U.S. DEPARTMENT OF ENERGY
OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY

DOE's Tribal Energy Program

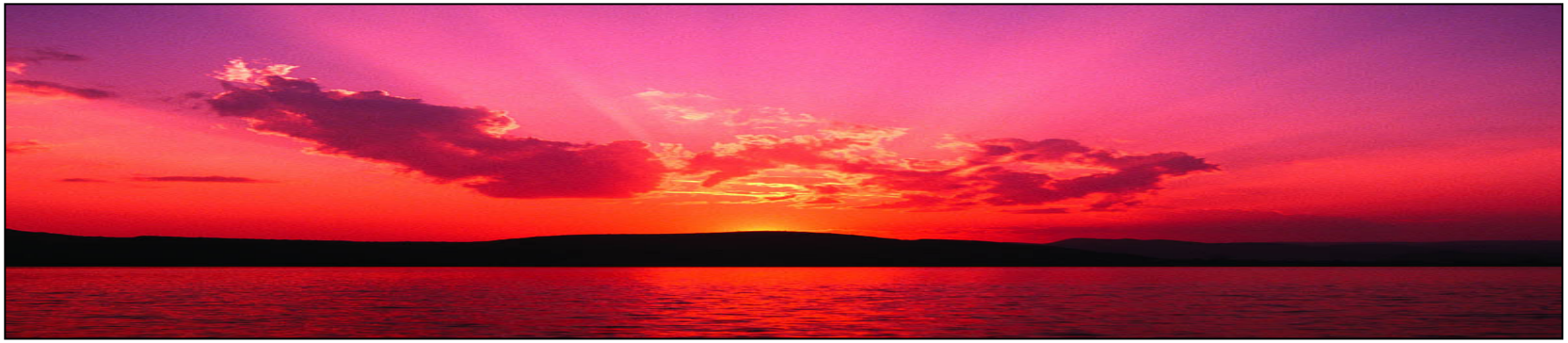
2012 Program Review

November 13, 2012

Lizana Pierce, Project Manager
U.S. DOE, Tribal Energy Program

DOE's Tribal Energy Program

Promote Tribal energy sufficiency, economic development, and employment on Tribal lands through the use of renewable energy and energy efficiency technologies.



U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

Tribal Energy Program

DOE's Tribal Energy Program

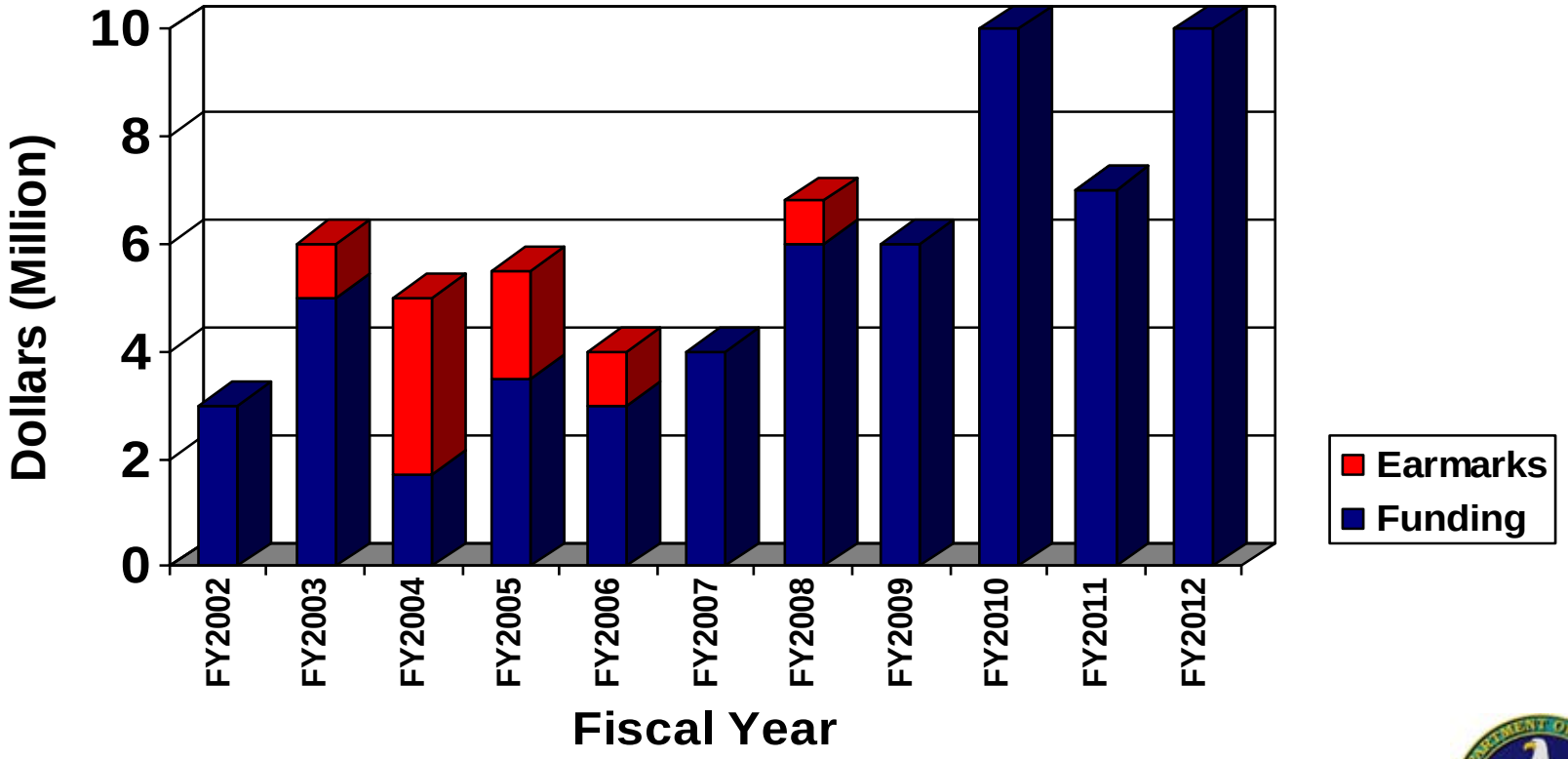
Mission

Offering financial and technical assistance to Tribes through government-to-government partnerships that:

1) ***Enable Tribal leaders to make informed decisions about energy choices;***
2) ***Bring renewable energy and energy efficiency options to Indian Country;***
3) ***Enhance human capacity through education and training;***
4) ***Improve local Tribal economies and the environment; and***
5) ***Make a difference in the quality of life of Native Americans.***

DOE's Tribal Energy Program

Program Funding History



Averages $6.0 million per year

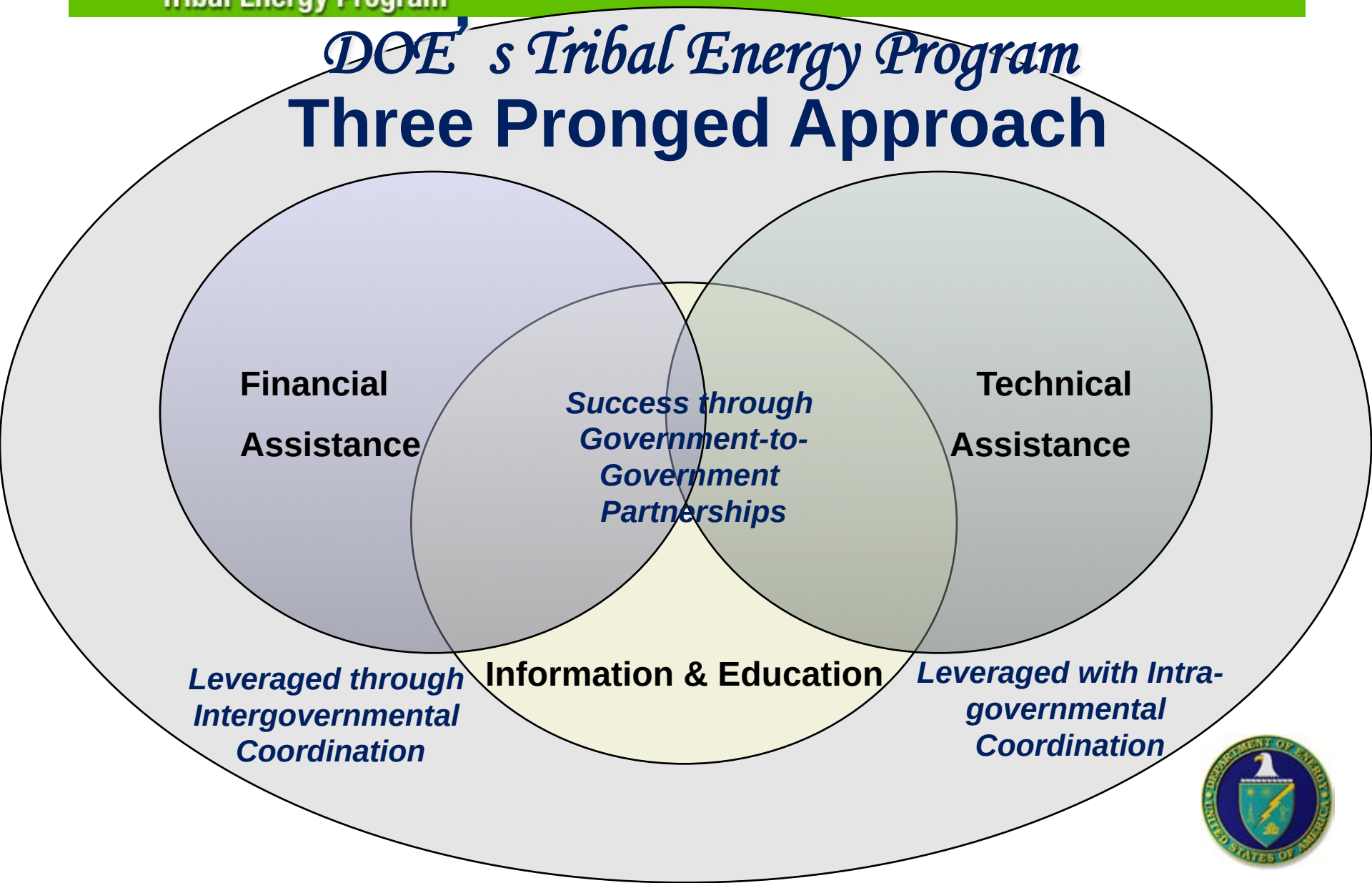
Tribal Energy Program Funding*

	FY2009	FY2010	FY2011	FY2012
DOE Request	***$1.0***	***$6.0***	***$10.0***	***$10.0***
Appropriated Funds	***$6.0***	***$10.0***	***$7.0***	***$10.0***

Per the President's FY2013 Budget Request, $7 million requested for Tribal Energy Program

* Amounts in Millions

DOE's Tribal Energy Program
Three Pronged Approach



Providing Financial Assistance

Providing financial and technical assistance to Tribes for the evaluation and development of renewable energy resources and energy efficiency on Tribal Lands

Eligibility:

Federally-recognized Tribes, Tribal Energy Resource Development Organizations, or Tribal Consortia (two or more entities, at least one of which is an Indian Tribe).

Tribal Lands include Indian reservations; Public domain Indian allotments; Former Indian reservations in Oklahoma; Land held by under the provisions of the Alaska Native Claims Settlement Act (43 U.S.C. 1601 et seq.); and Lands held in fee simple or under a Federal land lease.

All Funds Awarded through a Competitive Process

FY2011 Financial Assistance

Financial Assistance to Spur Deployment in Indian Country

- **First Steps Toward Developing Energy Efficiency and Renewable Energy on Tribal Lands**
  - Strategic energy planning
  - Energy options analysis
  - Energy organization development
  - Human capacity development
- **Energy Efficiency Development and Deployment in Indian Country**
  - Feasibility studies
  - Installation of energy efficiency improvements
- **Renewable Energy Development and Deployment in Indian Country**
  - Feasibility studies
  - Development (pre-construction) activities
  - Deployment (construction) activities

Solar arrays on home on the **Navajo Nation**

Competitive Process (2002-2012)

Accomplishments

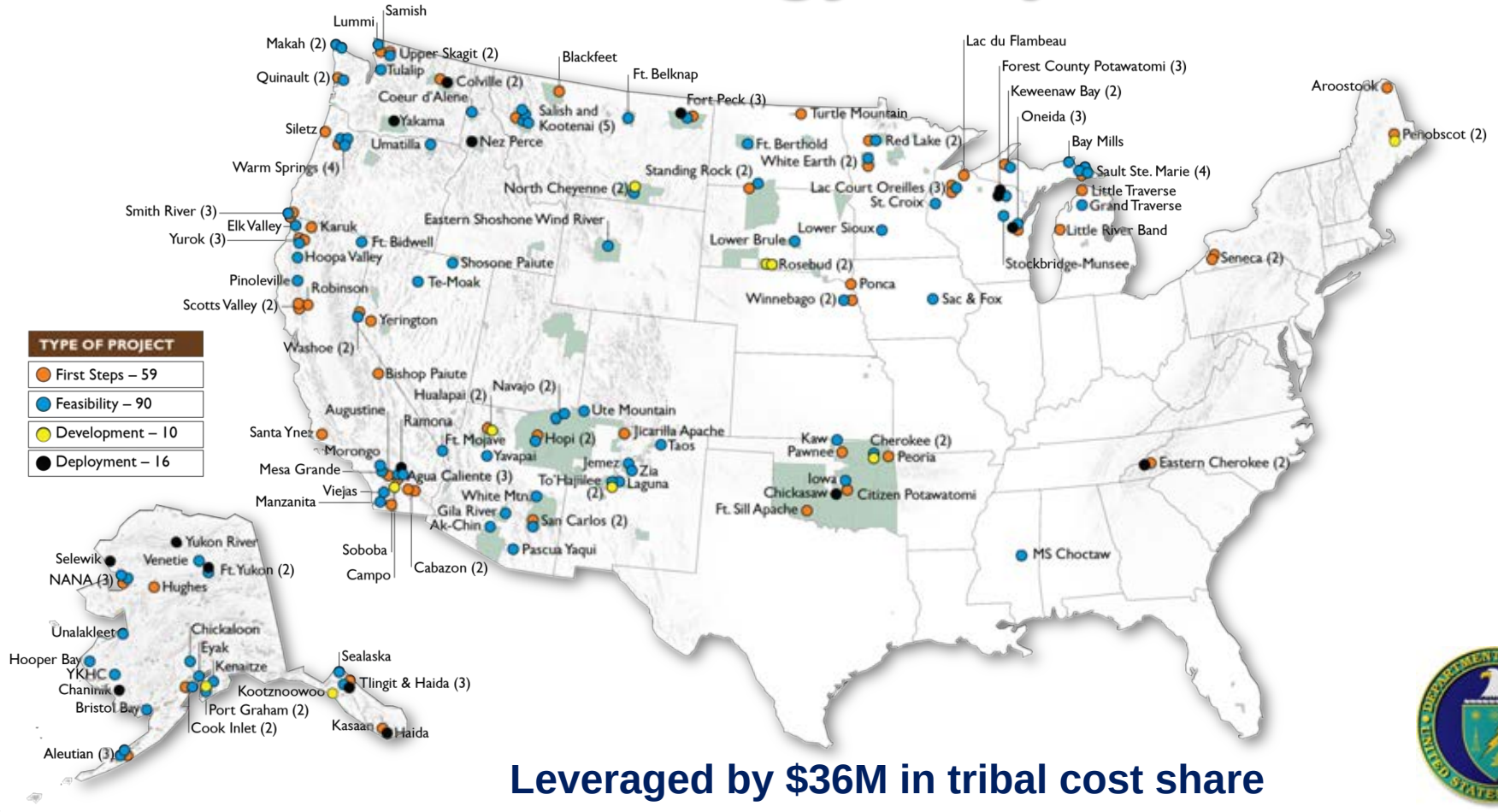
- **15 Funding Opportunities Announcements issued**
- **Total of 565 applications accepted** (valued at $276 million)
- **84% of meritorious applications funded** (Total of 175 of 208)
- **Funded 31.0% of all applications received** (using multi-year funds, if needed). **DOE average is ~5 to 10%.**
- **Funded 122 Different Tribes** (21.6% of the 566 Tribes)

Over 80% of all Discretionary Funding Directly to Tribes

U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

Tribal Energy Program

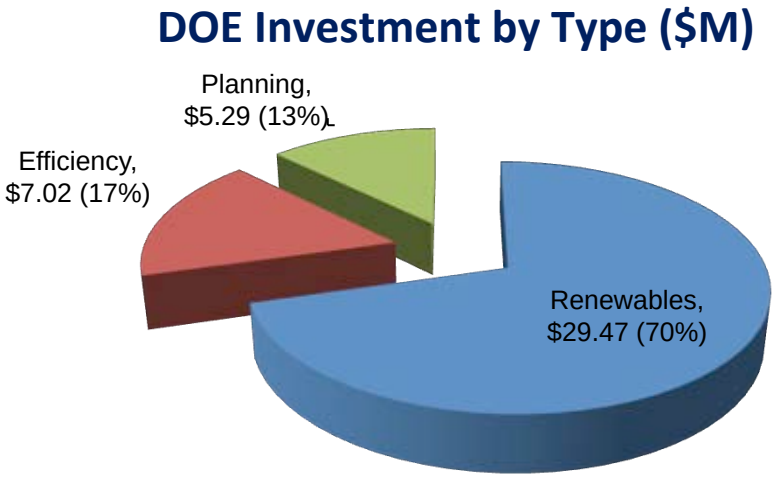
DOE has Invested $41.8 Million in 175 Tribal Energy Projects *(2002-2012)*



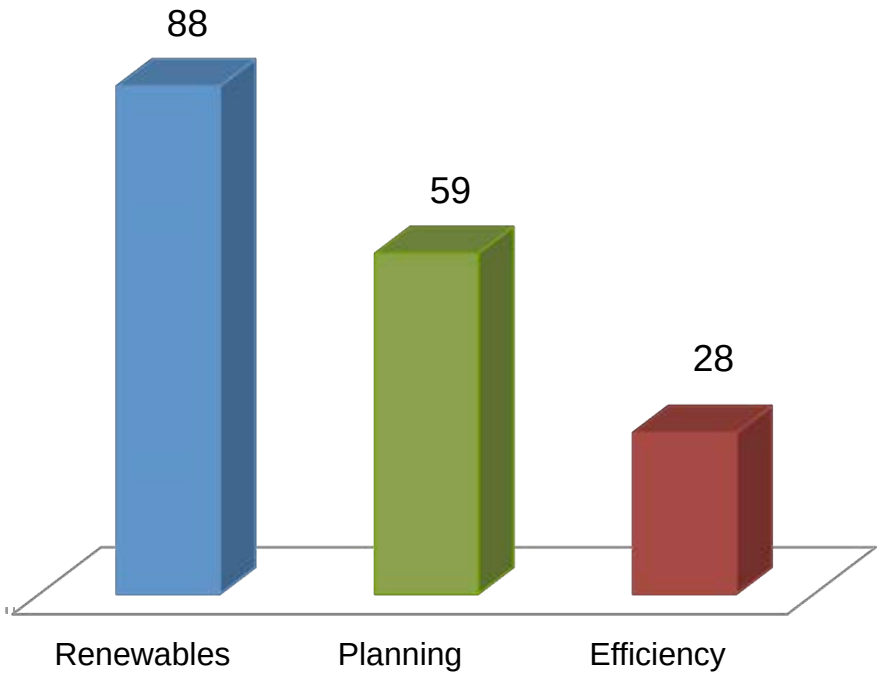
Leveraged by $36M in tribal cost share

Tribal Energy Project Pipeline

DOE's Investment of $41.8 Million in 175 Tribal Energy Projects *(2002-2012)*

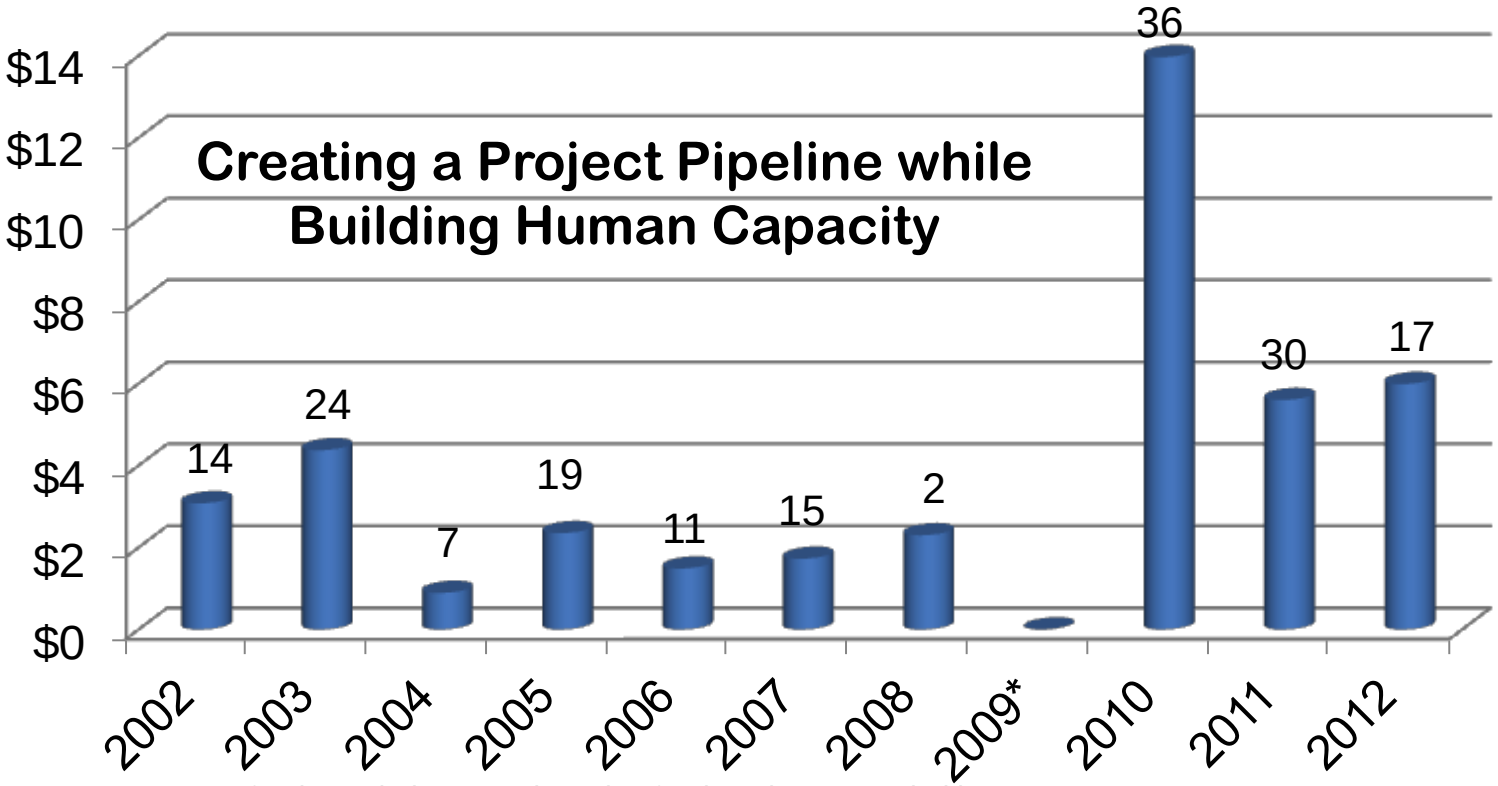


Investment in Tribal Clean Energy



Funded 21.6% of All Tribes (122 of 566)

Project Funding History



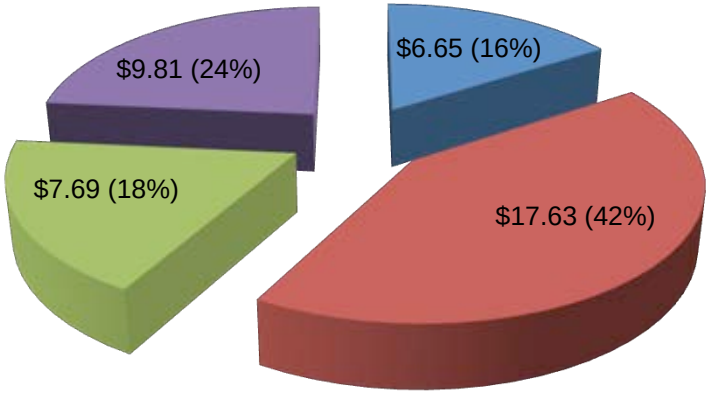
* FY2009 funds carried over and used to fund projects awarded in FY2010

Investment in Tribal Energy Sufficiency

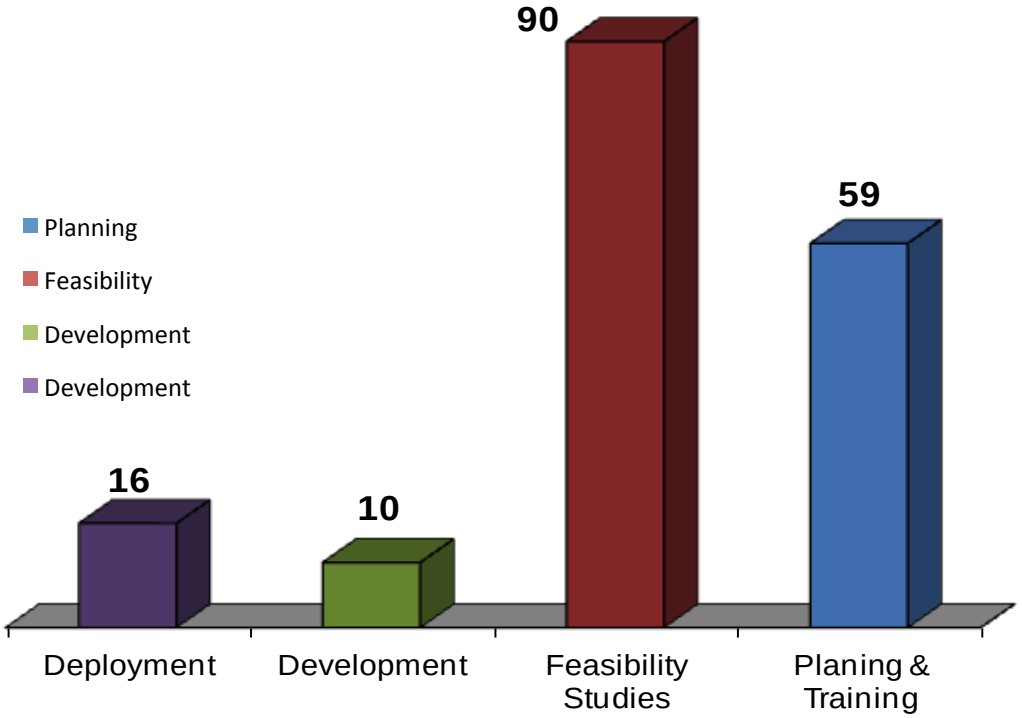
Tribal Energy Project Pipeline

DOE's Investment of $41.8 Million in 175 Tribal Energy Projects *(2002-2012)*

DOE Investment by Phase ($M)



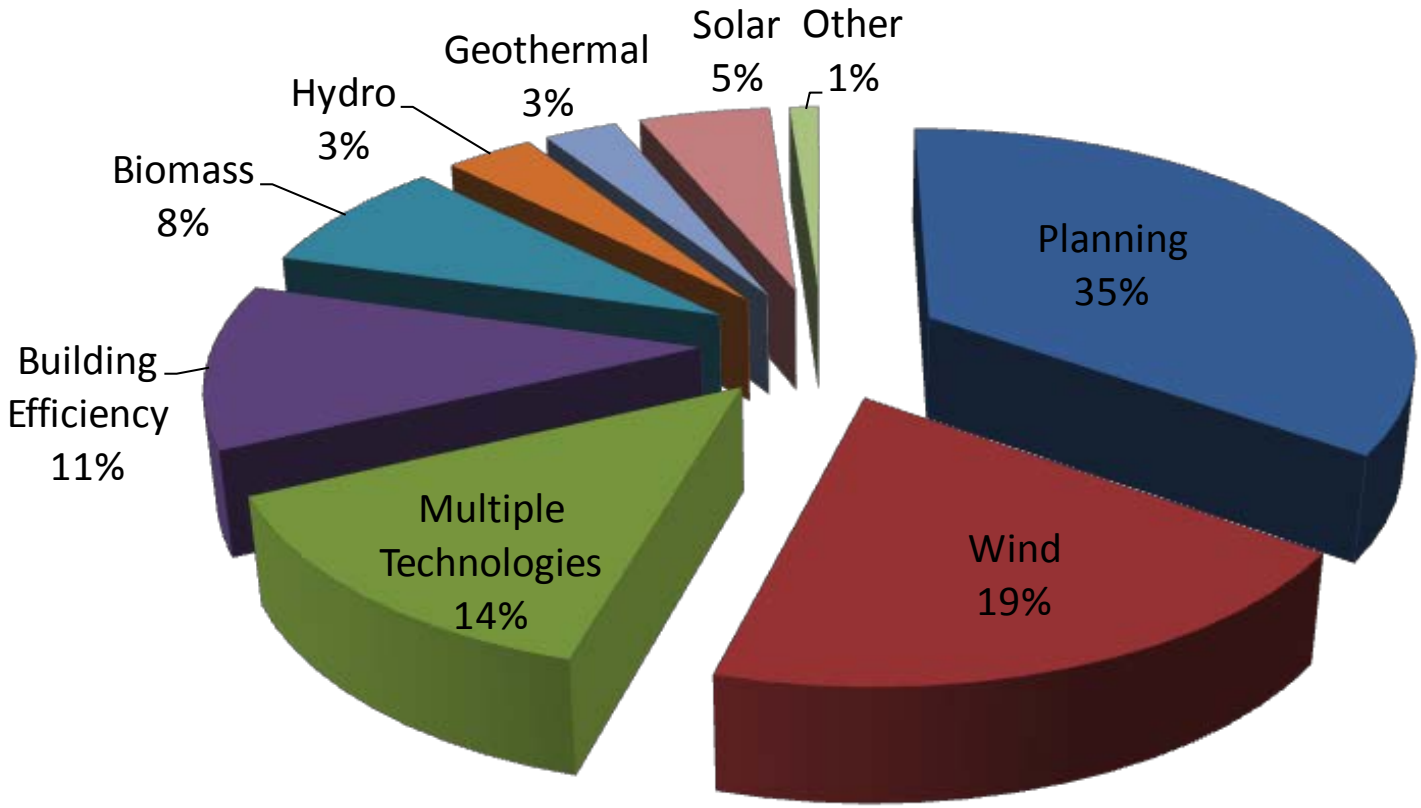
Clean Energy Projects in Various Stages of Development



Assisting Tribes Fulfill <u>Their</u> Energy Vision

Tribal Energy Project Pipeline

(Percentage by project counts)



Diversity of Resources and Interests

Project Accomplishments

Return on DOE's $41.8 Million Investment

- Over 11 MW of installed generation and savings of 280,000 gallons of diesel and propane
- Retrofitting 64 tribal buildings saving nearly $9 Million over 10 years
- Over 780 MW of new renewable generation under development
- Potential of over 4,000 MW of new generation, if developed
- Energy audits of over 240 tribal buildings
- Over 150 tribal members trained

Leveraged by $36M in tribal cost share

Project Accomplishments

Renewable Energy Deployment in Indian Country

Renewable Energy <u>Deployment</u> Projects (8)

- **Over 11MW of installed generation,**
- **Savings of 280,000 gallons of diesel and propane, and**
- **One substation installation (Colville), estimated to save $290,000 per year**

Colville Indian Power and Veneer Energy Substation (WA)

Council of Athabascan Tribal Government (CATG) Biomass Heating Project in Fort Yukon (AK)

Ramona Band (CA) Renewable Powered Eco-tourism Project

Project Accomplishments

Renewable Energy Deployment in Indian Country

Renewable Energy Deployment Projects (Continued)

Chaninik Wind Group's
Thermal Heating Project (AK)

Assiniboine & Sioux Tribes installed two 50 kW wind turbines on the Fort Peck Reservation

Haida Corp's
Reynolds Creek 5MW Hydro Project in Angoon (AK)

Project Accomplishments

Deployment to Save Energy for the Future

Building Retrofit (Deployment) Projects (8)

- **Retrofitting 64 Tribal buildings,**
- **Savings of over $900,000 per year, and**
- **Minimum of 30% reduction in energy use**

Lighting upgrades could save the **Chickasaw Nation** (OK) $180,000 per year

Forest County Potawatomi Community will retrofit Wunder Hall, a historic building on Concordia Campus (WI)

Forest County Potawatomi Community installed 1,664 new LED lights for a 54% reduction in energy use (WI)

Project Accomplishments

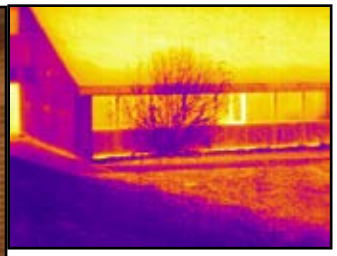
Deployment to Save Energy for the Future

Building Retrofit Projects (Continued)

Nez Perce Tribe (ID) installed windows, insulation, and efficient lighting in 5 tribal buildings (54,312 square feet total) including the Water Resources Office and PiNeeWaus Gym shown below.

Retrofits estimated to reduce energy use by 35% and save $13,800 per year.

Project completed in alignment with the Tribe's Strategic Energy Plan developed 3 years ago with Technical Assistance from TEP through NREL.



Project Accomplishments

Deployment to Save Energy for the Future

Building Retrofit Projects (Continued)

Alaska Native Tribal Health Consortium (Selawik, AK) will upgrade sanitation facilities

Central Council Tlingit & Haida Indian Tribes of Alaska (CCTHITA) retrofitting 4 buildings for projected annual savings of $52,271 (AK)

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

Project Accomplishments

Renewable Energy Development

Renewable Energy Development Projects (10)

- **Over 780 MW of new renewable generation under development**

Campo Band's Wind Farm
DOE funding Phase II
(160 MW)

Hualapai (AZ) Exploring "large-scale" solar and wind development

Northern Cheyenne Tribe completed wind feasibility study and began pursuing wind 30MW wind farm (anemometer at sunset, MT)

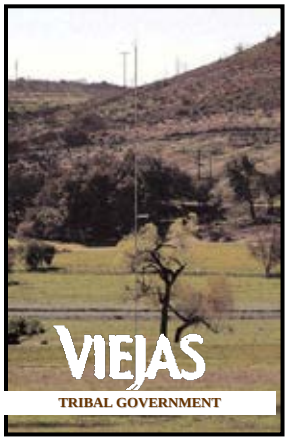
Rosebud Sioux's (SD) Little Soldier Turbine - Pursuing a 30 MW and 190 MW Wind Farm

Project Accomplishments

Assessing Indigenous Resources

Renewable Energy Feasibility Studies (78)
- **Over 4,000 MW of potential new generation, if developed**

Kaw Nation Wind Resource Assessment (OK)



Viejas Tribal Government Tribal Utility and Wind Study (CA)

Pueblo of Jemez Geothermal Feasibility Study (NM)

Makah Indian Nation Wind Feasibility Study (WA)

Three Affiliated Tribes Wind Feasibility Study (ND)

St. Croix Chippewa Biomass Study (WI)

Project Accomplishments

Assessing Indigenous Resources

Energy Efficiency Feasibility Studies (12)
- **Energy audits of over 240 tribal buildings**
- **Over 30% energy savings, if implemented**

Oneida Nation's Housing Authority will conduct energy audits on 44 buildings (WI)

Sault Ste Marie's Tribal Health Clinic and Community Center, one of 45 buildings which will have energy audits (MI)

Tlingit Haida Regional Housing Authority (THRHA) to conduct energy audits on over 50 buildings in Southeast Alaska (AK)

Project Accomplishments

Planning for the Energy Future

"First Steps" Grants (59)

- **Fourteen (14) human capacity grants,**
- **Twenty-six (26) Tribes developing energy plans,**
- **Thirteen (13) Tribes developing energy organizations, and**
- **Six (6) Tribes exploring energy options**

Ponca Tribe conducting an energy analysis and conducting community awareness under their "Project Earth Lover" Campaign (NE)

Seneca Nation conducted strategic energy planning (NY)

Cabazon Band of Mission Indians Energy Plan (CA)

San Carlos Apache conducting an energy options analysis (AZ)

Building Local Skills and Knowledge

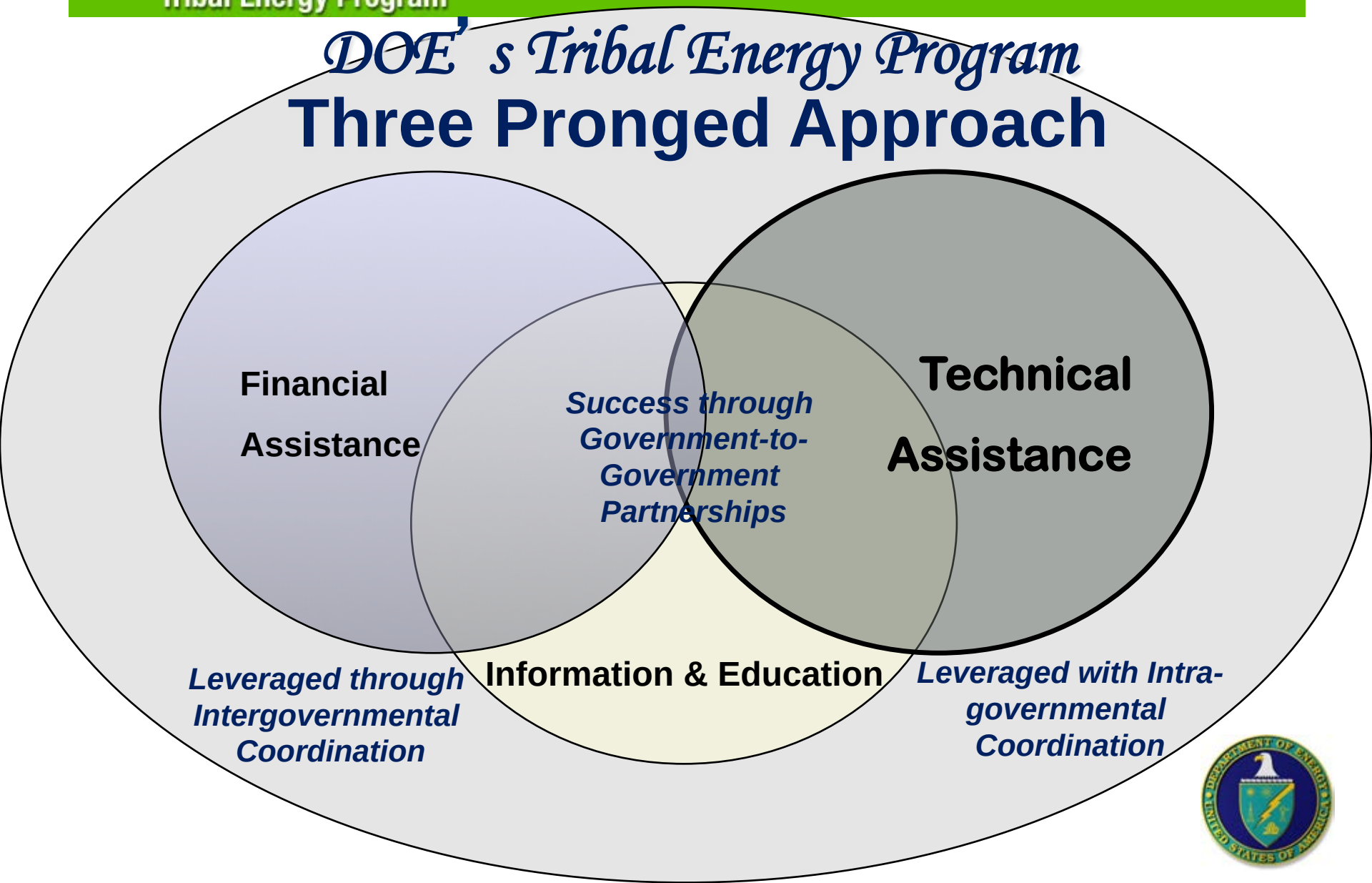
Over 150 Tribal Members Trained

Keweenaw Indian Community trained members in weatherization: 9 energy auditors; 8 envelop professionals; and 38 air sealing insulation installers. Logo contest winner shown above.

Cook Inlet Tribal Council training two apprentices in weatherization (4,000 hour program). Apprentices to graduate February 2012 and be hired to serve local communities.

Scotts Valley Band partnered with 12 Tribes in Lake and Mendocino Counties to build local capacity through education and training. Twenty-three members trained and 3 hired by the Tribes.

DOE's Tribal Energy Program
Three Pronged Approach

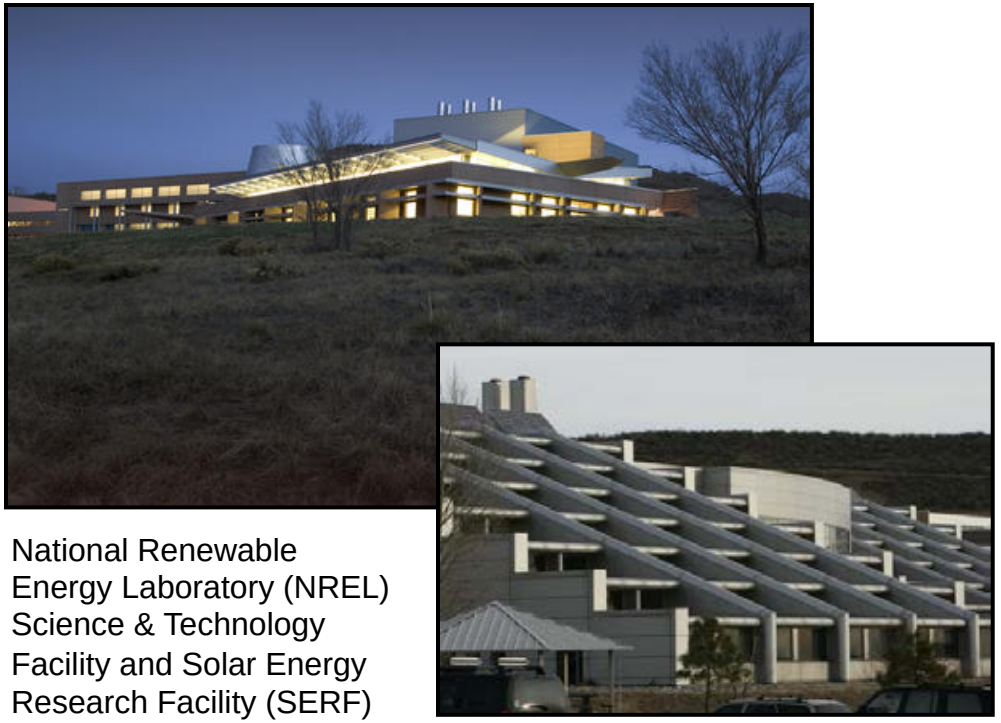


Providing Technical Assistance

Technical Assistance

- Technology Advice
- Models and Tools
- Resource Maps
- Strategic Energy Planning
- Pre-Feasibility Transmission Studies
- Project Support
- Economic Evaluation
- Design Review
- Special Studies

Western Area Power Administration



National Renewable Energy Laboratory (NREL) Science & Technology Facility and Solar Energy Research Facility (SERF)

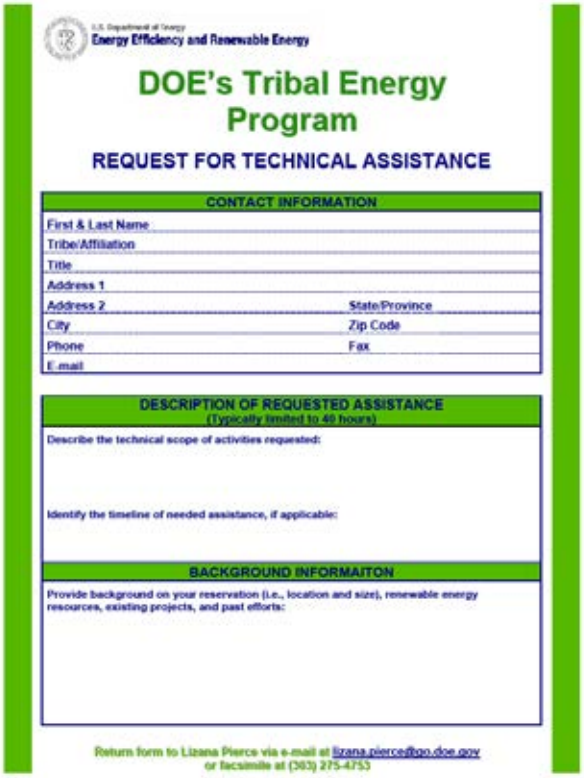
NREL

Assisting Tribes with expertise from DOE's National Laboratories

Sandia National Laboratories

Technical Assistance Requests for Tribes

- Offered within available resources
- The application process is a quick and easy on-line process
- The value of technical assistance for Tribes is typically limited to 40 hours and may include, but is not limited to, renewable energy technology information, renewable resource information, energy efficiency techniques, project support, system performance modeling, policy information, design review, special studies, strategic energy planning, pre-feasibility transmission studies, and training.



Energy Efficiency and Renewable Energy

DOE's Tribal Energy Program

REQUEST FOR TECHNICAL ASSISTANCE

CONTACT INFORMATION	
First & Last Name	
Tribe/Affiliation	
Title	
Address 1	
Address 2	State/Province
City	Zip Code
Phone	Fax
E-mail	

DESCRIPTION OF REQUESTED ASSISTANCE
(Typically limited to 40 hours)

Describe the technical scope of activities requested:

Identify the timeline of needed assistance, if applicable:

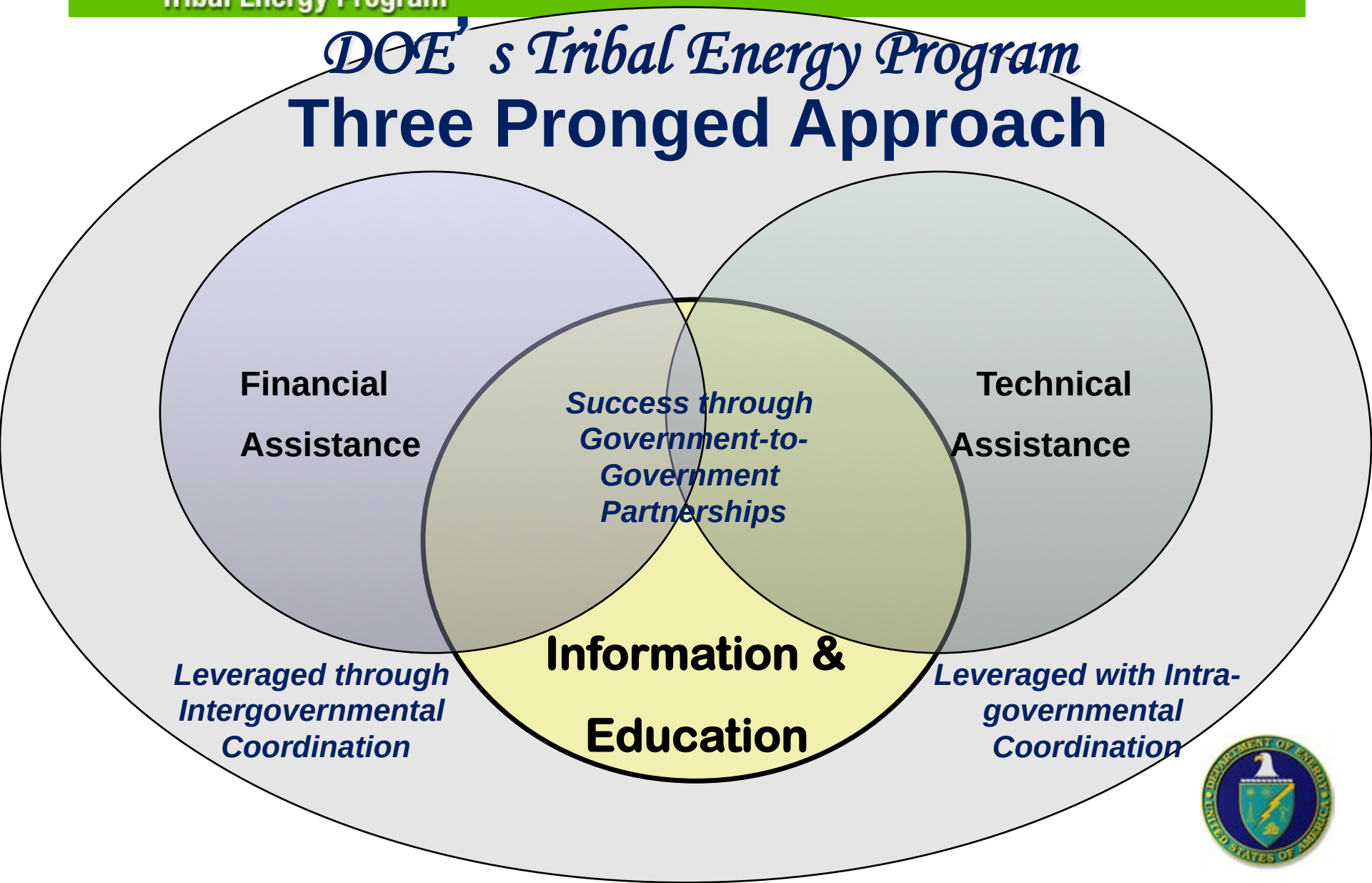
BACKGROUND INFORMAITON

Provide background on your reservation (i.e., location and size), renewable energy resources, existing projects, and past efforts:

Return form to Lizana Pierce via e-mail at lizana.pierce@go.doe.gov or facsimile at (303) 275-4753

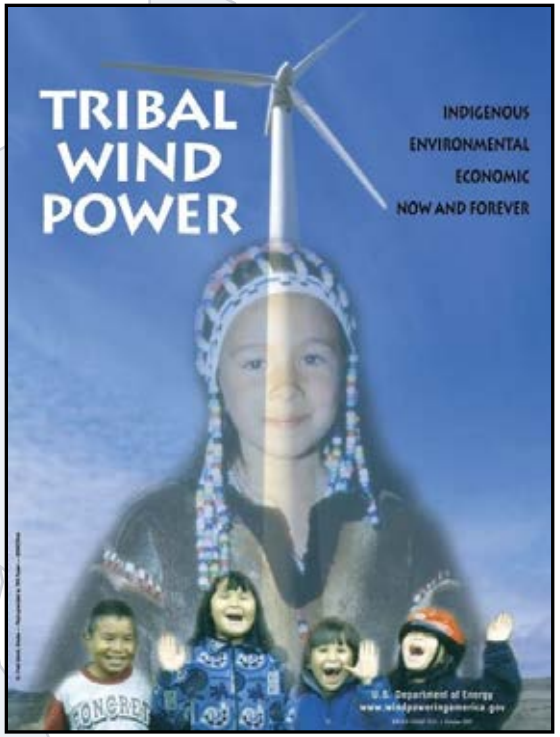
Complete Request Form On-line at www.eere.energy.gov/tribalenergy/tech_assistance.cfm

DOE's Tribal Energy Program
Three Pronged Approach



Education & Training

- Annual Program Review
- National Workshops
- Tribe Specific or Regional Trainings
  - Upon Request and within available resources
- Student Internships
- On-line "Guide to Tribal Energy Development"
- On-line Short Courses (workshop material)
- Informational Resources (handbooks & guides)
- Webinars (real-time and archived)



Building Human Capacity in Indian Country

Annual Program Review

Unique Tribal Forum for Sharing and Learning

- Forum for Tribes to meet and learn from other Tribes pursuing energy sufficiency through renewable energy and energy efficiency, and share their successes
- Networking & learning opportunity
- Tribal project presentations – lessons learned
- Forty to fifty (40-50) Tribal energy projects presented
- Typically 200-250 participants

Annual Review November 13-16, 2012 (Denver, CO)

Student Summer Internships

Applications

- Applications due each February
- 12 week internship at Sandia National Laboratories (NM)
- See TEP website for application form or "Join email list"

Immersion into Renewable Energy

- Interns gain hands-on experience on renewable energy systems
- Required to produce a research paper as part of the internship

Interns

- Twenty-seven (27) interns sponsored since 2002

Contact

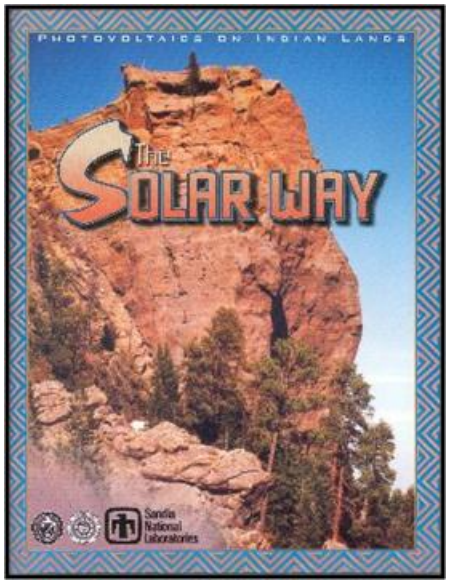
- Sandra Begay-Campbell at (505) 844-5418 or skbegay@sandia.gov

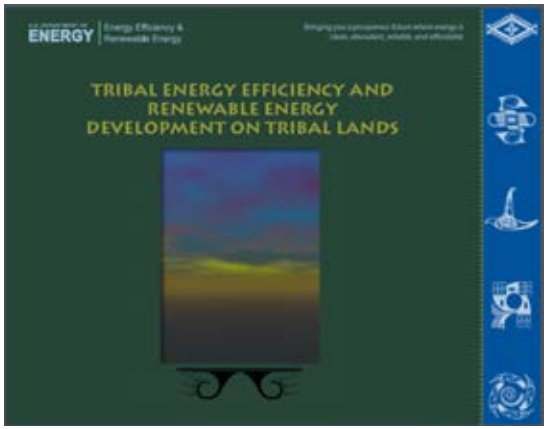
Deborah Tewa (certified electrician & solar installer) at Sandia's PV Laboratory (2002)

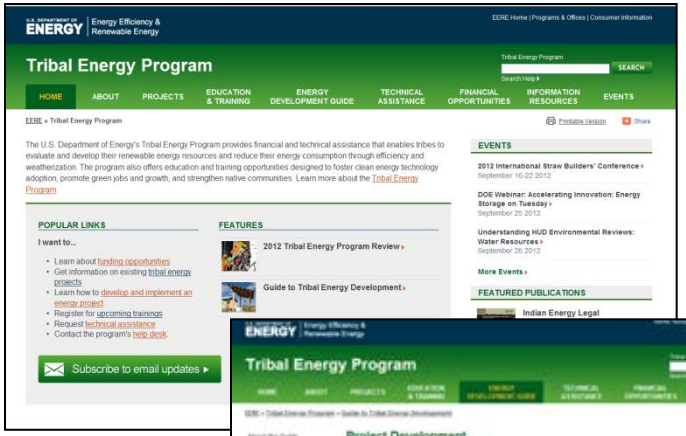
Student Papers & Testimonials Posted on TEP Website

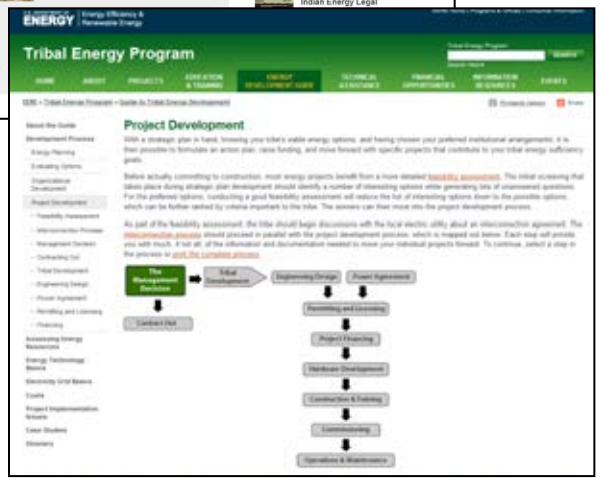
2008 Interns' participated in PV installation & training workshop (AZ-Hopi)

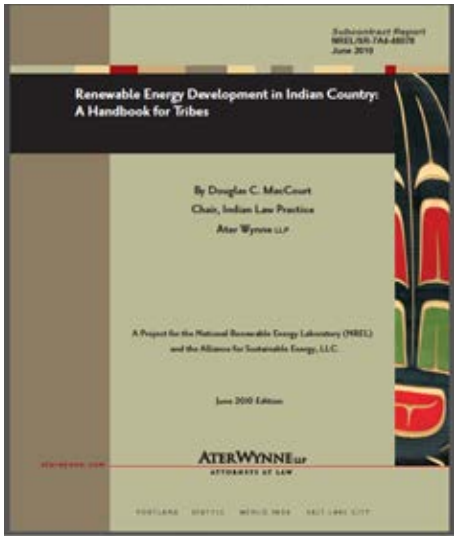
Information Resources

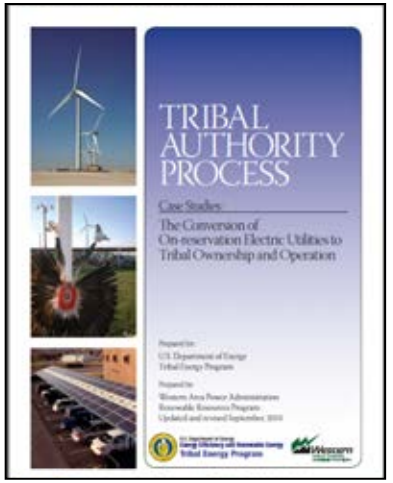












Informational Materials

Short Courses

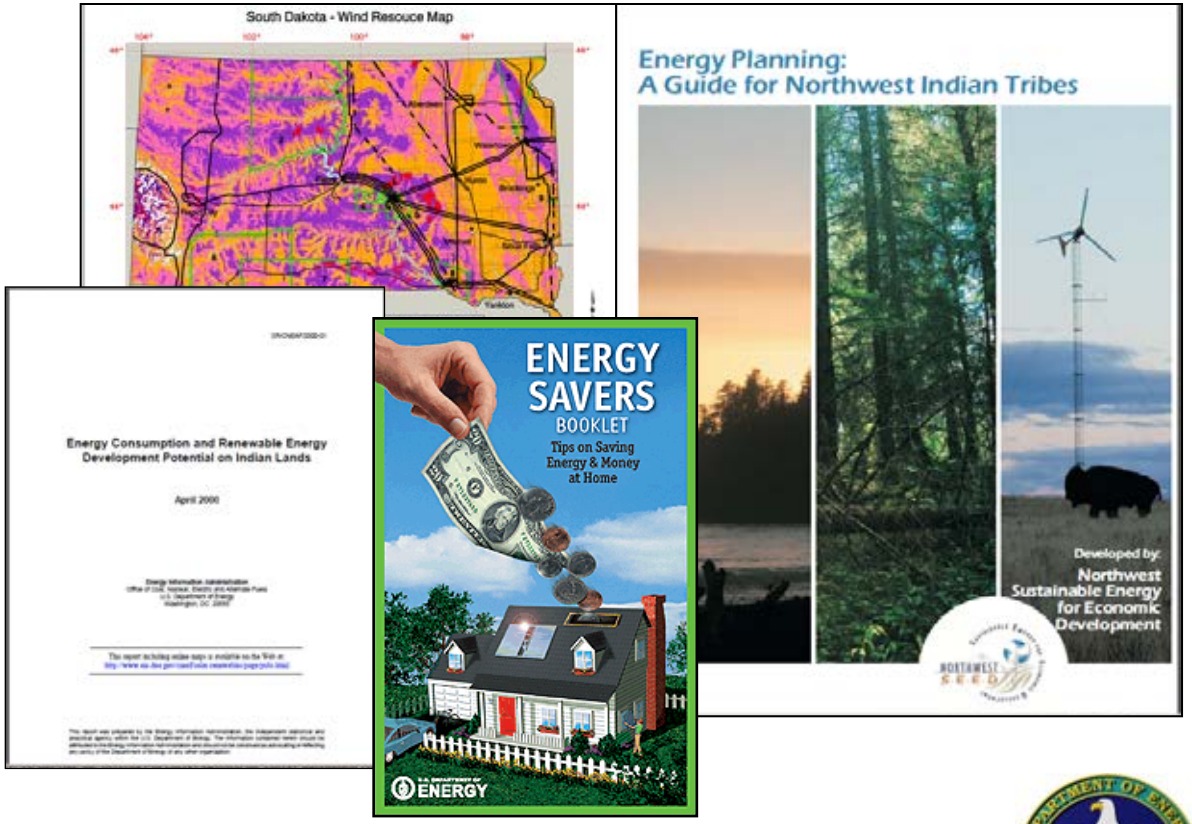
- Analysis & Economics
- Business & Financing
- Community Development
- Demand-side Options
- Renewable Technologies

Handbooks & Guides

- A Guide: Energy Planning
- Energy Consumption and Renewable Energy Development on Indian Lands
- A Handbook: Renewable Energy in Indian Country

Tools & Models

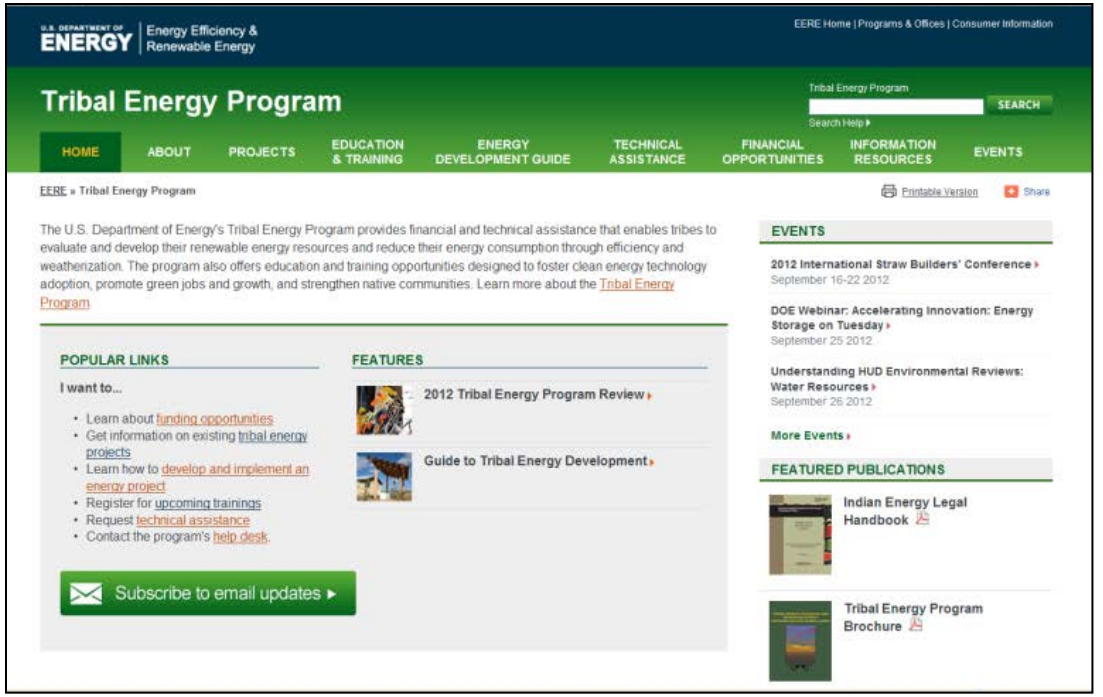
- Resource Potential Maps
- Reservation Specific Wind Maps



All Material Posted on Program Website

Program Website

- Features
- Program Brochure
- Upcoming Events
- Short Courses
- Education & Training
- Financial Opportunities
- Projects on Tribal Lands
  - Project Summaries
  - Status and Reports
  - Contacts
- Information Resources
- Join Email List
- Contacts



Clearinghouse of Information

www.eere.energy.gov/tribalenergy

Program Website

Projects on Tribal Lands

- **Project Lists Sorted by**
  - **Tribe**
  - **Award year**
  - **Award type**
  - **Technology**
- **Project Map (List by State)**
- **Project Summaries**
  - **Overview**
  - **Scope**
  - **Location**
  - **Status**
  - **Presentations**
  - **Final reports**
  - **Tribal contacts**

Assuring Visibility of Tribal Projects

"Guide to Tribal Energy Development"

Development Process

- Strategic Planning
- Options Analysis
- Organizational Development
- Project Development

Business & Financing

- Short Courses
- Handbooks

Resource Library

- Energy Resources
- Technologies
- Costs
- Risk Factors
- Legal Issues
- Financing Options
- Contacts

Clearinghouse of Information

www.eere.energy.gov/tribalenergy/guide

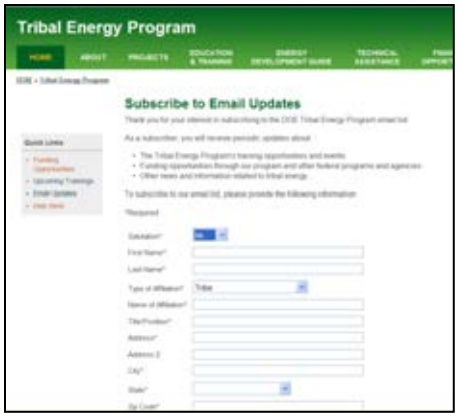
Email Notices

As subscribers, Tribes receive email newsletters on:

- The Tribal Energy Program's training opportunities and events
- Funding opportunities through our program and other federal programs and agencies
- Other news and information related to Tribal energy.

Simple On-line Subscription

- Over 3,200 subscribers
- 100's of email notices sent each year
- Distributed through other Tribal and Agency list servs – Expands distribution
- On-line inquiries available



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Tribal Energy Program

Assisting Tribes Achieve Their Energy Vision

Rosebud Sioux's (SD)
Little Soldier Turbine
First 750 kW Turbine on Tribal Lands in the Contiguous U.S.

Solar arrays on **Navajo** home (AZ)

A 6kW PV System **at SIPI's** Science and Technology Building (NM)

Solar Installations at **Pueblo of Laguna's** Majors Ranch (NM)

Jicarilla Apache Reservation PV array on Dulce High School (NM)

Questions?

Lizana Pierce, Project Manager
Department of Energy
Golden Field Office
Telephone: (303) 275-4727
Fax: (303) 275-4753
Email: lizana.pierce@go.doe.gov

To receive periodic email information on funding opportunities, upcoming workshops and training, and other tribal energy information **"Join Our Email"** by subscribing on-line at **www.eere.energy.gov/tribalenergy**