DOE’s Tribal Energy Program

Program Review
October 17, 2005

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U.S. DOE, Golden Field Office
Department of Energy

Advancing Energy and National Security through Science, Technology and Environmental Stewardship

FY 2004 Budget Request
$23.4 Billion

Energy ($2.45 Billion) includes:
- Energy Efficiency and Renewable Energy ($1.3)
- Fossil Energy ($0.75)
- Nuclear Energy, Science and Technology ($0.38)

- NNSA-Nuclear ($8.8)
- Energy ($2.5)
- Science ($3.3)
- Environment ($8.0)
- Corporate Management ($0.8)
EPAct 2005 Directs the Establishment of an “Office of Indian Energy Policy and Programs”
DOE’s Office of Energy Efficiency and Renewable Energy (EERE)

Mission

The EERE’s mission is to strengthen America's energy security, environmental quality, and economic vitality in public-private partnerships that:

• Enhance energy efficiency and productivity;

• Bring clean, reliable and affordable energy technologies to the marketplace; and

• Make a difference in the everyday lives of Americans by enhancing their energy choices and their quality of life.
Renewable Energy Resources

Using the Sun, Wind, Water, and Earth
Renewable Energy Technologies

Prime Focus is Research and Development
DOE’s Office of Energy Efficiency and Renewable Energy (EERE)

$1.25 Billion EERE Budget Request (FY2005)

- Biomass ($81.3 Million)
- Buildings ($58.3 Million)
- DER ($53.1 Million)
- FEMP ($19.9 Million)
- Fuel Cells ($77.5 Million)
- Geothermal ($25.8 Million)
- Hydrogen ($95.3 Million)
- Industrial ($58.1 Million)
- Solar Energy ($80.3 Million)
- Vehicles ($156.7 Million)
- WIP ($380.1 Million)
- Wind & Hydro ($47.6 Million)
- Other ($14.5 Million)
- Program Direction ($102.4 Million)

Tribal Energy Budget (FY2005)

Appropriated: $5.5 Million
DOE’s Office Weatherization and Intergovernmental Program

Tribal Energy Budget (FY2005)

Appropriated: $5.5 Million

Per EPAct 2005, Tribes eligible for REPI
DOE’s Tribal Energy Program

“Indian households on reservations are disproportionately without electricity. A total of 14.2% of Indian households have no access to electricity, as compared to only 1.4% of all U.S. households.” Navajo accounts for 75% of the households without electricity (2000 EIA Report)

DOE funded the Navajo Nation Electrification Demonstration Program (P.L. 106-511) resulting in 503 households electrified in fiscal year 2002
DOE’s Tribal Energy Program

The most-burdened 10 percent of Indian households on reservations spend 20 percent or more of their income on electricity.

Over twice the percentage of U.S. households at the same income level. (2000 EIA Report)
DOE’s Tribal Energy Program

“Indian land comprises 5% of the land area of the United States, but contains an estimated 10% of all energy resources in the United States”

EPAct 2005, requires the Federal Government to consume no less than 7 ½% renewable energy by 20013

Doubles energy credit for energy produced on Tribal Lands
DOE’s Tribal Energy Program

Wind Potential on Tribal Lands about 14% of the U.S. Annual Electric Generation (~ 3,853 Billion kWh/year)

Wind potential of about 535 Billion kWh/yr on Indian Lands in Lower 48 States
DOE’s Tribal Energy Program

Solar Electric Potential on Tribal Lands \(~4.5\) times the Total U.S. Electric Generation in 2004

Solar Electric Potential of 17,600 Billion kWh/yr on Indian Lands
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

Mission

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

1) Allow Tribal leaders to make informed decisions;
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 Management through DOE Headquarters, implementation through the DOE Golden Field Office, and technical support through the DOE’s Laboratories

**Program Management**

- **Thomas Sacco**
  - Weatherization and Intergovernmental Program
  - Office of Energy Efficiency and Renewable Energy (EERE)
  - Department of Energy, HQ
  - (303) 275-4727

**Field Implementation**

- **DOE Golden Field Office**
  - Project Manager, Tribal Energy Program
  - Lizana Pierce
  - (303) 275-4727

**Technical Assistance**

- **Sandia National Laboratories, Albuquerque**
  - Sandra Begay-Campbell
  - (505) 844-5418

- **National Renewable Energy Laboratory**
  - Roger Taylor
  - (303) 384-7389
### DOE’s Tribal Energy Program Funding

<table>
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* Total of $1,000,000 earmarked to the Council of Energy Resource Tribes (CERT)
** Total of $3,300,000 earmarked to CERT, ICOUP, and Pyramid Lake Paiute
*** Total of $2,000,000 earmarked for CERT and Pyramid Lake Paiute
DOE’s Tribal Energy Program Funding

DOE Funding of $6.3 Million for Three Earmark Awards

Sixty-five (65) competitive awards valued at $13.8 million (Tribes Cost Shared $2.9 million)
DOE’s Tribal Energy Program

Congressionally Directed Awards

Council of Energy Resource Tribes (CERT)

Native American technical assistance and training for renewable energy resource development and electrical generation facilities management

DOE Funding: $2.93 Million  Period of Performance: Jul 2003 – Dec 2006

Pyramid Lake Paiute Tribe (PLPT)

Characterize the geothermal resource and determine the potential for geothermal electrical production of at least one medium sized geothermal facility on tribal lands

DOE Funding: $1.97 Million  Period of Performance: Jun 2004 – May 2006
DOE’s Tribal Energy Program

Congressionally Directed Awards

Intertribal Council on Utility Policy (Intertribal COUP)

Development of significant wind energy generation on Indian Reservations in the northern Great Plains as a viable strategy for community revitalization and capacity building through the development of sustainable homeland tribal economies

DOE Funding: $1.27 Million

Period of Performance: Jun 2004 – Nov 2005
DOE’s Tribal Energy Program

Funding Opportunities
(Subject to Available Funding)

First Steps Toward Developing Tribal Renewable Energy and Energy Efficiency
- Strategic planning
- Energy options analysis
- Capacity building
- Organizational development

Renewable Energy Development on Tribal Lands
- Feasibility studies
- Cost shared development projects

Education Programs
- Student Internships
- Teach-the-Teacher Workshops (Jul 2004)
- Biomass Workshop (Sep 2004)
- Regional Workshops (2003/2004)
- RE for Community Development (Aug 2005)
DOE’s Tribal Energy Program
Funding Opportunities

“First Steps” Toward Developing Renewable Energy and Energy Efficiency

- Strategic planning
- Energy options analysis
- Capacity building
- Organizational development

Renewable Energy Development on Tribal Lands

- Feasibility studies
- Development projects (cost shared)

Funds Awarded through a Competitive Process
DOE’s Tribal Energy Program

Funding Opportunities

- Federally-recognized Tribes eligible for funding
  - Federally-recognized Tribes;
  - Alaska Native villages; and
  - Alaskan Native Corporations.

- Tribal Lands
  - 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.

EPAct authorizes $20,000,000 for a DOE “Indian Energy Education Planning and Management Assistance Program” and $20 Billion for “Loan Guarantee Program”
DOE’s Tribal Energy Program

Over the last few years, DOE has funded 45 tribal energy projects totaling $8.4 million

Tribes cost-shared $2.0 Million

Total of 91% of DOE funds awarded directly to Tribes
DOE’s Tribal Energy Program

Tribal Projects

Forty-five (45) Tribes across the Nation exploring energy options

For more, see [www.eere.energy.gov/tribalenergy](http://www.eere.energy.gov/tribalenergy)
DOE’s Tribal Energy Program
Assisting Tribes Meet Their Energy Goals

Accomplishments

- Installation of the first utility-scale turbine on Tribal lands in the contiguous U.S. (Rosebud Sioux)
- Installation of a substation at the Colville Indian Power and Veneer plant in Washington State, projected to reduce line losses and save between $160,000 and $260,000 per year.
- Installation of 20 anemometers measuring tribal wind resources across the Nation.
- Mandan, Arikara and Hidatsa Tribes in North Dakota and Assiniboine and Sioux Tribes in Montana installing a total of 710 kW of wind energy
- The Northern Cheyenne and Rosebud Sioux Tribes are proceeding toward large-scale wind development with the near-term potential for 60 MW of installed wind energy in Indian Country
DOE’s Tribal Energy Program

Tribal Accomplishment

Accomplishments

Fourteen (14) feasibility studies completed

- Confederated Tribes of the Umatilla Indian Reservation
- Kaw Nation of Oklahoma
- Makah Indian Nation
- Manzanita Band of Mission Indians
- Mississippi Band of Choctaw Indians
- Northern Cheyenne Tribe
- Pueblo of Jemez
- Red Lake Band of Chippewa Indians
- Shoshone-Paiute Tribes of the Duck Valley Reservation
- St. Croix Chippewa Indians of Wisconsin
- Tulalip Tribes of Washington
- Viejas Tribal Government
- White Mountain Apache Tribe
- Yukon-Kuskokwim Health Corporation

Viejas Tribal Government
Tribal Utility and Wind Study

Sealaska Wind Feasibility Study

Makah Indian Nation
Wind Feasibility Study

Pueblo of Jemez
Geothermal Feasibility Study
DOE’s Tribal Energy Program

Tribal Accomplishment

Accomplishments

Five (5) tribes **develop strategic energy plans**

- Cabazon Band of Mission Indians
- Citizen Potawatomi Nation
- Samish Indian Nation
- Smith River Rancheria
- Hopi Tribe

Smith River Rancheria

Citizen Potawatomi Nation of Oklahoma
DOE’s Tribal Energy Program

Ongoing Tribal Projects

- **Northern Cheyenne Tribe**
  Pursuing large-scale wind development
- **Ramona Band of Cahuilla Mission Indians**
  Developing ecotourism cultural resort macro-grid hybrid renewable energy power system

High Resolution Wind Prospecting Maps Available for Most Tribal Lands

See Guide to Tribal Energy Development at

www.eere.energy.gov/tribalenergy/guide

Northern Cheyenne pursuing 30 MW Wind Farm
DOE’s Tribal Energy Program
FY2005 Awards
DOE awards $2.4 million

Twenty (20) awards to Tribes for energy planning, feasibility studies and demonstration

Tribes Cost Share
$945,000 (28%)
2005 Tribal Energy Program Project Awards

First Steps
Feasibility
Development

- Aroostook
- Penobscot
- Pribilof Islands
- Ft. Bidwell
- Yurok
- Smith River
- Ft. Peck
- Red Lake
- Little Traverse
- Grand Traverse
- Upper Skagit
- Warm Springs
- Hualapai
- Navajo
- Hualapai
- Jicarilla Apache
- Pueblo Laguna
- Potawatomi
- Little Traverse
- Grand Traverse
- Agua Caliente
- Hopi
- Navajo
- Pueblo Laguna
- Potawatomi
DOE’s Tribal Energy Program

DOE Funds 20 Tribal Energy Projects in 2005

### Renewable Energy Projects

**Development Project**
- Citizen Potawatomi Nation

**Feasibility Studies**
- Aleutian Pribilof Islands Association
- Confederated Tribes of Warm Springs
- Fort Bidwell Tribe
- Grand Traverse Band of Ottawa and Chippewa Indians
- Hopi Tribe
- Navajo Tribal Utility Authority
- Pueblo of Laguna Utility Authority
- Smith River Rancheria

### First Steps Projects

- Agua Caliente Band of Cahuilla Indians
- Aroostook Band of Micmacs
- Assiniboine and Sioux Tribes of the Fort Peck Reservation
- Hualapai Tribe
- Jicarilla Apache Utility Authority
- Little Traverse Bay Bands of Odawa Indians
- Penobscot Indian Nation
- Red Lake Band of Chippewa Indians
- Upper Skagit Indian Tribe
- Winnebago Tribe of Nebraska
- Yurok Tribe
DOE’s Tribal Energy Program

Education Program

- **Student Internships**
  - Three (3) summer interns sponsored in 2003 and 2004 each
  - Year-round intern sponsored (2002-2004)
  - One (1) summer intern and two (2) year-round interns (2005)

- **Workshops**
  - TC&U Teach the Teachers workshop (Jul 2004)
  - Biomass Opportunities and Challenges in Indian Country DOE/BIA/NREL sponsored workshop (Sep 2004)
  - Renewable energy for Community Development (Aug 2005)

- **Regional Tribal Workshops**
  - Four (4) tribal energy workshops held 2004
  - Three (3) planned 2004/2005

See Education and Training at [www.eere.energy.gov/tribalenergy](http://www.eere.energy.gov/tribalenergy)
DOE’s Tribal Energy Program

Information Resources

Tribal Energy Website
www.eere.energy.gov/tribalenergy

Guide to Tribal Energy Development
www.eere.energy.gov/tribalenergy/guide
DOE’s Tribal Energy Program

Program Web Site

- Features
- Current Events
- Funding Opportunities
- Projects on Tribal Lands
  - Project Overviews
  - Reports
  - Contacts
- Information Resource
- Program Contacts

www.eere.energy.gov/tribalenergy
DOE’s Tribal Energy Program

Guide to Tribal Energy Development

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

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

www.eere.energy.gov/tribalenergy/guide
DOE’s GeoPowering the West

GeoPowering the West is a commitment to dramatically increase the use of geothermal energy in the western United States

- Provides information and technical assistance to tribes
- Partners with tribes to expand the use of geothermal energy
  - Site visits completed at Pyramid Lake Paiute, Walker River Paiute and Wind River Tribe
  - Geothermal greenhouse tours provided to several New Mexico pueblo officials

Jemez Pueblo received DOE support to study its geothermal resource

www.eere.energy.gov/geothermal
DOE’s Geothermal Program

Geothermal Resource Exploration and Definitions Program (GRED III)

Financial assistance for geothermal resource assessments

Fort Bidwell Indian Community competitively selected for funding

Program Mission
To work in partnership with U.S. industry to establish geothermal energy as an economically competitive contributor to the U.S. energy supply
Wind Powering America’s (WPA) Native American Program

WPA recognizes the vast wind resources on tribal lands and provides technical assistance to:

• Evaluate the resource; and
• Pursue development options that best match Native interests

Native American Anemometer Loan Program has supported 55 tribes over the years

www.eere.energy.gov/windandhydro/windpoweringamerica/
Questions

“Tribes Leading the Way to Renewable Energy”

American Indian Report
June 2002