DOE FY 2006 Budget
$23.6 Billion

Energy ($2.7 Billion) includes:
- Energy Efficiency and Renewable Energy ($1.2)
- Electricity Delivery & Energy Reliability ($0.16)
- Fossil Energy ($0.84)
- Nuclear Energy, Science and Technology ($0.54)
EPAct 2005 Directs the Establishment of an “Office of Indian Energy Policy and Programs”
DOE’s Office of Energy Efficiency and Renewable Energy (EERE)

$1.17 Billion EERE Budget (FY2006)

Tribal Energy Budget (FY2006)
Appropriated: $4 Million

Weatherization Grants ($291.2 Million)

Per EPAct 2005, Tribes eligible for REPI
Renewable Energy Resources

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

Prime Focus is Research and Development
DOE’s Tribal Energy Program

More than 2.4 million Native Americans live on or near tribal land

- The unemployment rate is more than double the national average and more than one-third live in poverty. (Enterprise Foundation)

- Over 40 percent live in overcrowded or dilapidated housing. Basic infrastructure, including water, sewer and roads, are often severely inadequate. (Enterprise Foundation)

Low-income Tribal members may be eligible for DOE Weatherization (Wx) Assistance
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 769 homes electrified (FY 2002-2003)
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)

Weatherization returns $3.71 in benefits for every $1 invested (DOE Wx Program)
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.”

“Wind resources in the Great Plains could meet 75% of the electricity demand in the contiguous 48 states.” (Native American Energy Development and Self-Determination Act of 2003)

Tribal energy resource development can support local economies and Tribal sovereignty.
DOE’s Tribal Energy Program

Wind Potential on Tribal Lands about 14% of 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

Supporting Government-to-Government Relationships

Through the authorities set forth in the Energy Policy Act (EPAct) and Executive Orders (DOE Order 1230.2)

DOE is seeking to support energy sufficiency on tribal lands and support the trust responsibility set forth in DOE’s American Indian & Alaska Native Tribal Government Policy
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.

Authority
DOE’s Tribal Energy Program

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

Assisting Tribes to Meet Their Energy Goals

- Developing in Cooperation with Tribes
- Providing Funding Opportunities
- Supporting Government-to-Government Relations
- Offering Technical Assistance
- Providing Information and Education
- Facilitating Government Collaboration and Leveraging Resources

Oneida Tribe of Indians of Wisconsin Solar Project
DOE’s Tribal Energy Program Organization

Program Management through DOE Headquarters, implementation through the DOE Golden Field Office, and technical support through the DOE’s Laboratories

Program Management

Field Implementation

Technical Assistance

Thomas Sacco
Weatherization and Intergovernmental Program
Office of Energy Efficiency and Renewable Energy (EERE)
Department of Energy, HQ

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

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

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

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* Council of Energy Resource Tribes (CERT)
** CERT, ICOUP, and Pyramid Lake Paiute
*** CERT and Pyramid Lake Paiute
DOE’s Tribal Energy Program

DOE has funded 76 tribal energy projects totaling $12.4 million (2002-2006)

Tribes cost-shared $3.3 million

Total of 88% of DOE funding directly to Tribes

Tribes cost-shared $3.3 million
DOE’s Tribal Energy Program

Tribal Energy Projects

Development Projects (6)
Assiniboine & Sioux Tribes (MT) 2003
Citizen Potawatomi Nation (OK) 2005
Colville Confederate Tribes (WA) 2002
Northern Cheyenne Tribe (MT) 2003
Ramona Band of Cahuilla Mission Indians (CA) 2002
Rosebud Sioux Tribe (SD) 2003

“First Steps” Projects (25)
Agua Caliente Band of Cahuilla Indians (CA) 2005
Aroostook Band of Micmacs (ME) 2005
Assiniboine and Sioux Tribes (MT) 2005
Augustine Band of Cahuilla Indians (CA) 2006
Blackfeet Tribe (MT) 2006
Cabazon Band of Mission Indians (CA) 2003
Citizen Potawatomi Nation (OK) 2003
Fort Sill Apache Tribe of Oklahoma (OK) 2003

“First Steps” Projects (Continued)
Hopi Tribe (AZ) 2003
Hualapai Tribe (AZ) 2005
Jicarilla Apache Utility Authority (NM) 2005
Little Traverse Bay Bands of Odawa Indians (MI) 2005
Pawnee Nation of Oklahoma (OK) 2006
Penobscot Indian Nation (ME) 2005
Red Lake Band of Chippewa Indians (MN) 2005
Samish Indian Nation (WA) 2003
Seneca Nation of Indians (NY) 2003
Smith River Rancheria (CA) 2003
Smith River Rancheria (CA) 2006
Turtle Mountain Band of Chippewa Indians (ND) 2006
Upper Skagit Indian Tribe (WA) 2005
White Earth Reservation (MN) 2003
Yurok Tribe (CA) 2003
Yurok Tribe (CA) 2005
Winnebago Tribe of Nebraska (NE) 2005

Project Summaries and Reports Posted
DOE’s Tribal Energy Program

Tribal Energy Feasibility Projects (45)

Ak-Chin Indian Community (AZ) 2004
Aleutian Pribilof Islands Association (AK) 2005
Bristol Bay Native Corporation (AK) 2003
Cherokee Nation (OK) 2003
Confederate Tribes of Warm Springs (OR) 2002
Confederated Tribes of Warm Springs (OR) 2005
Eastern Shoshone Tribe of Wind River (WY) 2006
Flathead Reservation (MT) 2004
Fort Belknap Indian Reservation (MT) 2006
Fort Bidwell Tribe (CA) 2005
Fort Mojave Tribe (AZ) 2003
Grand Traverse Band of Ottawa and Chippewa Indians (MI) 2005
Hoopa Valley Tribe (CA) 2006
Hopi Tribe (AZ) 2005
Kaw Nation of Oklahoma (OK) 2002
Kenaitze Indian Tribe (AK) 2002
Lower Brule Sioux Tribe (SD) 2003
Makah Tribe (WA) 2002
Makah Tribe (WA) 2003
Manzanita Band of Mission Indians (CA) 2002
Mesa Grande Band of Mission Indians (CA) 2004
Mississippi Band of Choctaw Indians (MI) 2002
Morongo Band of Mission Indians (CA) 2006
Native Village of Venetie (AK) 2003
Navajo Tribal Utility Authority (AZ) 2005
Northern Cheyenne Nation (MT) 2002
Port Graham Village Council (AK) 2006
Pueblo of Jemez (NM) 2002
Pueblo of Laguna Utility Authority (NM) 2005
Quinault Indian Nation (WA) 2004
Red Lake Band of Chippewa Indians (MN) 2003
St. Croix Tribal Government (WI) 2002
Sault Ste. Marie Tribe (MI) 2002
Sealaska Native Corporation (AK) 2002
Shoshone Paiute Tribes (NV) 2003
Smith River Rancheria (CA) 2005
Taos Pueblo (NM) 2003
Three Affiliated Tribes of the Fort Berthold Reservation (ND) 2004
Tulalip Tribe (WA) 2002
Umatilla Indian Reservation (OR) 2002
Viejas Tribal Government (CA) 2003
White Mountain Apache Tribe (AZ) 2002
Winnebago Tribe of Nebraska (NE) 2006
Yavapai-Apache Nation (AZ) 2004
Yukon-Kuskokwim Health Corporation (AK) 2002
Council of Energy Resource Tribes (CERT)

Native American technical assistance and training for renewable energy resource development and electrical generation facilities management (Annual funding FY2003-2006)


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 (FY2004 and FY2005 funding)

DOE Funding: $1.97 Million  Period of Performance: Jun 2004 – May 2007
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 (FY2004 funding)

DOE Funding: $1.27 Million  Period of Performance: Jun 2004 – Nov 2006
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 Intragovernmental Coordination
DOE’s Tribal Energy Program
Three Pronged Approach

Financial Assistance

Technical Assistance

Leveraged through Intergovernmental Partnerships

Leveraged through Intragovernmental Coordination

Information & Education

Success through Government-to-Government Partnerships
DOE’s Tribal Energy Program
Providing Financial Assistance

Providing financial and technical assistance to Tribes for energy planning and feasibility studies of renewable energy projects on Tribal Lands

Only Federally-recognized Tribes eligible to apply

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.

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

First Steps Toward Developing Renewable Energy and Energy Efficiency

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

Feasibility of Renewable Energy Projects on Tribal Lands

• Feasibility studies

Solar Installations at Pueblo of Laguna’s Majors Ranch

Ute Mountain Indian Reservation
PV Water Pumping
DOE’s Tribal Energy Program
Funding Opportunities

Applications must be submitted electronically through Grants.gov

• To apply, you must be registered in Grants.gov
• Registration may take at least 21 days to complete
• For more, see http://www/grants.gov/GetStarted
• Verify you are registered by contacting the Grants.gov Helpdesk
• For assistance help, contact Grants.gov Helpdesk at 1-800-518-4726 or support@grants.gov

Issued September 2006
Applications Due January/February 2007

First 750 kW Turbine on Tribal Lands in the Contiguous U.S.
DOE’s Tribal Energy Program

Assisting Tribes Meet Their Energy Goals

Past Accomplishments

- Mandan, Hidatsa & Arikara Tribes in North Dakota install a 66 kW wind turbine to power Three Bears Casino (2005)
- Pueblo of Laguna installed wind and solar systems to power Major’s Ranch

Solar Installations at Pueblo of Laguna’s Majors Ranch

Turbine (67 kW)
Installed at Fort Berthold
September 2005
DOE’s Tribal Energy Program
Assisting Tribes Meet Their Energy Goals

Past Accomplishments

- Installation of the first utility-scale turbine (750 kW) on Tribal lands in the contiguous U.S. (Rosebud Sioux)
- Jicarilla Apache installed 2.4 kW solar electric system on Dulce High School
- Solar arrays installed on 18 homes in the Dilkon and Teesto Chapters of the Navajo Nation (21.6 kW)
DOE’s Tribal Energy Program

Three Pronged Approach

- Financial Assistance
  - Leveraged through Intergovernmental Coordination
- Information & Education
- Technical Assistance
  - Leveraged with Intragovernmental Coordination

Success through Government-to-Government Partnerships
DOE’s Tribal Energy Program
Providing Technical Assistance

Technical Assistance

- Technology Advice
- Models and Tools
- Resource Maps
- Strategic Planning
- Project Management Support

Assisting Tribes with technical expertise through DOE’s National Laboratories
DOE’s Tribal Energy Program

Three Pronged Approach

- Technical Assistance
- Financial Assistance

Leveraged through Intergovernmental Coordination
Leveraged with Intragovernmental Coordination

Information & Education
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

Providing Information and Education

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)
- Three (3) summer interns and one (1) year-round intern sponsored (2006)

Workshops
- Co-sponsored Native American Energy and Mineral Institute (NAEMI) workshops (5 workshops held summer 2006)
- Renewable Energy for Community Development (Aug 2005)
- TC&U Teach the Teachers workshop (Jul 2004)
- Biomass Opportunities and Challenges in Indian Country DOE/BIA/NREL sponsored workshop (Sep 2004)
- Four (4) regional workshops held 2004
- Co-sponsor Wind Energy Applications Training Symposium (WEATS)

Student Paper and Workshop Materials
Posted on TEP Website
DOE’s Tribal Energy Program

Tribal Projects

DOE Investment of $12.4 Million

Tribes Cost Share $3.3 Million

Seventy-six (76) Tribes funded for energy planning, feasibility studies and demonstration (2002-2006)
**DOE’s Tribal Energy Program**

**Tribal Accomplishments**

- Two demonstrations completed and two demonstrations underway
- Twenty-one tribal feasibility studies completed and reports posted
- Six feasibility projects proceeding toward development
- Six tribes developed strategic energy plans and three proceeded to feasibility studies
- Installation of 50 anemometers measuring tribal wind resources in Indian Country
DOE’s Tribal Energy Program

Tribal Accomplishments

Six (6) “development” projects

- Biomass demonstration project completed
  • Colville Indian Tribe installed substation to reduce line losses

- Two wind turbines (100 kW) installed
  • Assiniboine and Sioux Tribes installed two 50 kW wind turbines on the Fort Peck Reservation

- Potential for 60 MW of wind energy installations
  • Northern Cheyenne nearing PPA for 30 MW wind farm installation
  • Rosebud Sioux nearing PPA for 30 MW wind farm installation

- Demonstrations underway
  • Citizen Potawatomi Nation installing geothermal heat pumps and spurring greenhouse business using waste heat
  • Ramona Band ecotourism project underway

Northern Cheyenne
Completed Wind Feasibility Study
Currently pursuing a 30 MW Wind Farm

Colville Indian Power and Veneer Energy Substation
**DOE’s Tribal Energy Program**

**Accomplishments and Project Pipeline**

<table>
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<th>Study</th>
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<tr>
<td>Forty-five (45) feasibility studies</td>
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<tr>
<td>- Twenty-one (21) studies completed</td>
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<tr>
<td>- Six (6) proceeding toward development</td>
</tr>
<tr>
<td>- Kaw Nation pursuing wind development</td>
</tr>
<tr>
<td>- Tulalip Tribe pursuing biogas development</td>
</tr>
<tr>
<td>- St. Croix pursuing biomass facility for peaking power (1-3MW)</td>
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<tr>
<td>- Northern Cheyenne Tribe conducted feasibility and continued with pre-development for large-scale wind farm (30 MW)</td>
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<tr>
<td>- Three Affiliated Tribes (Mandan, Hidatsa &amp; Arikara) exploring wind development</td>
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<td>- Lower Brule Sioux pursuing wind development</td>
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<td>St. Croix Chippewa Biomass Study</td>
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<td>Tulalip Tribes Biogas Feasibility Study</td>
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<td>Three Affiliated Tribes Wind Feasibility Study</td>
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DOE’s Tribal Energy Program

Tribal Accomplishment

Twenty-one (21) feasibility studies completed
- Ak-Chin Indian Community
- Cherokee Nation
- Confederated Tribes of the Umatilla Indian Reservation
- Flathead Nation
- Kaw Nation of Oklahoma
- Kenaitze Indian Tribe
- Makah Indian Nation (2)
- Manzanita Band of Mission Indians
- Mississippi Band of Choctaw Indians
- Northern Cheyenne Tribe
- Pueblo of Jemez
- Red Lake Band of Chippewa Indians
- Sealaska Tribe
- Shoshone-Paiute Tribes of the Duck Valley Reservation
- St. Croix Chippewa Indians of Wisconsin
- Three Affiliated Tribes (Mandan, Arikara & Hidatsa)
- Tulalip Tribes of Washington
- Viejas Tribal Government
- White Mountain Apache Tribe
- Yukon-Kuskokwim Health Corporation

Final reports posted on TEP website
**DOE’s Tribal Energy Program**

**Accomplishments and Project Pipeline**

- **Twenty-five (25) “First Steps” projects**
  - Six (6) strategic energy plans complete
  - Two (2) tribes pursuing feasibility studies
    - Smith River Rancheria Conducted wind and biomass feasibility study after energy options analysis
    - Hopi Wind feasibility study ongoing as a result of strategic energy planning
  - Citizen Potawatomi Nation proceeding directly to geothermal heat pump demonstration following energy options analysis

First Tribal Nation to Join EPA’s Green Power Partnership by

Committing to obtain at least 10% of their electricity from renewable energy sources within the next year.

*Samish Indian Nation of Washington*
DOE’s Tribal Energy Program

Tribal Accomplishment

**Six (6) tribes developed strategic energy plans**

- Cabazon Band of Mission Indians
- Citizen Potawatomi Nation
- Hopi Tribe
- Samish Indian Nation
- Seneca Nation
- Smith River Rancheria
## DOE’s Tribal Energy Program

### Project Pipeline

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Protecting Investment (Project Pipeline) through leveraging other funding and financing sources.
DOE’s Tribal Energy Program

Leveraging Funding Sources

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**DOE’s Tribal Energy Program**

**Title V of EPAct 2005, Indian Provisions**

Authorizes the creation of an “Office of Indian Energy Policy and Programs” within the Department of Energy

**Department of Energy Program**
- DOE Indian Energy Education Planning and Management Assistance Program (Authorization for $20 Million for each fiscal year 2006-2016)
- DOE Loan Guarantee Program (Aggregate amount guaranteed not to exceed $2 Billion)

**Department of Interior Program**
- Indian Tribal Energy Resource Development Program (Authorized such sums as are necessary in fiscal years 2006 through 2016)
- Indian Tribal Energy Resource Regulation (Grants for energy inventories and feasibility studies)

**No Funds Appropriated for EPAct 2005**
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

Wind Powering Native America Video
Anemometer Loan Program
Native American Wind Interest Group (NAWIG) Quarterly Newsletter

Native American Anemometer Loan Program has supported over 70 tribes

www.eere.energy.gov/windandhydro/windpoweringamerica/native_americans.asp
DOE’s Tribal Energy Program

Anemometer Loan Program

- Fifty anemometers purchased under TEP grants
- Transferring equipment to NREL for re-use under the Native American Anemometer Loan Program

Tribes agreed to re-use by other tribes who wish to measure their wind resources

For more or to apply, see “Native American” at www.eere.energy.gov/windandhydro/windpoweringamerica
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
QUESTIONS

“Tribes Leading the Way to Renewable Energy”

American Indian Report
June 2002