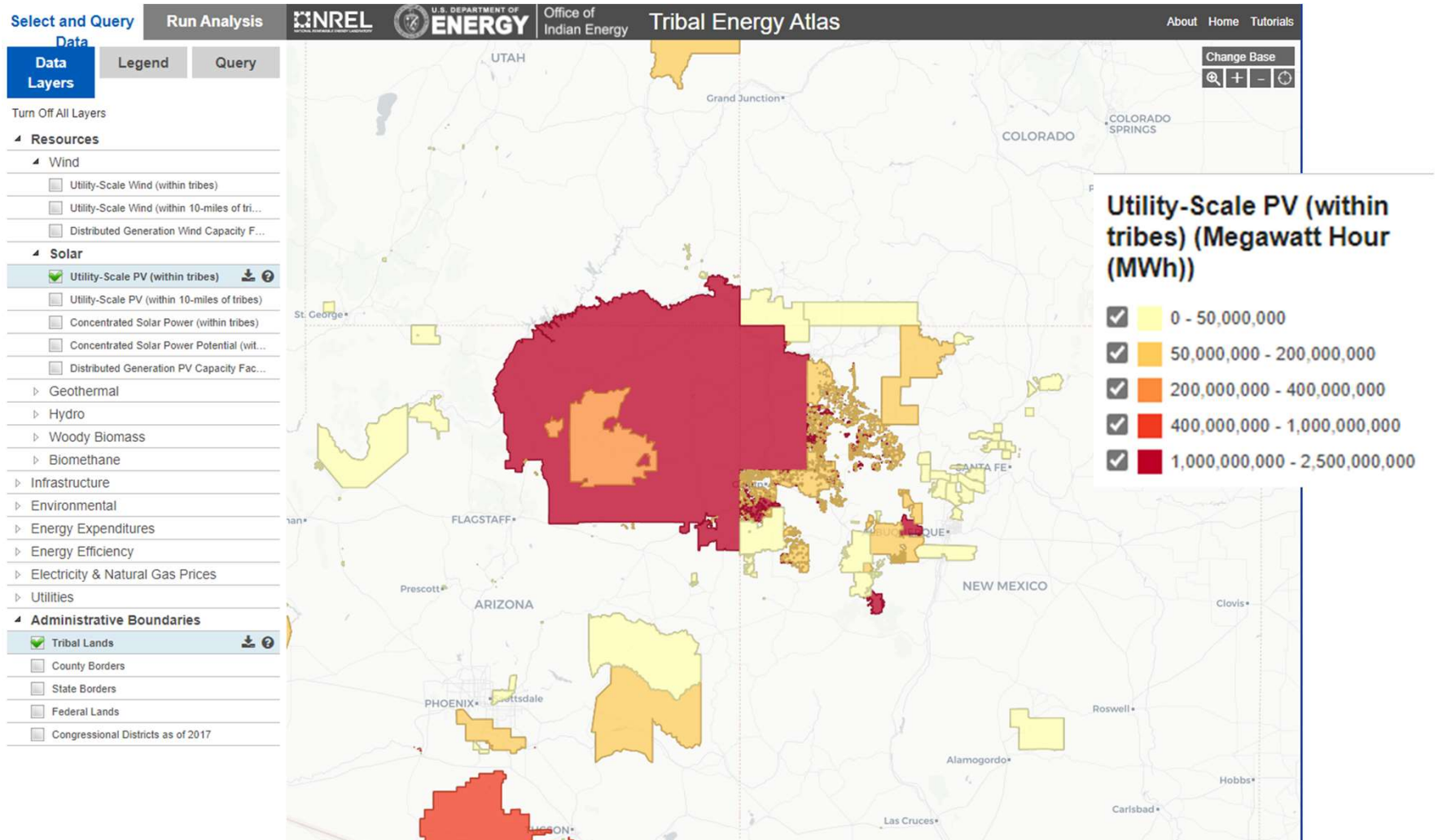
Technology	Tribal Capacity Potential (GW)	National Capacity Potential (GW)	National Capacity (%)	Tribal Generation Potential (TWh)	National Generation Potential (TWh)	National Generation (%)
Utility-scale PV	6,035	118,918	5%	10,689	197,087	5.4%
CSP	2,114	26,318	8%	7,701	92,994	8.3%
Wind	891	10,119	8.8%	2,394	30,781	7.8%
Geothermal (hydrothermal)	0.033	5.7	0.6%	0.228	39	0.6%
Biomass (wood)	0.542	34	1.6%	2	156	1.6%
Hydropower	21	62	34.4%	124	342	36.4%
Total^a	9,063	155,457	5.8%	20,912	321,401	6.5%

^a Each technology is evaluated separately; the same land area might be available for many technologies.

<https://www.nrel.gov/docs/fy18osti/70807.pdf>



Tribal Solar Potential in New Mexico



<https://www.energy.gov/indianenergy/projects/tribal-energy-atlas>



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■ Barriers to Energy Development

- Indian tribes and tribe-owned businesses are non-taxable entities and thus are **not eligible to receive federal or state tax incentives**, including tax credits, deductions, or other tax subsidies currently used to stimulate energy deployment.
- According to a 2012 study by the Board of Governors of the Federal Reserve System*, Indian tribes also face a **multitude of challenges in economic and business development** in Indian Country. Among the key challenges are a
 - **Lack of access to capital and**
 - **Underdeveloped physical infrastructure**

* Growing Economies in Indian Country: Taking Stock of Progress and Partnerships A Summary of Challenges, Recommendations, and Promising Efforts, Published by the Board of Governors of the Federal Reserve System April 2012.



■ ■ Barriers to Energy Development

Most Significant Barriers (Ranked Order)*
Financing and funding
Infrastructure
Leadership/Staff (limited capacity and education)
Customers (primarily for large scale development)
Partnerships
Community vision & stakeholder buy-in & cultural acceptance
Depends on regulation, incentives, energy market
Permitting
Strategic Energy Planning
Federal policy & programs



* Jones, T., Necefer, L. (2016). Identifying Barriers and Pathways for Success for Renewable Energy Development on American Indian Lands (SAND2016-311J). Sandia National Laboratories (SNL-NM), Albuquerque, NM (United States).

Office of Indian Energy

The DOE Office of Indian Energy is charged by Congress under the **Indian Tribal Energy Development and Self Determination Act of 2005** (Energy Policy Act of 2005 (EPAAct 2005), Title V, codified at 42 USC § 15801) 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.



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.



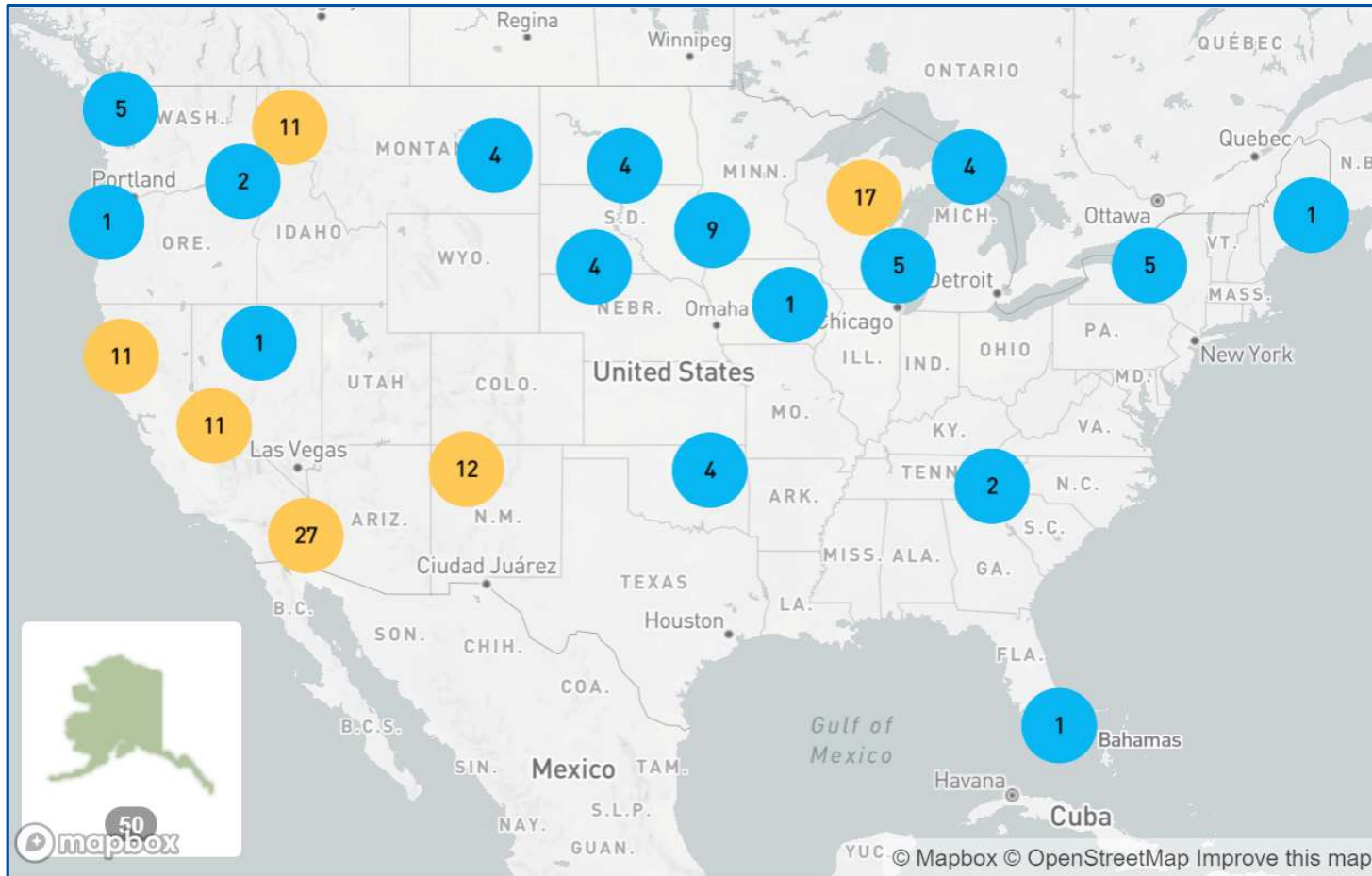
Education and Capacity Building

Thorough regional workshops, webinars, and college student internships, we support tribal efforts to build internal capacity to develop energy projects and navigate energy markets.



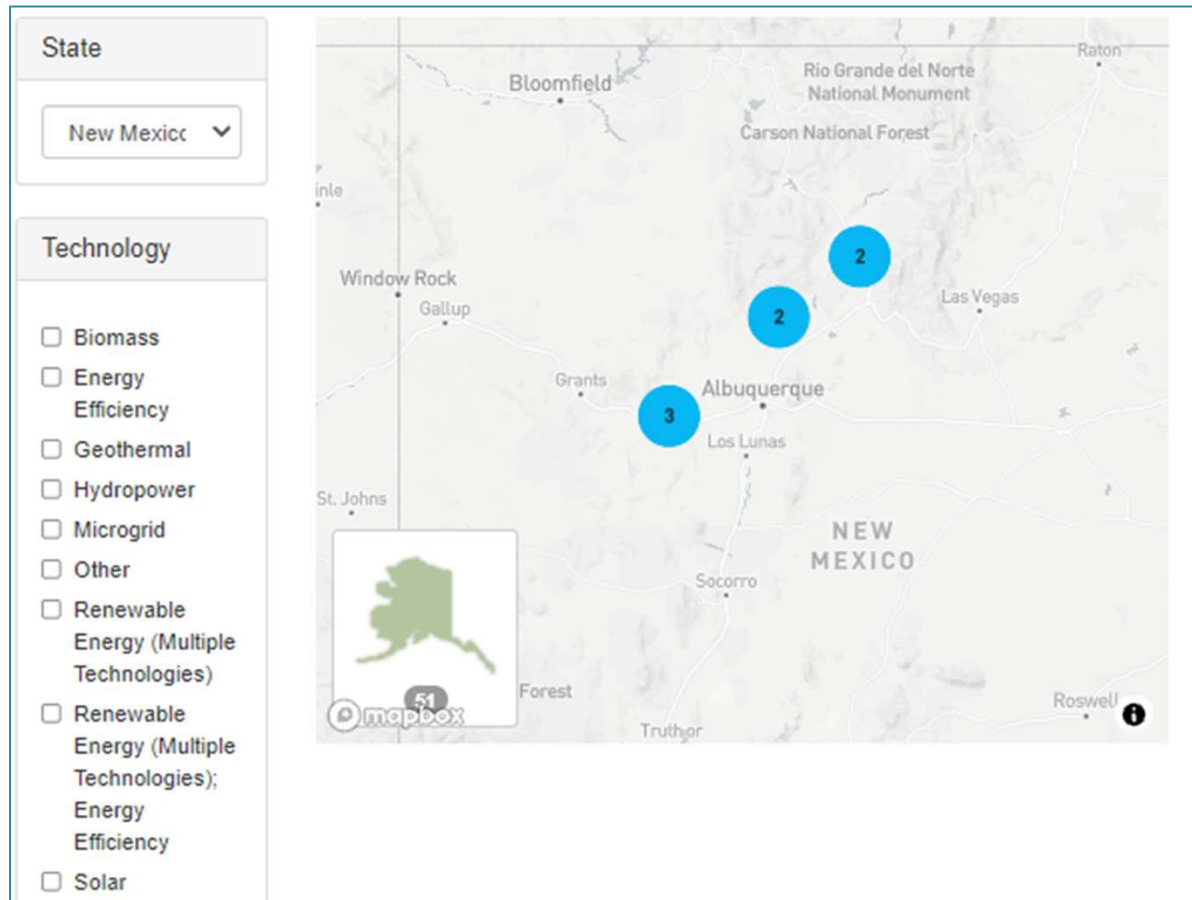


Invested over \$100 million in more than 190 tribal energy projects valued at over \$180 million (2010-2020)





Invested over \$3.1 million in 7 NM energy projects valued over \$6.3 million *(2010-2020)*



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

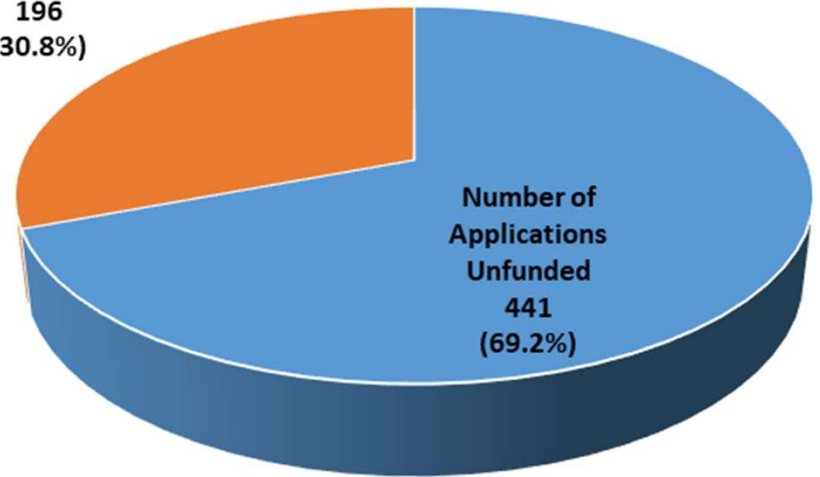
The Office of Indian Energy has primarily fulfilled the requirements under 42 U.S.C. § 7144e by providing cost shared federal funding to Indian tribes and tribal entities through competitive financial assistance awards.



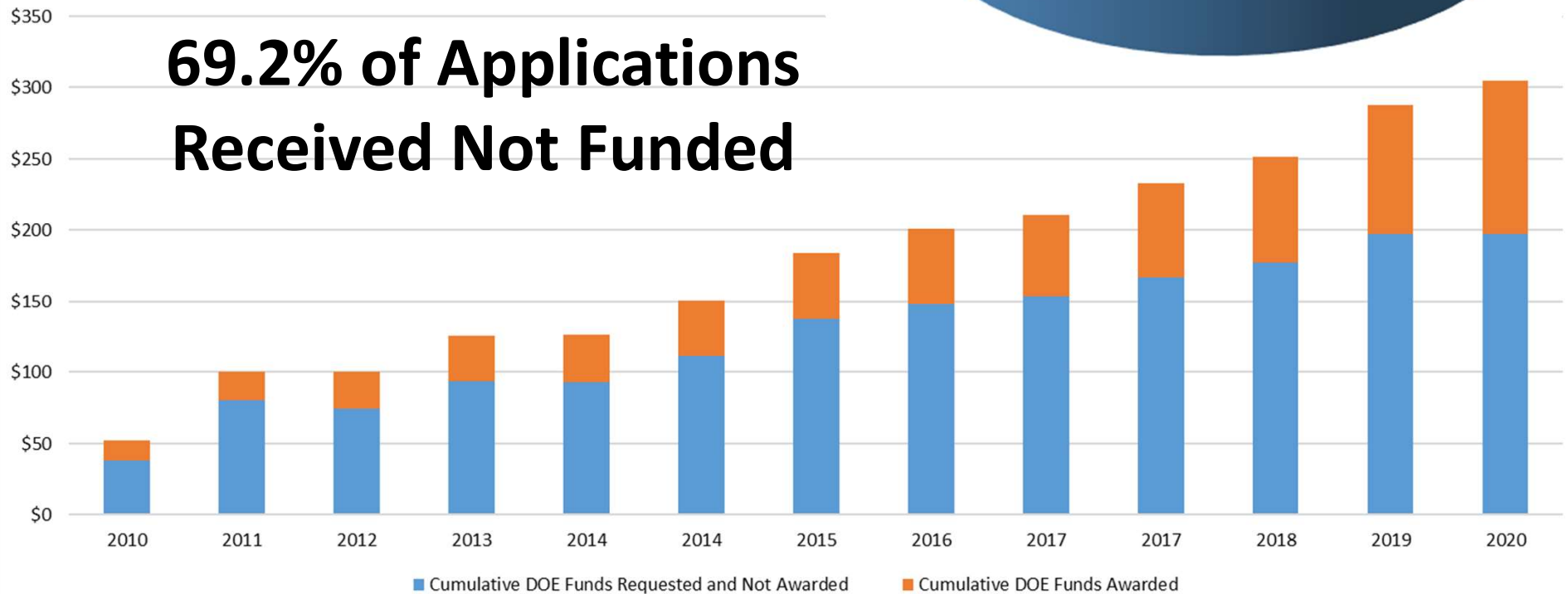
Financial Assistance

Nearly \$200M in Unfunded Requests

Applications Funded by Count
 Number of Applications Awarded
 196 (30.8%)

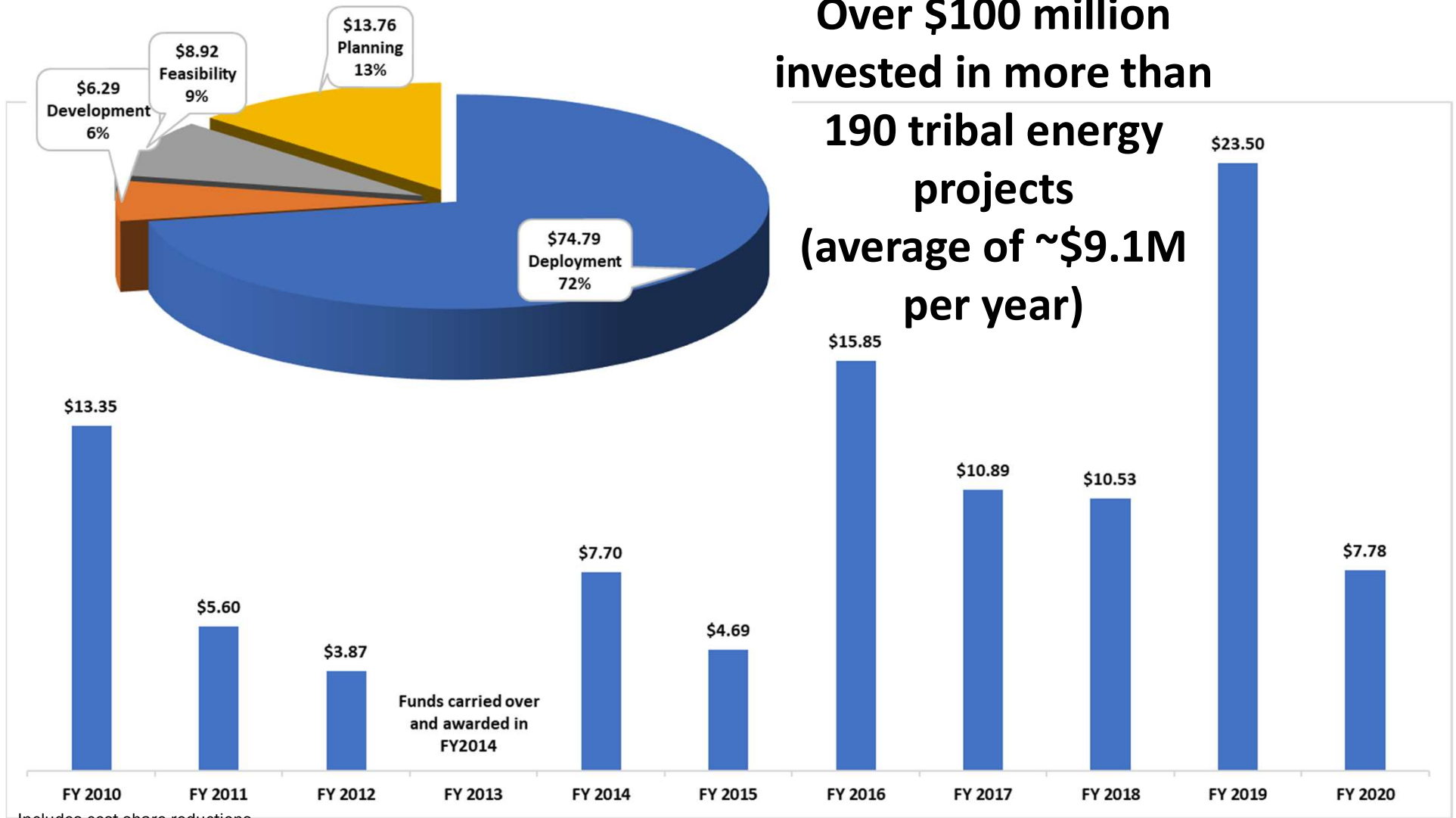


69.2% of Applications Received Not Funded



FY2020 includes \$12.52M in cost share reductions

Financial Assistance Investments (2010-2020)



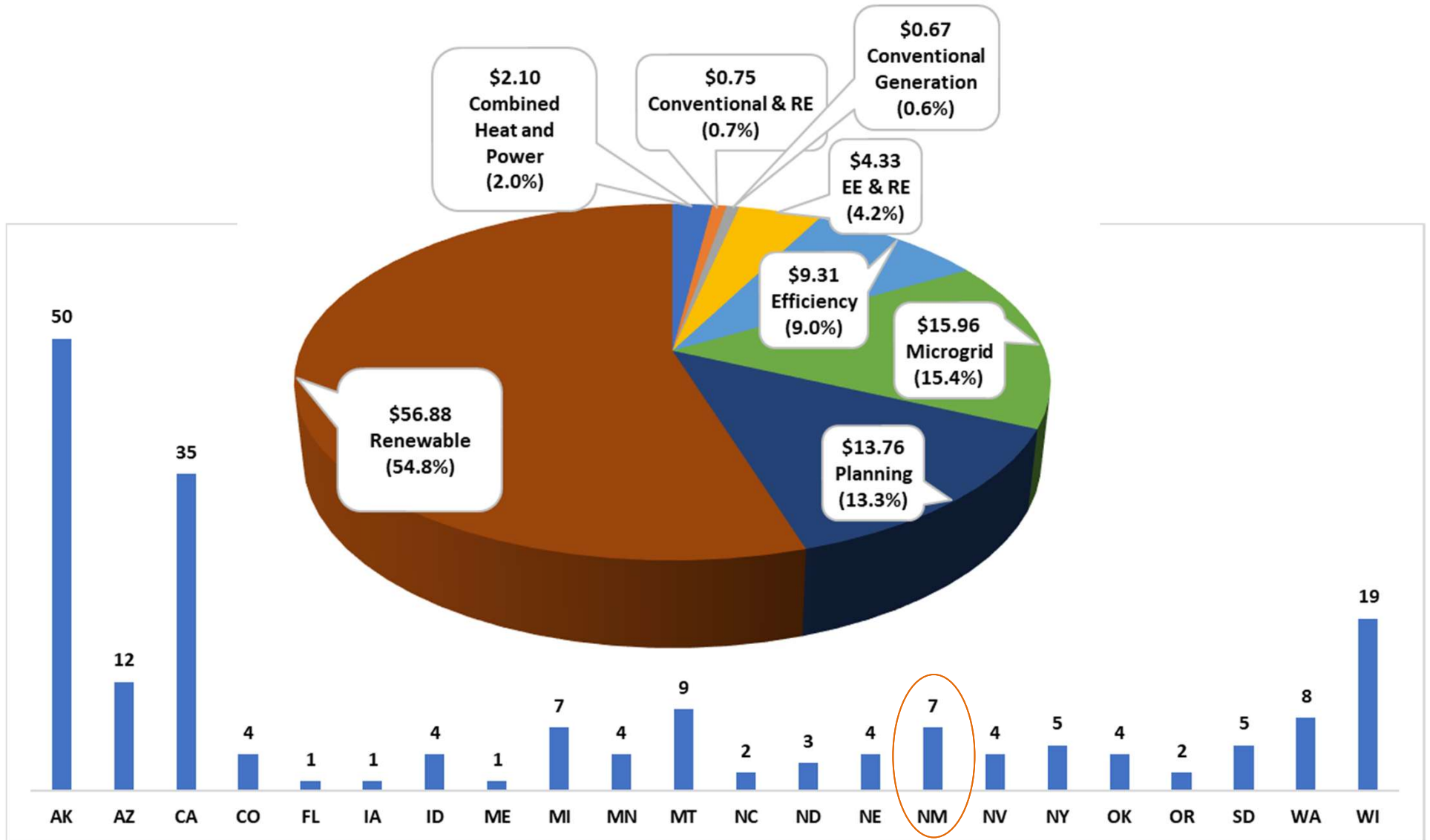
Includes cost share reductions



U.S. DEPARTMENT OF ENERGY

Office of Indian Energy

Investments by Technology and State (2010-2020)



- 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

Assisting Tribes Achieve Their Energy Vision



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	Tribes	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
Alaska Native Tribal Health Consortium (ANTHC) –	Alaska Native Tribal Health Consortium (ANTHC)	Alaska	2016

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 10.5 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 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 2,819, and U.S. Post Office data confirm that there are 1,277 households on the reservation.

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

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 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



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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>

Office of INDIAN ENERGY POLICY AND PROGRAMS About Us TECHNICAL ASSISTANCE EDUCATION & TRAINING FUNDING PROJECTS

Energy Development Assistance Tool

Home » Funding » Energy Development Assistance Tool

The Energy Development Assistance tool provides 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.

Sort information by type of assistance, eligibility, agency or office, program name, or project phase—from strategic energy planning to any one of the five steps in the project development and finance process—or search by keyword. The tool was developed by the White House Council on Native American Affairs Energy Subgroup. If you have questions, comments, or suggestions, contact us.

For upcoming deadlines, see the Funding page.

Home » Funding » Current Funding Opportunities

Federal agencies, including the U.S. Department of Energy (DOE) Office of Indian Energy, provide grant, loan, and technical assistance programs to support tribal energy projects. Find information about the Office of Indian Energy's past funding opportunities.

Current Funding Opportunities

CLOSE DATE	ORGANIZATION	OPPORTUNITY
12/31/2018	USDA	<p>Solid Waste Management Grant Program</p> <p>The Solid Waste Management (SWM) Grant Program has been established to assist communities through free technical assistance and/or training provided by the grant recipients. Qualified organizations will receive SWM grant funds to reduce or eliminate pollution of water resources in rural areas, and improve planning and management of solid waste sites in rural areas.</p> <p>Funds may be used to:</p> <ul style="list-style-type: none"> Evaluate current landfill conditions to determine threats to water resources in rural areas Provide technical assistance and/or training to enhance operator skills in the maintenance and operation of active landfills in rural areas Provide technical assistance and/or training to help associations reduce the solid waste stream Provide technical assistance and/or training for operators of landfills in rural areas which are closed or will be closed in the near future with the development/implementation of closure plans, future land use plans, safety and maintenance planning, and closure scheduling within permit requirements. <p>Eligible entities include state and local governments, and federally recognized tribes.</p>
1/7/2019	HUD	<p>Community Development Block Grant Program for Indian Tribes and Alaska Native Villages</p> <p>The U.S. Department of Housing and Urban Development's (HUD) Community Development Block Grant (CDBG) Program provides annual grants on a formula basis to states, cities, and counties to develop viable urban communities by providing decent housing and a suitable living environment, and by expanding economic opportunities, principally for low- and moderate-income persons.</p> <p>Eligible entities include Native American tribal organizations (other than Federally recognized tribal governments) and Native American tribal governments (Federally recognized).</p>
1/23/2019	USDA	<p>2019 Wood Innovations Program Request for Proposals</p> <p>USDA's U.S. Forest Service requests proposals to substantially expand and accelerate wood energy and wood products markets throughout the United States to support forest management needs on National Forest System and other forest lands.</p> <p>This request for proposals focuses on the following priorities to:</p> <ul style="list-style-type: none"> Reduce hazardous fuels and improve forest health on National Forest System and other forest lands. Reduce costs of forest management on all land types. Promote economic and environmental health of communities.

Showing 1 to 10 of 63 entries

ELIGIBILITY	PHASE
Federally recognized Tribes that are: Native and corporations; Native; Tribal entities, and other	Project proposal; Project implementation
State-recognized only; Tribal entities, and other	Project proposal; Project implementation
Universities, and other	Project implementation



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

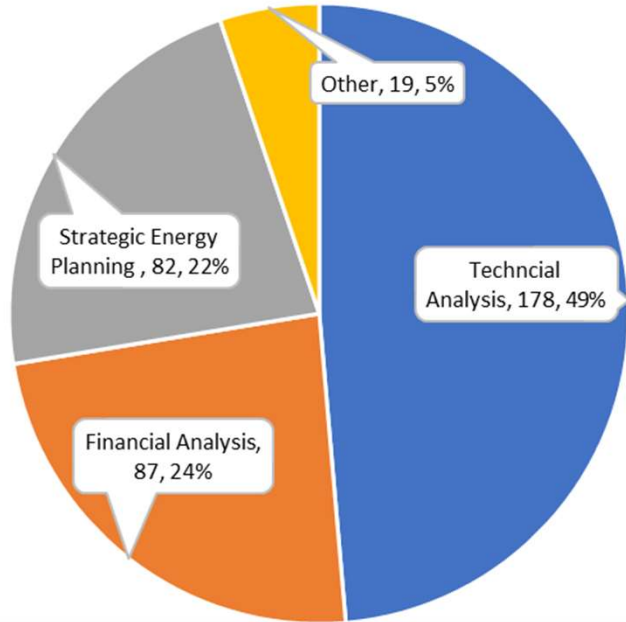
Assistance in strategic planning may provide an initial resource assessment, energy options analyses, and development of a viable roadmap for development. This assistance typically includes an on-site workshop facilitated by tribal energy expert(s) to assist tribal leaders, elders and staff develop an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

Strategic Energy Planning

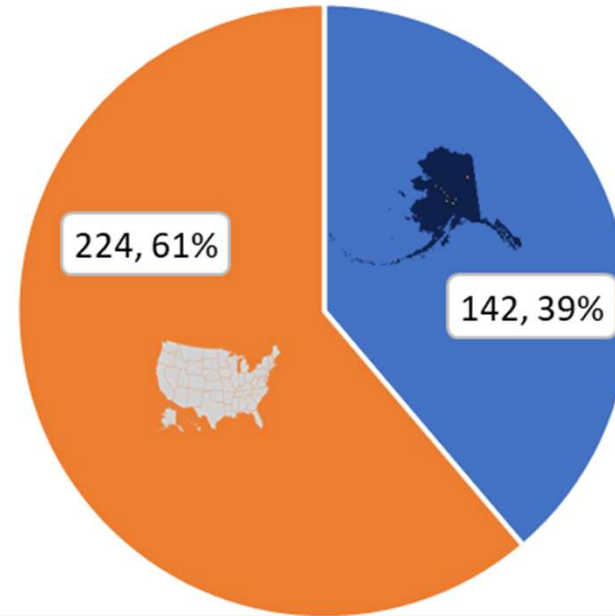


Completed Technical Assistance Requests (2010-2020)

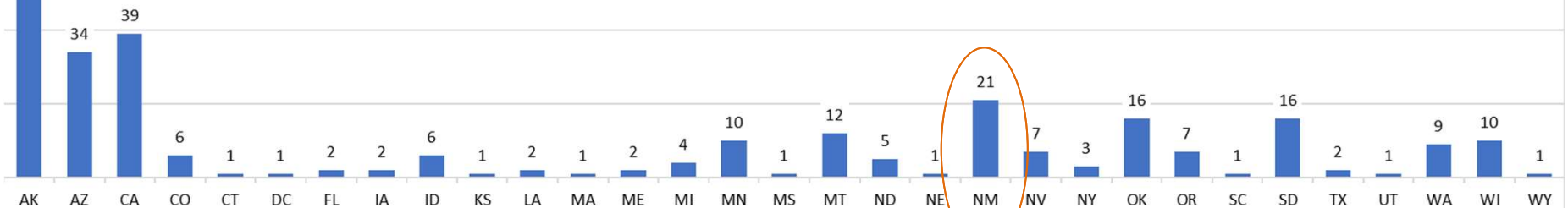
Topic Areas of Completed Technical Assistance Requests (366) (2010-2020)



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



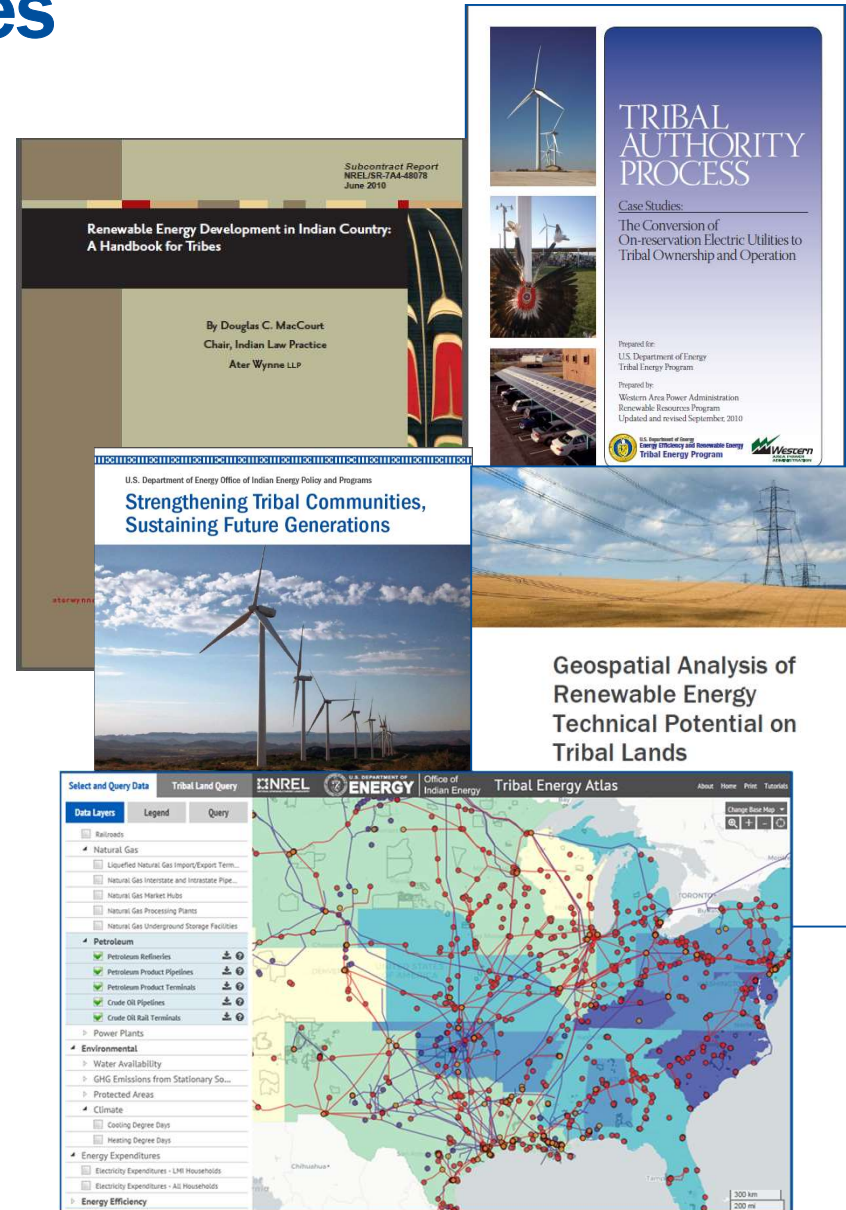
Completed Technical Assistance Requests (366) By State (2010-2020)



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>



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Informational Resources

Solar Futures Study *Produced by DOE Solar Energy Technology Office and NREL -- Released September 18, 2021.*

Key Findings

- Solar could account for as much as 40% of the nation's electricity supply by 2035 and 45% by 2050.
- To reach these levels, solar deployment will need to grow by an average of 30 gigawatts (GWac) each year between now and 2025 and ramp up to 60 GW per year between 2025 and 2030—four times its current deployment rate—to total 1,000 GWac of solar deployed by 2035.
- By 2050, solar capacity would need to reach 1,600 GWac to achieve a zero-carbon grid with enhanced electrification of end uses (such as motor vehicles and building space and water heating).

<https://www.energy.gov/eere/solar/solar-futures-study>



www.energy.gov/indianenergy

https://www.energy.gov/indianenergy/office-indian-energy-policy-and-programs

The screenshot shows the website's navigation bar with the following elements:

- ENERGY.GOV logo
- Leadership
- Energy.gov Offices
- National Labs
- Search Energy.gov
- Office of INDIAN ENERGY POLICY AND PROGRAMS
- ABOUT US
- TECHNICAL ASSISTANCE (circled in orange)
- RESOURCES
- FUNDING (circled in orange)
- PROJECTS (circled in orange)

Three featured articles are displayed below the navigation:

- DOE Awards \$12 Million to Maximize Deployment of Energy Technology** (with a solar panel image)
- Apply for Technical Assistance** (with a solar panel image)
- Energy-Saving Hacks to Weather the Winter** (with a winter landscape image)



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Invitation

Energy Access and Reliability on Tribal Lands Virtual Listening Session

November 4, 2021, 1:00 to 3:00 pm Mountain Time

Listen to Native Nations on the current status of unelectrified homes and electricity reliability issues facing your communities.

Info: indianenergy@hq.doe.gov



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Invitation

2021 Program Review Virtual Event

Week of November 15, 2021

Feature project status updates from tribes across the nation who are leveraging Office of Indian Energy grant funding to deploy energy technologies.

Info: indianenergy@hq.doe.gov



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