

**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.**



# *DOE's Tribal Energy Program*



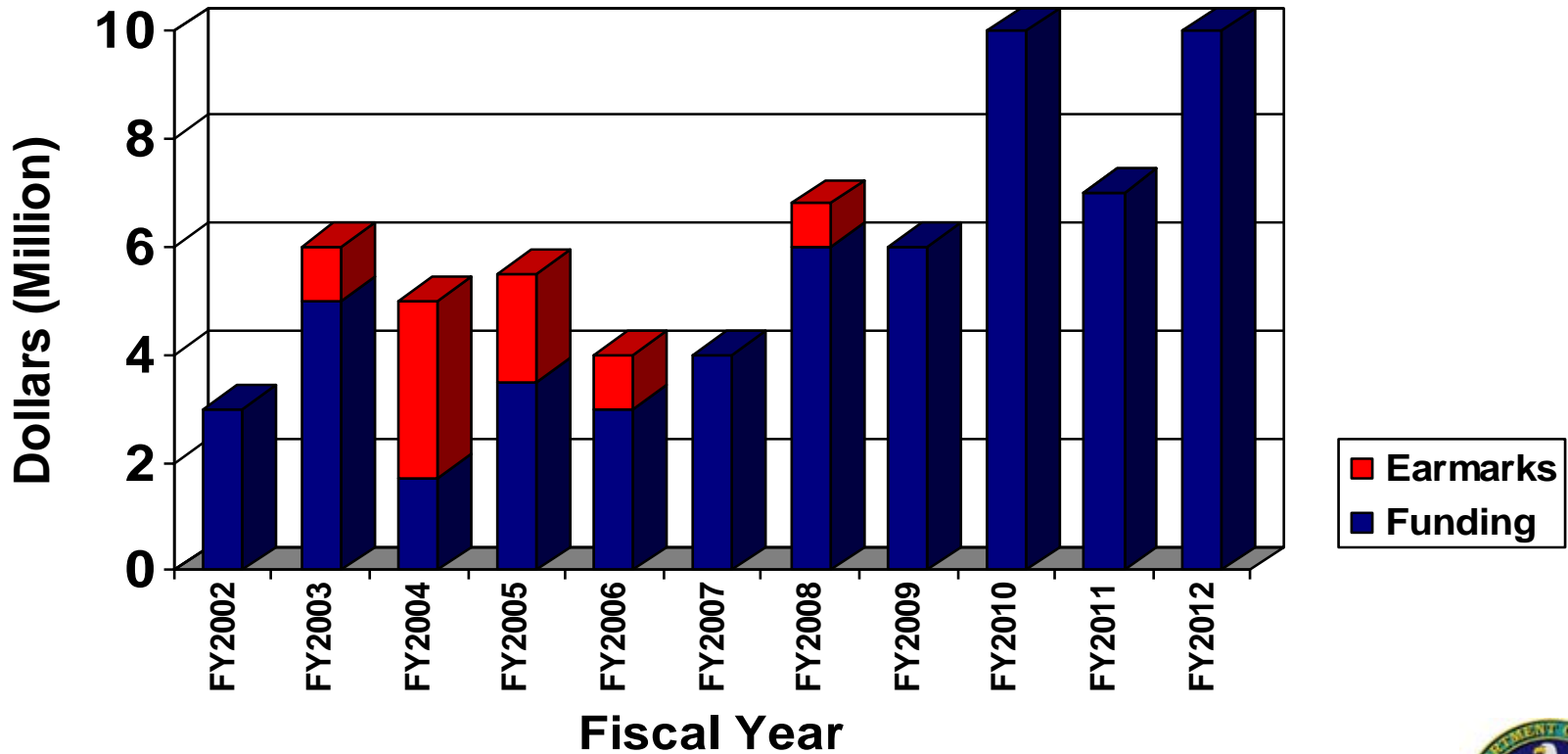
## *Mission*

***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\*

	<i>FY2009</i>	<i>FY2010</i>	<i>FY2011</i>	<i>FY2012</i>
<i>DOE Request</i>	<i>\$1.0</i>	<i>\$6.0</i>	<i>\$10.0</i>	<i>\$10.0</i>
<i>Appropriated Funds</i>	<i>\$6.0</i>	<i>\$10.0</i>	<i>\$7.0</i>	<i>\$10.0</i>

*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**

**Financial  
Assistance**

*Success through  
Government-to-  
Government  
Partnerships*

**Technical  
Assistance**

*Leveraged through  
Intergovernmental  
Coordination*

**Information & Education**

*Leveraged with Intra-  
governmental  
Coordination*



# 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)

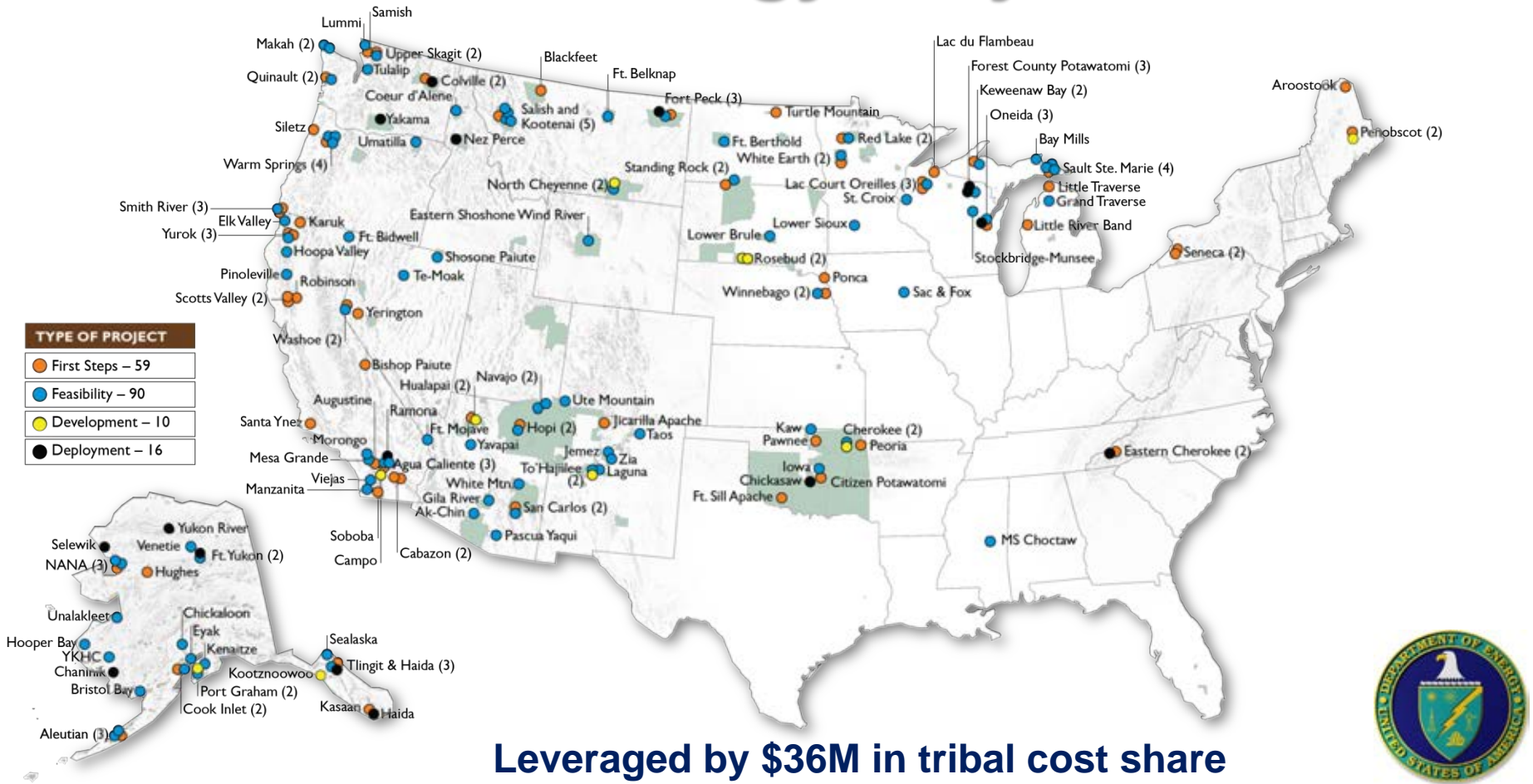
## Accomplishments

- **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**



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



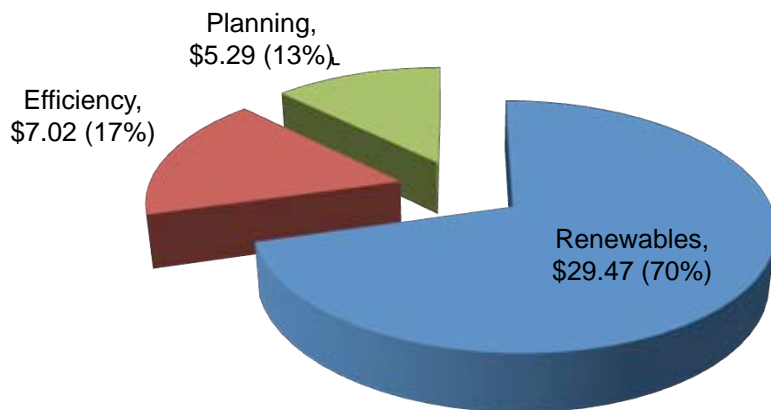
Leveraged by \$36M in tribal cost share



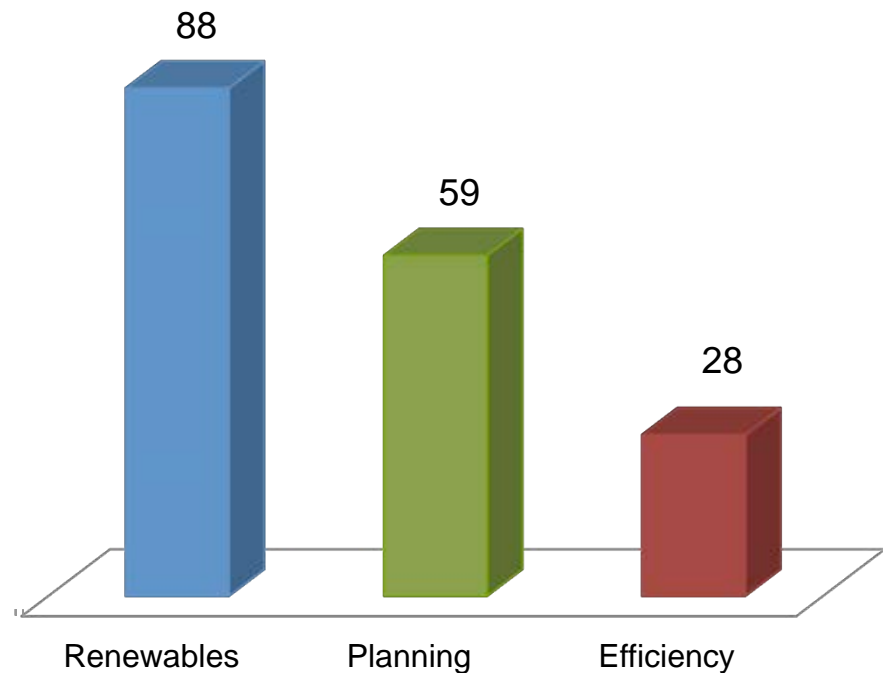
# Tribal Energy Project Pipeline

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

DOE Investment by Type (\$M)



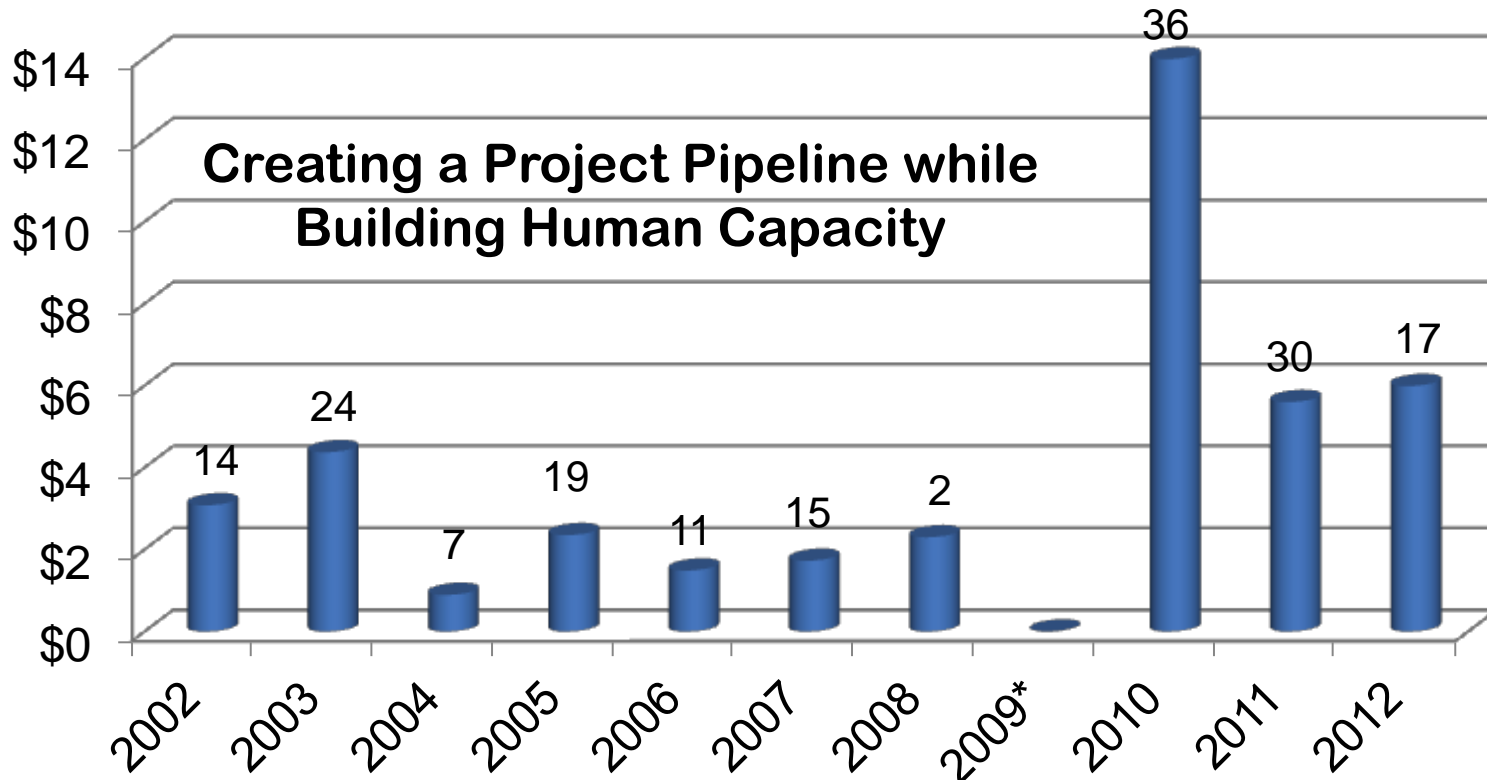
*Investment in Tribal Clean Energy*



***Funded 21.6% of All Tribes (122 of 566)***



## Project Funding History



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

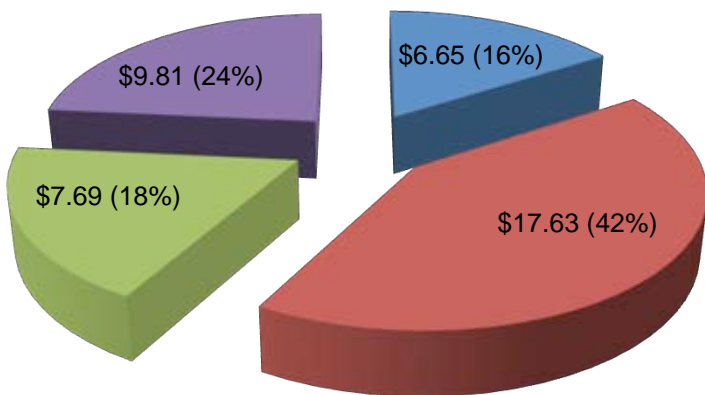
## Investment in Tribal Energy Sufficiency



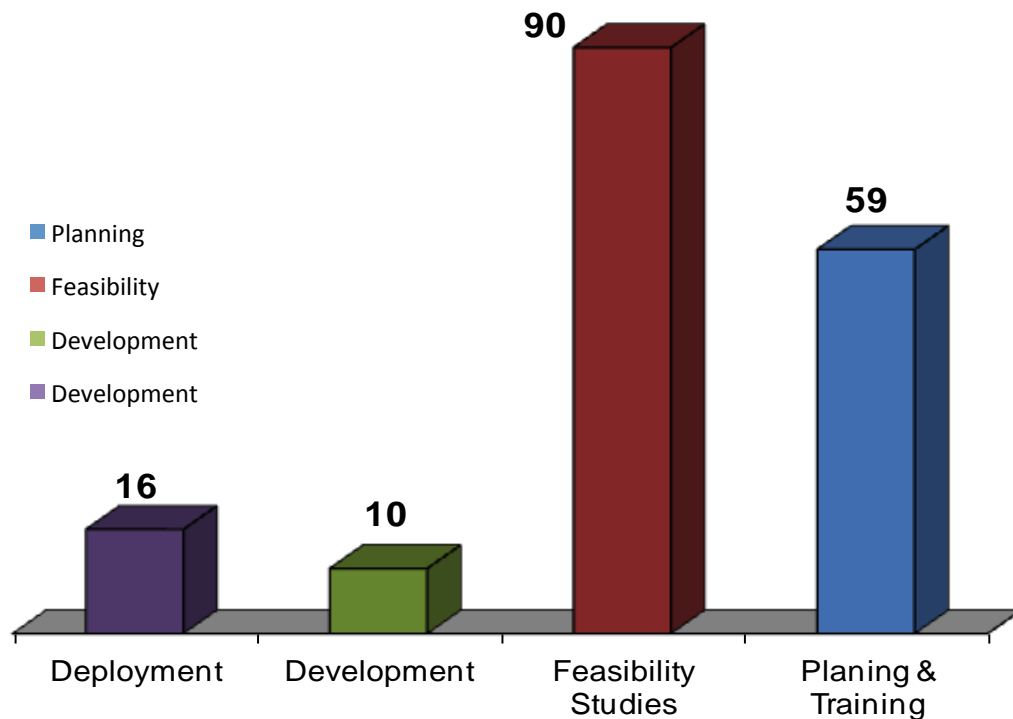
# Tribal Energy Project Pipeline

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



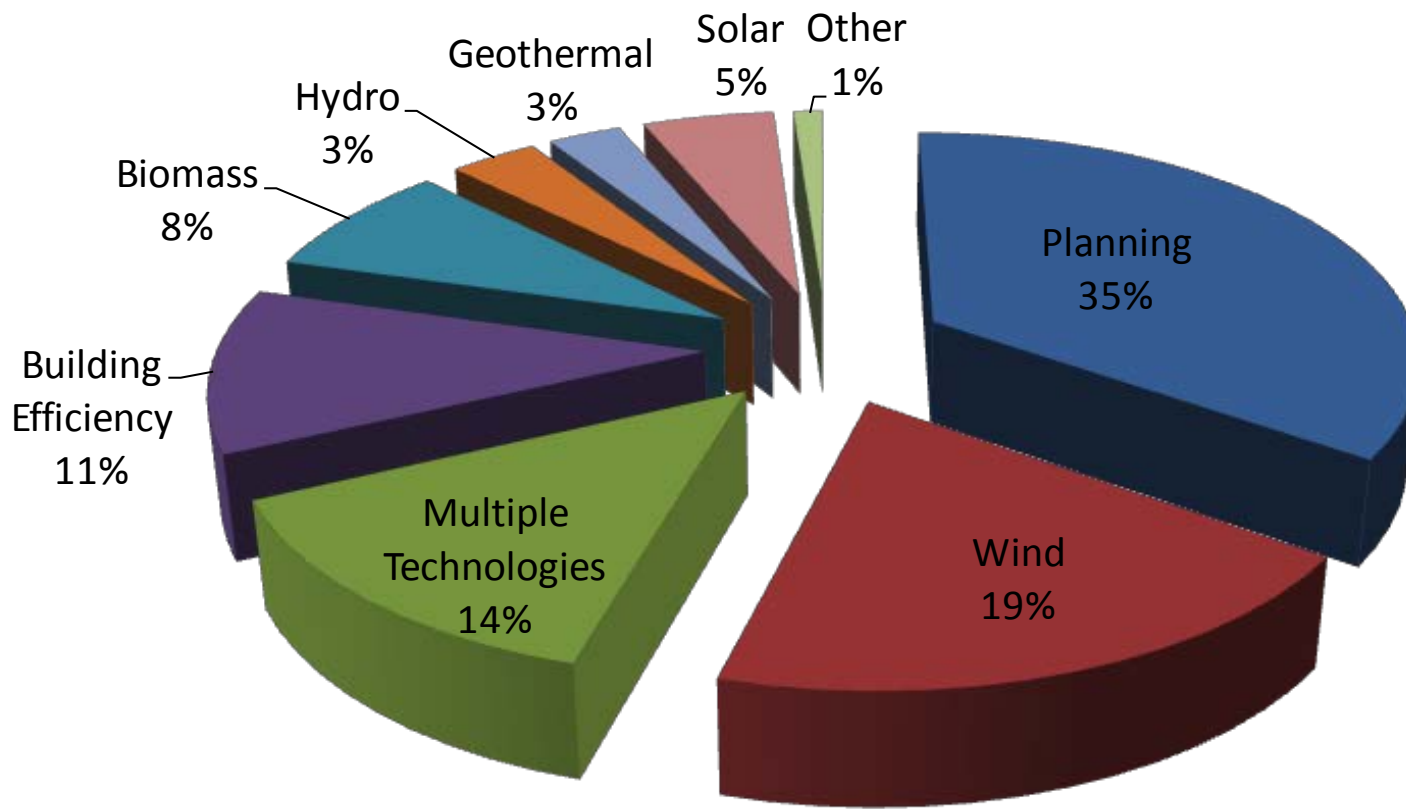
***Assisting Tribes Fulfill Their Energy Vision***





# 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 Deployment 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*

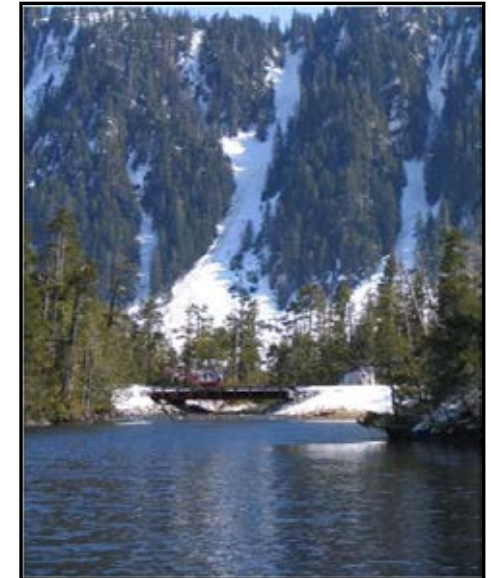
### Renewable Energy Deployment Projects (Continued)



**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** installed 1,664 new LED lights for a 54% reduction in energy use (WI)



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





# Project Accomplishments

## *Deployment to Save Energy for the Future*

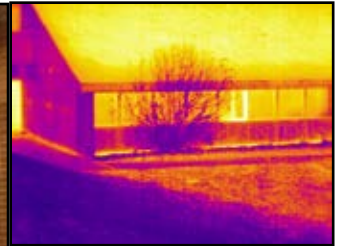
### Building Retrofit Projects (Continued)



**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



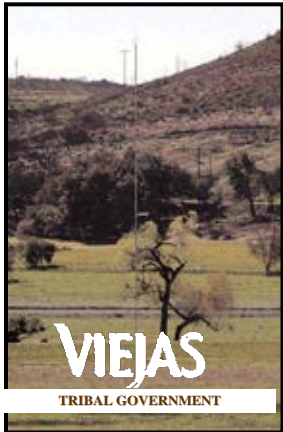


# Project Accomplishments

## *Assessing Indigenous Resources*

### Renewable Energy Feasibility Studies (78)

- Over 4,000 MW of potential new generation, if developed



**Viejas** Tribal  
Government  
Tribal Utility and  
Wind Study (CA)

### Pueblo of Jemez Geothermal Feasibility Study (NM)



**Three Affiliated Tribes** Wind  
Feasibility Study (ND)



**Makah  
Indian  
Nation**  
Wind  
Feasibility  
Study (WA)



**Kaw Nation**  
Wind Resource  
Assessment  
(OK)



**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



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

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

**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)



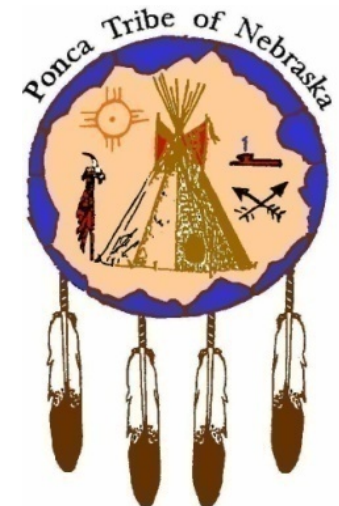
**Seneca Nation**  
conducted strategic  
energy planning  
(NY)



**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**

**Financial  
Assistance**

*Success through  
Government-to-  
Government  
Partnerships*

**Technical  
Assistance**

*Leveraged through  
Intergovernmental  
Coordination*

**Information & Education**

*Leveraged with Intra-  
governmental  
Coordination*





# 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



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



Assisting Tribes with expertise from  
DOE's 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.

The image shows a screenshot of a web form titled "DOE's Tribal Energy Program REQUEST FOR TECHNICAL ASSISTANCE". The form is divided into three main sections: "CONTACT INFORMATION", "DESCRIPTION OF REQUESTED ASSISTANCE", and "BACKGROUND INFORMATION".

**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 INFORMATION**

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

Return form to Libiana Pierce via e-mail at [libiana.pierce@eeere.doe.gov](mailto:libiana.pierce@eeere.doe.gov) or facsimile at (202) 275-4733

**Complete Request Form On-line at [www.eere.energy.gov/tribalenergy/tech\\_assistance.cfm](http://www.eere.energy.gov/tribalenergy/tech_assistance.cfm)**





# *DOE's Tribal Energy Program* **Three Pronged Approach**

**Financial  
Assistance**

*Leveraged through  
Intergovernmental  
Coordination*

*Success through  
Government-to-  
Government  
Partnerships*

**Technical  
Assistance**

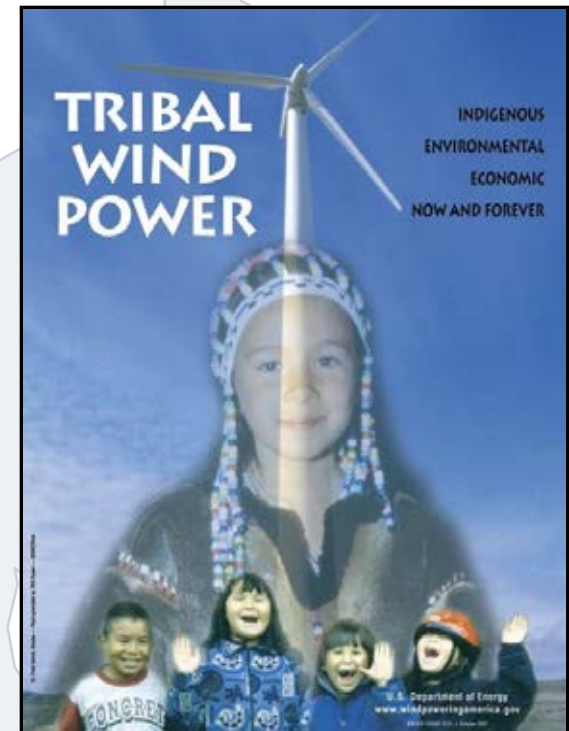
*Leveraged with Intra-  
governmental  
Coordination*

**Information &  
Education**



# 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)



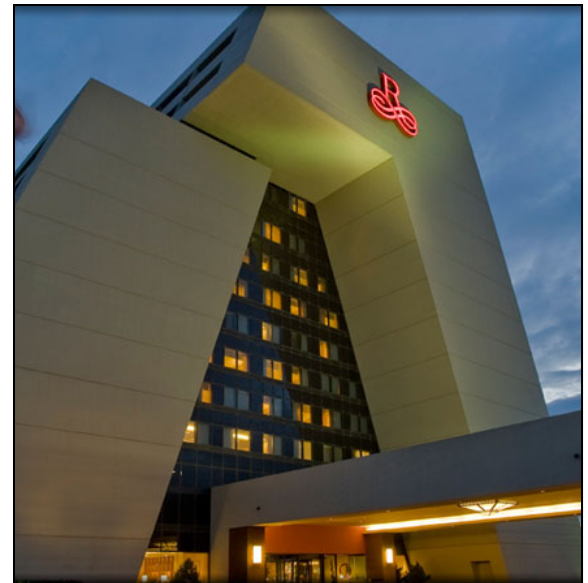
***Building Human Capacity in Indian Country***



# 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](mailto:skbegay@sandia.gov)

## Student Papers & Testimonials Posted on TEP Website

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

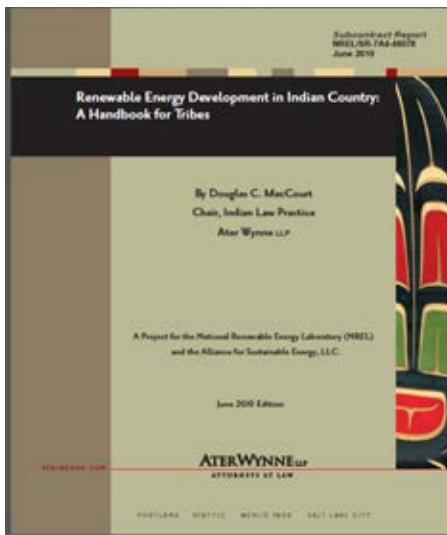
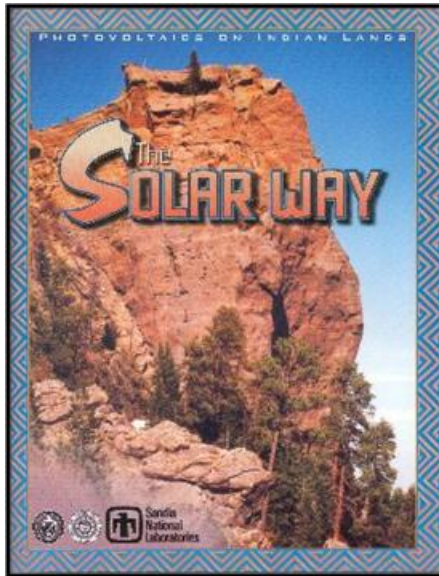


Deborah Tewa (certified electrician & solar installer) at Sandia's PV Laboratory (2002)



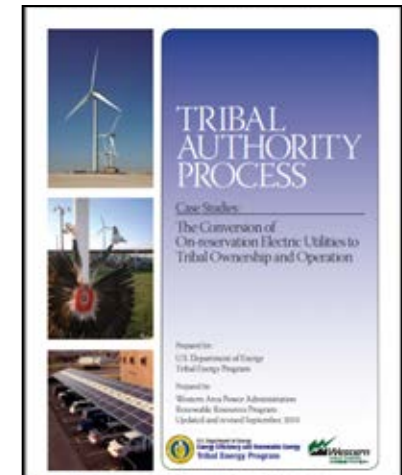
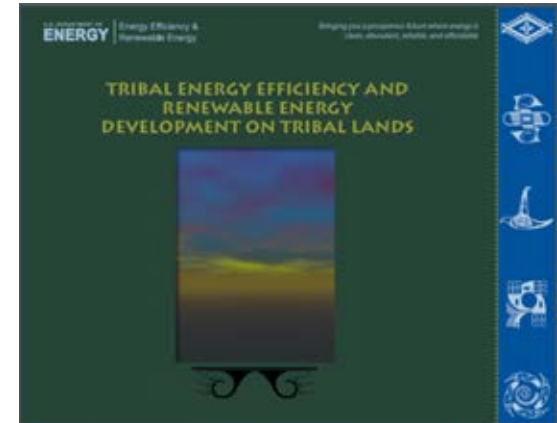


# Information Resources



The screenshot shows the homepage of the Tribal Energy Program website. It features a navigation menu with links for Home, About, Projects, Education & Training, Energy Development Guide, Technical Assistance, Financial Opportunities, Information Resources, and Events. A search bar is located at the top right. Below the navigation, there is a 'POPULAR LINKS' section with links to 'Learn about funding opportunities', 'Get information on existing tribal energy projects', 'Learn how to develop and implement an energy project', 'Register for upcoming trainings', 'Request technical assistance', and 'Contact the program's help desk'. A 'FEATURES' section highlights the '2012 Tribal Energy Program Review' and a 'Guide to Tribal Energy Development'. A 'Subscribe to email updates' button is at the bottom.

This screenshot displays the 'Project Development' section of the website. It includes a flowchart illustrating the process from 'Tribal Decision' to 'Construction & Maintenance'. The steps are: Tribal Decision, Engineering Design, Project Agreement, Permitting and Licensing, Project Financing, Technical Development, Construction & Funding, Construction, and Construction & Maintenance. A 'Checklist' is also visible on the left side of the flowchart.





# Informational Materials

## Short Courses

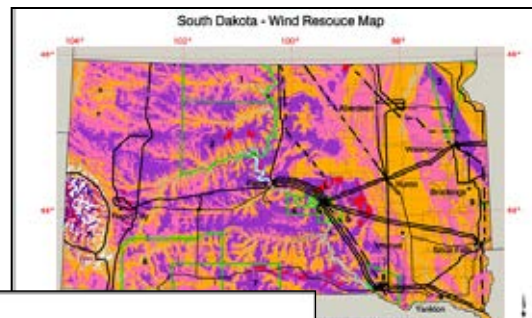
- Analysis & Economics
- Business & Financing
- Community Development
- Demand-side Options
- Renewable Technologies

## Handbooks & Guides

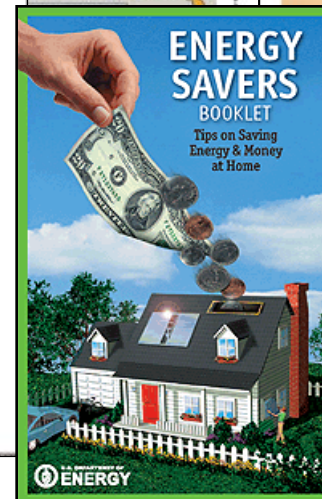
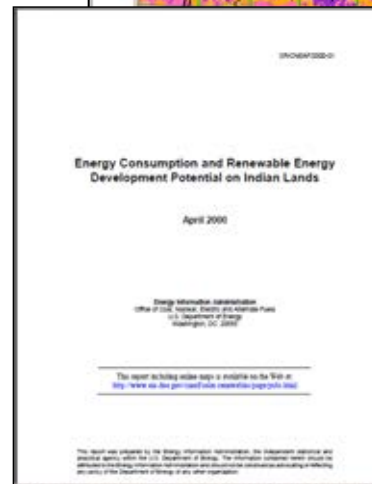
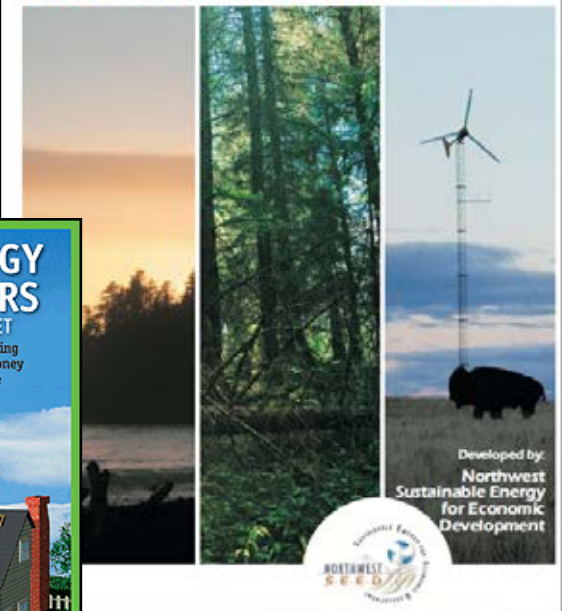
- A Guide: Energy Planning
- Energy Consumption and Renewable Energy Development on Indian Lands
- A Handbook: Renewable Energy in Indian Country

## Tools & Models

- Resource Potential Maps
- Reservation Specific Wind Maps



## Energy Planning: A Guide for Northwest Indian Tribes



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

The screenshot shows the homepage of the Tribal Energy Program website. The header includes the U.S. Department of Energy logo and the text 'Energy Efficiency & Renewable Energy'. The main navigation menu includes links for HOME, ABOUT, PROJECTS, EDUCATION & TRAINING, ENERGY DEVELOPMENT GUIDE, TECHNICAL ASSISTANCE, FINANCIAL OPPORTUNITIES, INFORMATION RESOURCES, and EVENTS. The main content area features a search bar, a 'Tribal Energy Program' title, and a brief description of the program's mission. Below this, there are sections for 'POPULAR LINKS' (with a list of links like 'Learn about funding opportunities'), 'FEATURES' (with images and links for '2012 Tribal Energy Program Review' and 'Guide to Tribal Energy Development'), and 'EVENTS' (listing the '2012 International Straw Builders' Conference' and a 'DOE Webinar: Accelerating Innovation: Energy Storage on Tuesday'). There is also a 'FEATURED PUBLICATIONS' section with links to the 'Indian Energy Legal Handbook' and the 'Tribal Energy Program Brochure'. A 'Subscribe to email updates' button is located at the bottom left of the main content area.

## Clearinghouse of Information

[www.eere.energy.gov/tribalenergy](http://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

The screenshot displays the website's navigation menu (HOME, ABOUT, PROJECTS, EDUCATION & TRAINING, ENERGY DEVELOPMENT GUIDE, TECHNICAL ASSISTANCE, FINANCIAL OPPORTUNITIES, INFORMATION RESOURCES, EVENTS) and the 'Projects on Tribal Lands' page. The page includes a sidebar with filters (By State, By Tribe, By Technology, By Award Year, By Award Type, Funding History) and a 'Quick Links' section (Funding Opportunities, Upcoming Trainings, Email Updates, Help Desk). The main content area features a map of the United States and a list of projects. A detailed project summary for the 'Agua Caliente Band of Cahuilla Indians - 2005 Project' is shown, including a project description, status, and contact information.

**Agua Caliente Band of Cahuilla Indians - 2005 Project**

**Project Description**  
The Agua Caliente Band of Cahuilla Indians will establish a comprehensive energy strategic plan that captures economic and environmental benefits while conforming to respect tribal cultural practices and traditions. Their goal is to understand their current and future energy consumption, and they will develop a strategic energy plan, including an action plan to clearly identify the energy options for the tribe. The project is anticipated to have a positive impact on the tribe; promote greater understanding of energy efficiency; establish partnerships with energy stakeholders, including electric and natural gas suppliers; and position the tribe to be influential with regional energy development.

**Project Status**  
The project is complete. For details, see the final report (PDF 490 KB) and the October 2005 (PDF 217 KB) and October 2006 (PDF 3.0 MB) presentations provide additional information. [Download Adobe Reader.](#)

**Project Contact**  
Todd Hooks (760-883.1350)

Project Overview		
Tribes/Awardees:	Agua Caliente Band of Cahuilla Indians	
Location:	Falm Springs, CA	
Project Title:	Development of a Strategic Energy Plan	
Type of Application:	First Steps	
DOE Grant Number:	DE-FE20-00001173	
Project Amount:	DOE:	\$98,312
	Awardees:	\$15,393
	Total:	\$113,705
Project Status:	Completed (Ramp)	
Project Period of Performance:	Start: September 2005 End: August 2006	

Assuring Visibility of Tribal Projects





# “Guide to Tribal Energy Development”

## Development Process

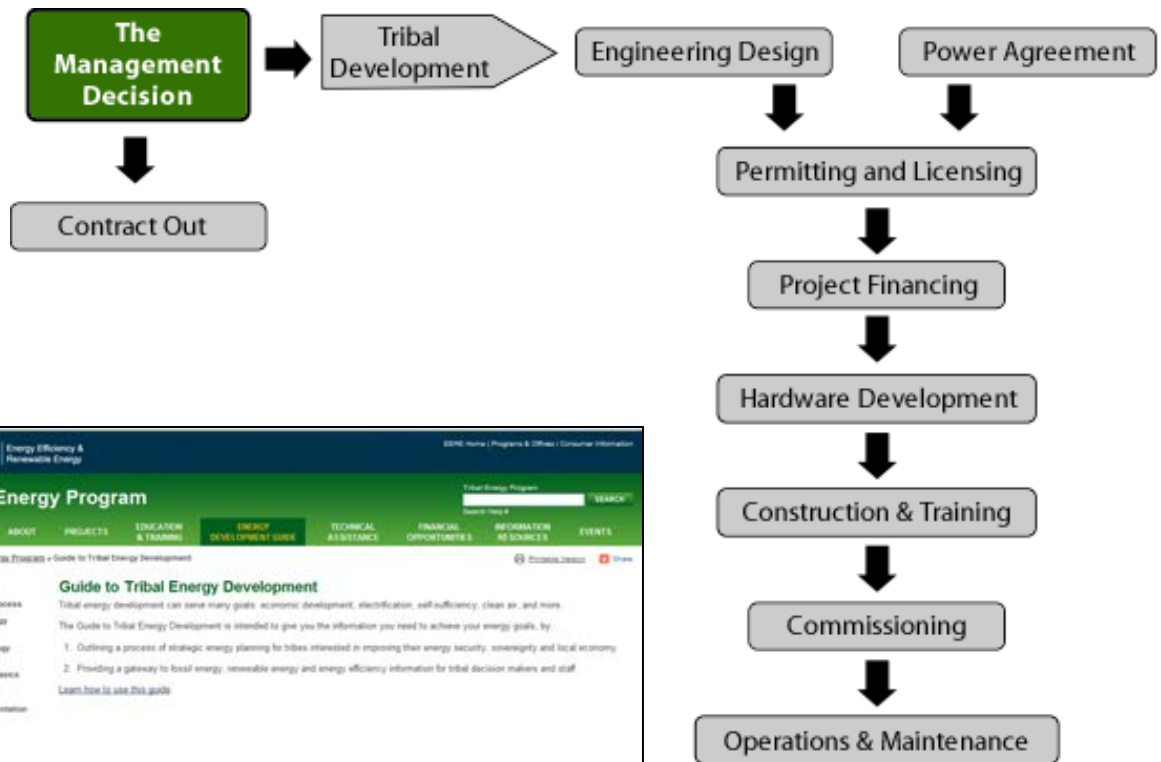
- Strategic Planning
- Options Analysis
- Organizational Development
- Project Development

## 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](http://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 serves – Expands distribution
- On-line inquiries available



The screenshot shows the 'Tribal Energy Program' website with a green header. The main content area is titled 'Subscribe to Email Updates' and includes a 'Thank you' message and a list of benefits for subscribers. Below this is a form with fields for 'First Name', 'Last Name', 'Type of Affiliation', 'Name of Affiliation', 'Title', 'Address', 'Address 2', 'City', 'State', and 'Zip Code'. There are also 'Submit' and 'Cancel' buttons.

Join Our Email List  
[www.eere.energy.gov/tribalenergy](http://www.eere.energy.gov/tribalenergy)



# 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)



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

A 6kW PV System at **SIPI's** Science and  
Technology Building (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](mailto: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](http://www.eere.energy.gov/tribalenergy)

