

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

*DOE's Tribal Energy Program*



*Greener Homes National Summit 2011*

*Funding Sources Workshop*

**Lizana K. Pierce, Project Manager**  
**U.S. DOE, Golden Field Office**



# Department of Energy

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

Contributes to the future of the Nation by ensuring energy security, maintaining the safety, security and reliability of the nuclear weapons stockpile, cleaning up the environment from the legacy of the Cold War, and developing innovations in science and technology

### Managed by Program Offices:

- **Civilian Radioactive Waste Management**
- **Electricity Delivery and Energy Reliability**
- **Energy Efficiency & Renewable Energy**
- **Environmental Management**
- **Fossil Energy**
- **Legacy Management**
- **Nuclear Energy**
- **Science**

**Principally, a National Security Agency**



# Energy Efficiency and Renewable Energy

## Clean Energy for America's Future

Invests in clean energy technologies that:

- Strengthen the economy,
- Protect the environment, and
- Reduce dependence on foreign oil

Leverages partnerships to speed the adoption of new technologies in renewable energy, advanced vehicles and fuels, and energy efficiency.



\* Operates an annual budget of \$2.2 billion and responsible for investing more than \$16 billion in Recovery Act funds.

## *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**

**Title V of the Energy Policy Act (EPAAct 2005)**



# *DOE's Tribal Energy Program*



## *Mission*

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

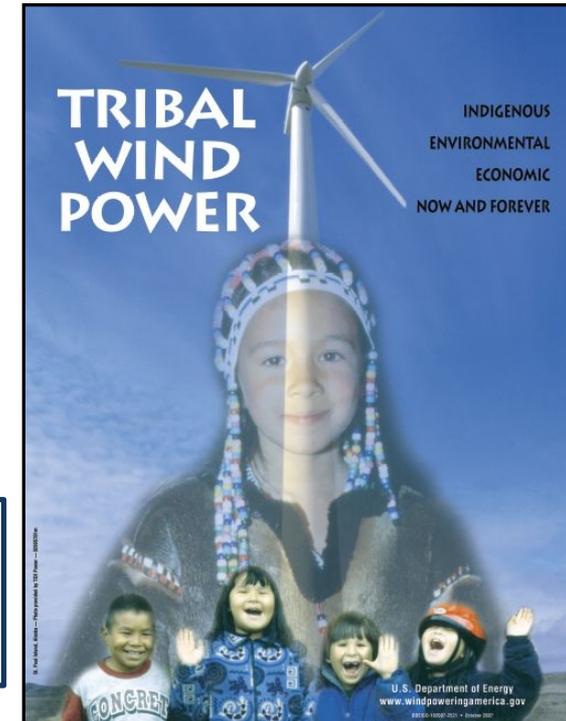
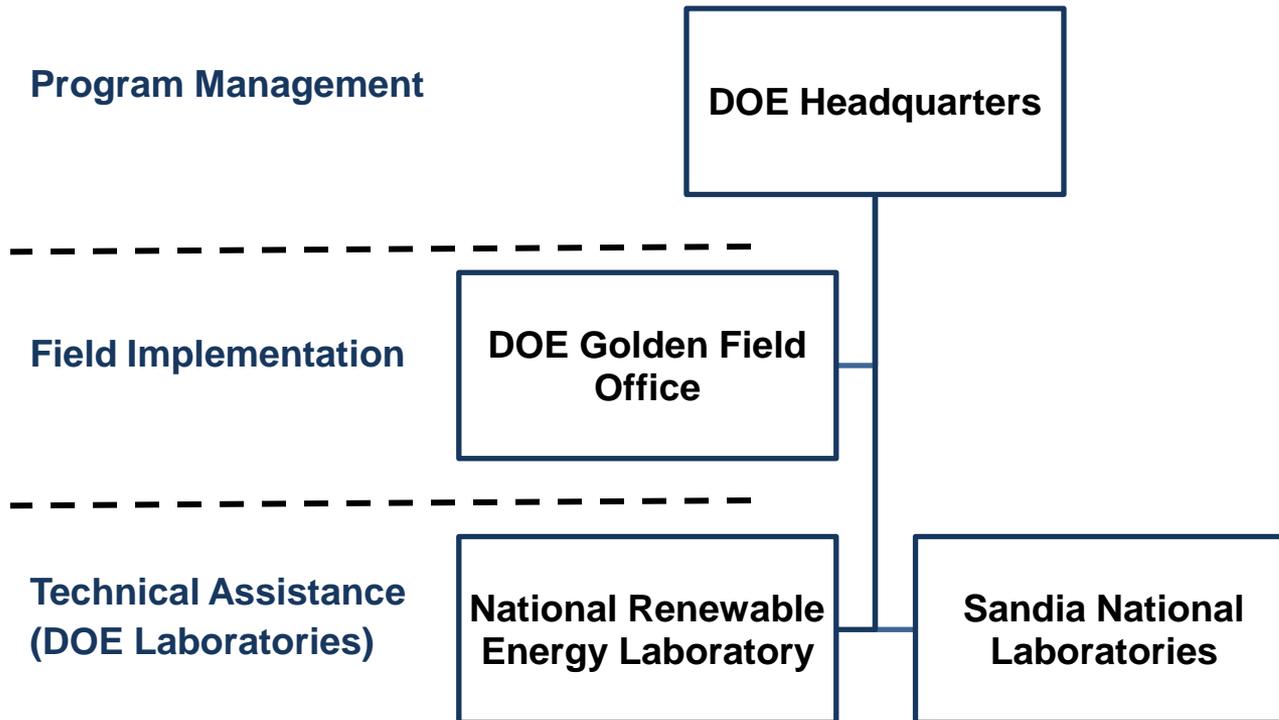
- 1) Empower Tribal leaders to make informed decisions about energy choices;***
- 2) Bring renewable energy and energy efficiency options to Indian Country;***
- 3) Enhance human capacity through education and training;***
- 4) Improve local Tribal economies and the environment; and***
- 5) Make a difference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



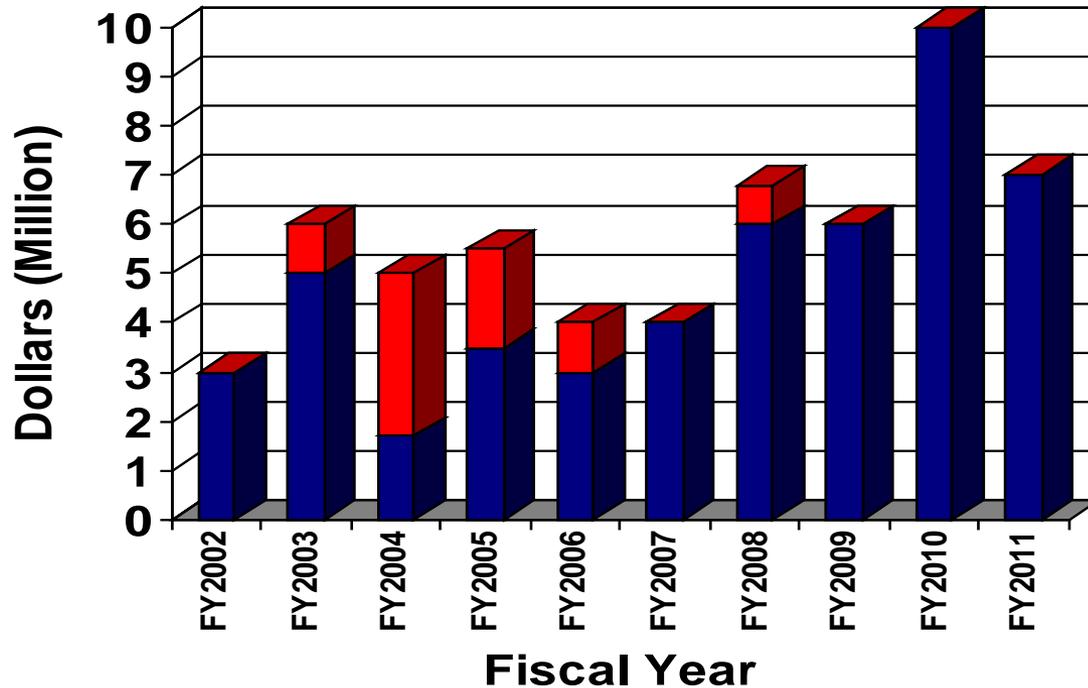
# *DOE's Tribal Energy Program*

## Organization

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



# DOE's Tribal Energy Program Program Funding History

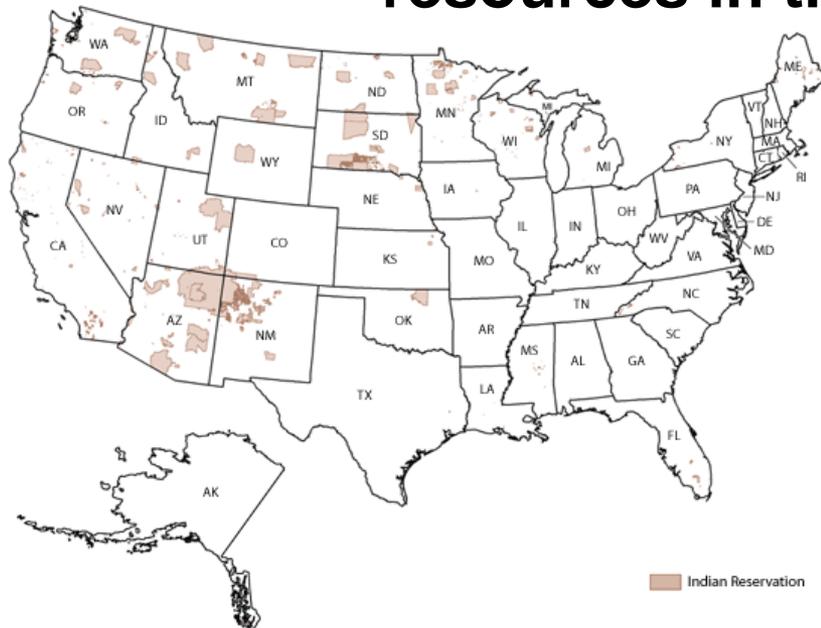


*Program budget has averaged less than \$6.0 million per year*



## *DOE's Tribal Energy Program*

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



**Tribal Trust Lands Comprise  
55.7 Million Acres (Per BIA)**

**~565 Federally Recognized  
Tribes**

**225 Tribes in Alaska (39% of total  
and 19% of Alaskan population)**

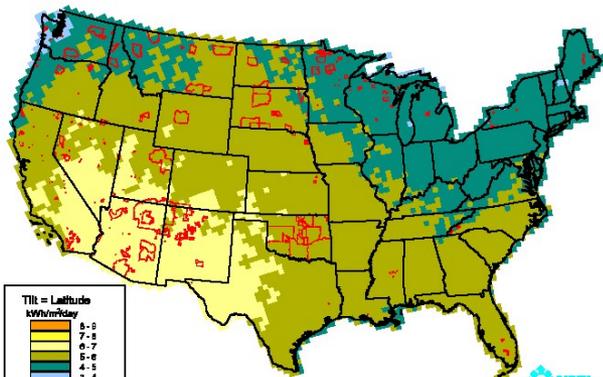
**Tribal energy resource development can  
support local economies and Tribal sovereignty**



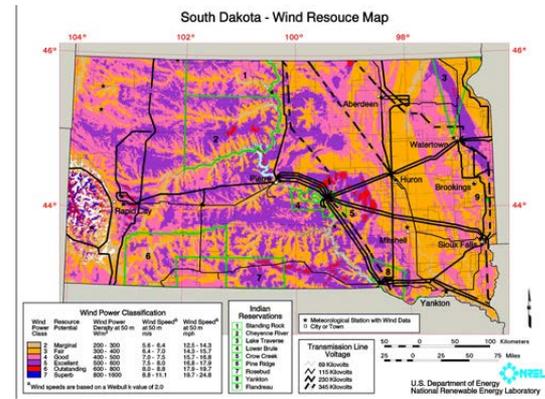
# DOE's Tribal Energy Program

## Abundant Tribal Renewable Resources

Wind Potential on Tribal Lands ~ 32%  
(1,331 Million MWH/yr) of the Total U.S.  
Annual Electric Generation\* in  
Contiguous 48 States (NREL 2011)



U.S. Dept of Energy - National  
Renewable Energy Laboratory



Solar Electric Potential on Tribal Lands  
~2 times (9,275 Million MWH/yr) of the  
Total U.S. Electric Generation\* in  
Contiguous 48 States (NREL 2011)

\* U.S. Electric Generation ~ 4,120 Million MWH/yr (2010)



## *DOE's Tribal Energy Program*

**Weatherization reduces the export of local energy dollars and keeps more money in the community**

- **An estimated 200,000 housing units needed in Indian Country** (U.S. Commission on Civil Rights)
- **Over a 30 year life span, only 2% (on average) of the overall investment in a building goes towards construction** (NREL)
- **Average of 30 percent of the energy used in commercial buildings goes to waste**
- **A \$1 investment returns \$2.51 in benefits, including \$1.80 in energy savings** (DOE Wx Program)



# *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*



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# Providing Financial Assistance

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

## Eligibility:

Federally-recognized Tribe, Tribal Energy Resource Development Organization, or Tribal Consortium (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.

***Funds Awarded through a Competitive Process***



# Financial Assistance

## Financial Assistance to Spur Deployment in Indian Country

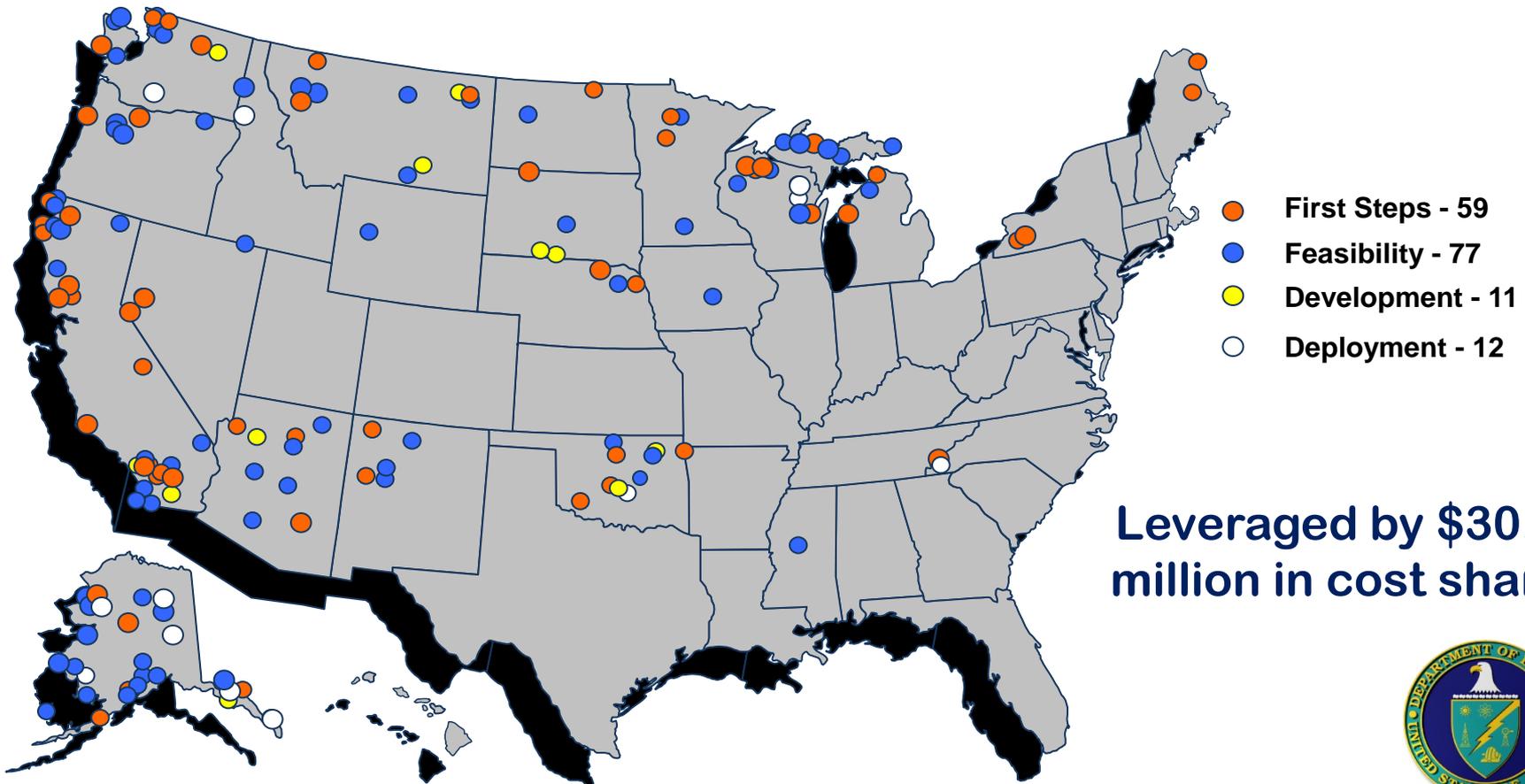
- **First Steps Toward Developing Energy Efficiency and Renewable Energy on Tribal Lands**
  - Strategic energy planning
  - Energy options analysis
  - Energy organization development
  - Human capacity development
- **Energy Efficiency Development and Deployment in Indian Country**
  - Feasibility 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 Navajo home



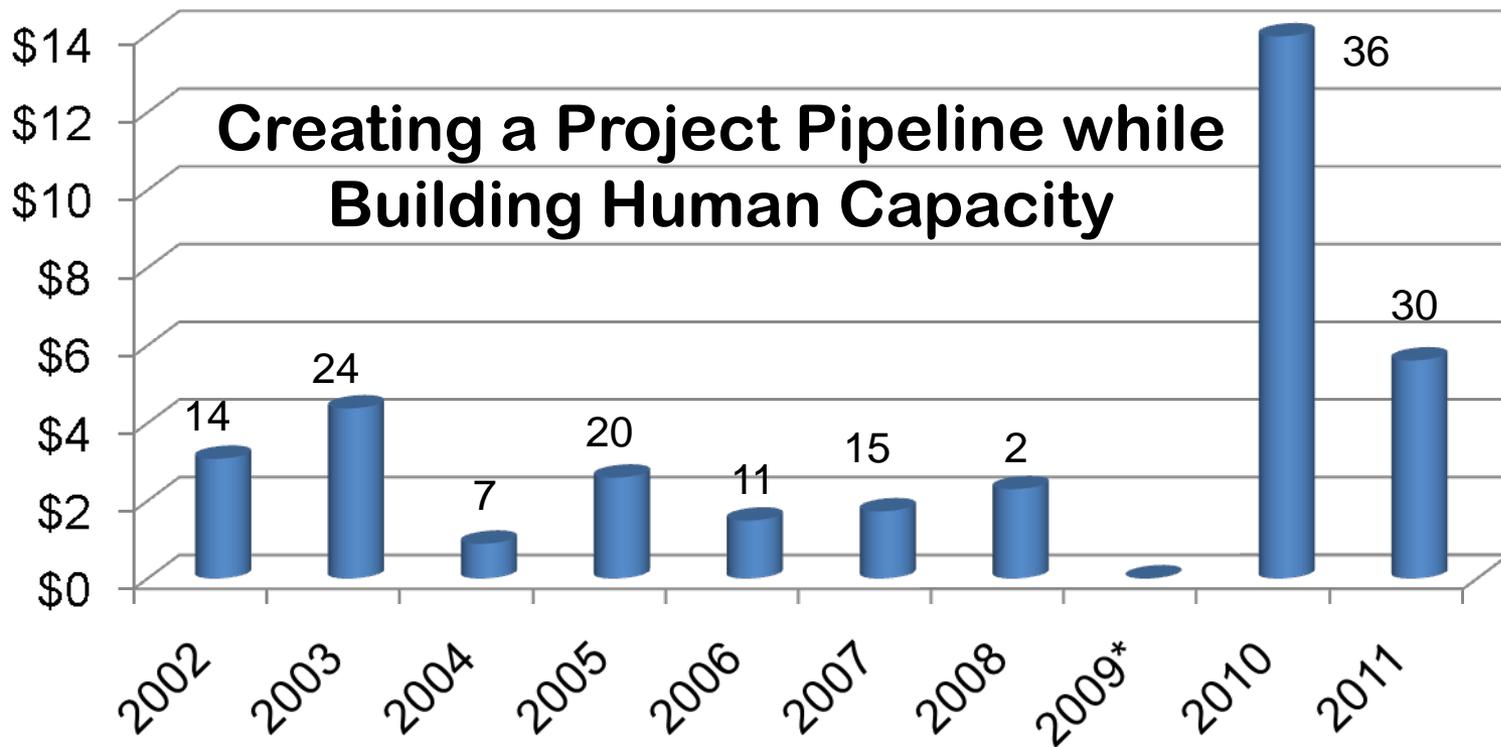
# DOE has Funded 159 Tribal Energy Projects Investing \$36 Million (2002-2011)



Leveraged by \$30.9  
million in cost share



## Project Funding History

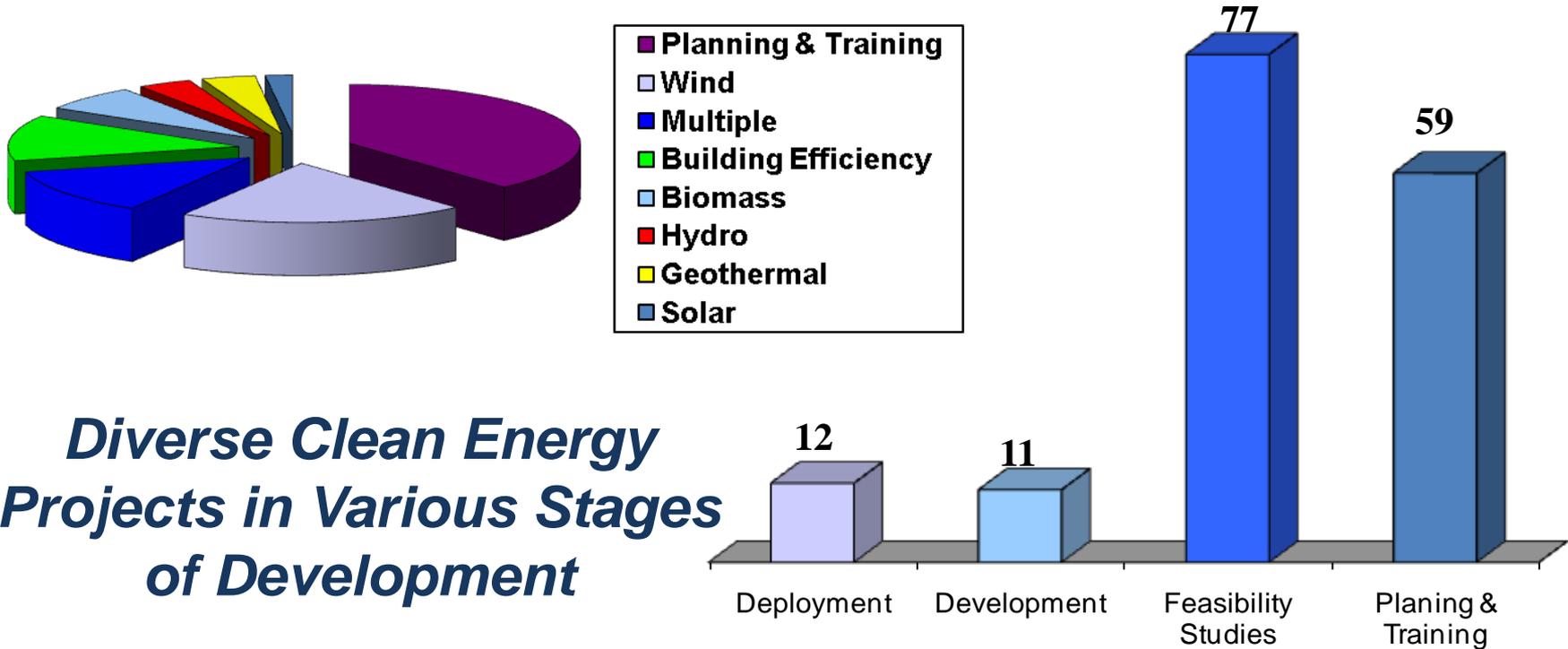


\* FY2009 funds carried over and used to fund projects awarded in FY2010

## Investment in Tribal Energy Sufficiency



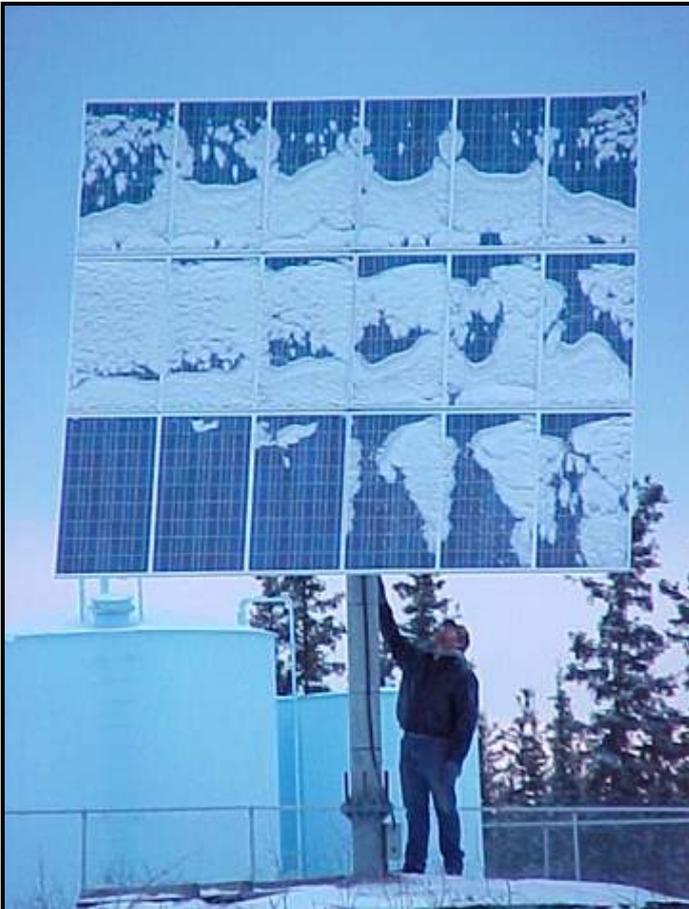
# Tribal Energy Project Pipeline



**Assisting Tribes Fulfill Their Energy Vision**



# Assisting Tribes Achieve Their Energy Vision



One of the World's Northern-most  
Tribally owned Solar systems

Solar Installations at  
Pueblo of Laguna's  
Majors Ranch



Solar Electric Carport at SIPI's Science and Technology Building



# Commitments to the Future



Tulalip Tribe's (WA) used an anaerobic digester to reduce dairy waste pollution in the groundwater and salmon stream



Augustine Band of Cahuilla Indian's (CA) installed the "largest" (1.1 MW) solar electric system in Indian Country (February 2009)

Ramona Band used renewables to power planned ecotourism business



# Saving Energy for the Future



Sault Ste Marie's Tribal Health Clinic and Community Center, one of 20 buildings for which the Tribe conducted energy audits



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



Lighting upgrades could save the Chickasaw Nation \$180,000 per year



# Building Local Skills and Knowledge

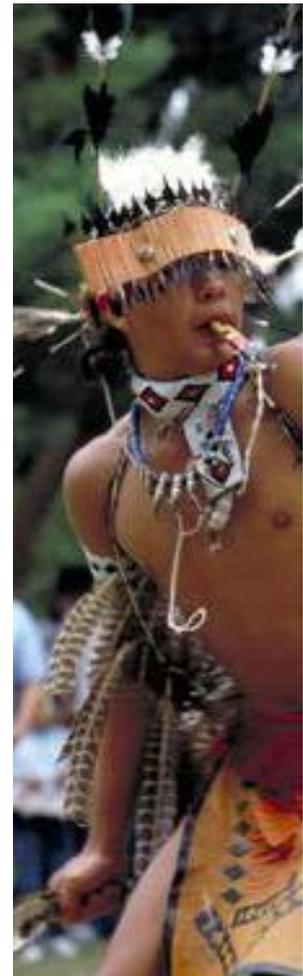


Keweenaw Indian Community trained members in weatherization: 9 energy auditors; 8 envelop professionals; and 38 air sealing insulation installers. Logo contest winner shown above.

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**

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*Leveraged with Intra-  
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# 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

- The application process is quick and easy
- 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.

U.S. Department of Energy  
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 INFORMATION**

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@eeere.doe.gov](mailto:lizana.pierce@eeere.doe.gov) or facsimile at (303) 275-4753



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

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# Annual Program Review

## Unique Tribal Forum for Sharing and Learning

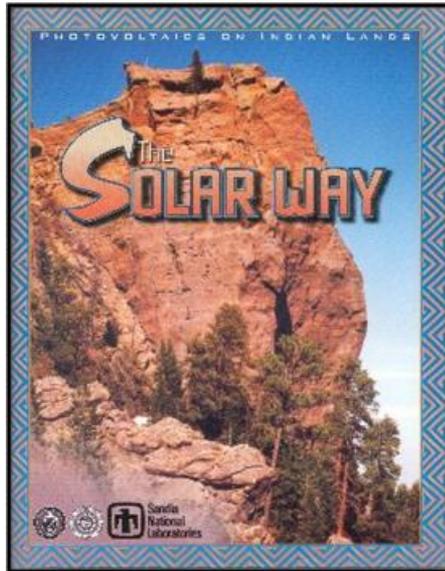
- Forum for Tribes to meet and learn from other Tribes pursuing energy sufficiency through renewable energy and energy efficiency, and share in their successes
- Networking & learning opportunity
- Tribal project presentations – lessons learned.
- Forty to fifty (40-50) tribal energy projects represented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



**Denver, CO (Nov 14-18, 2011)**



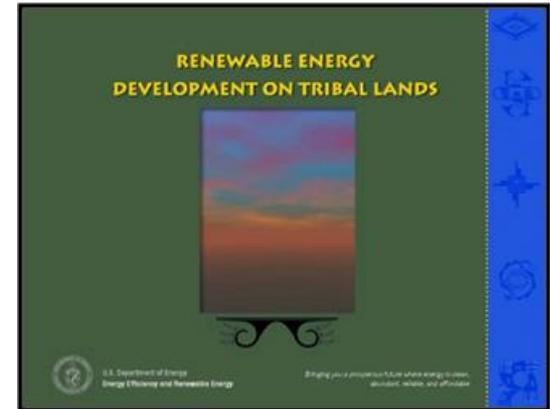
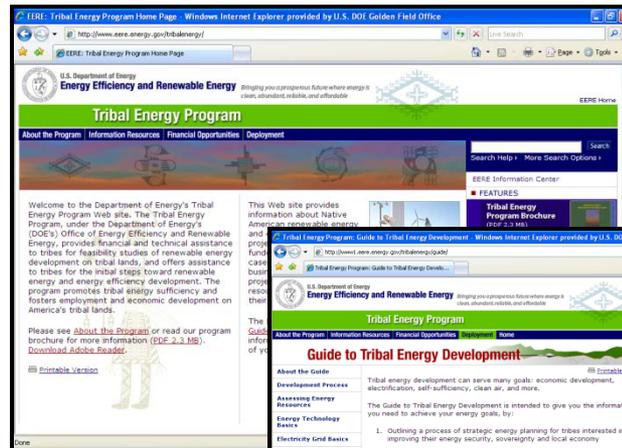
## Tribal Energy Program



Tribal Energy Website

Guide to Tribal Energy Development

# Information Resources



Join Our Email List

For Information on funding opportunities, workshops & training, and other tribal energy information

Email [tribal@go.doe.gov](mailto:tribal@go.doe.gov)



# Student Summer Internships

## Requirements

- Must be a U.S. citizen and a **Native American**, defined as a member of a federally recognized tribe, Alaska Village, or Alaska Corporation

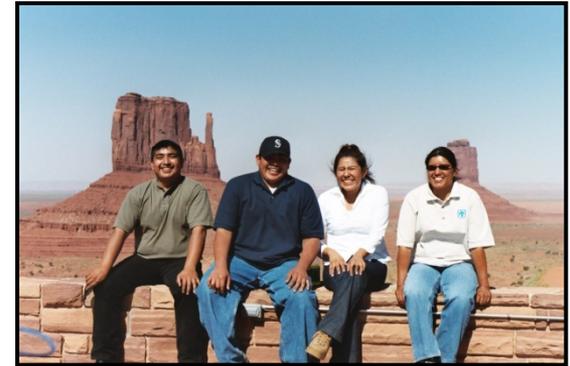
## Application Process

- Applications due in February
- 12 week internships at Sandia National Laboratories (NM)
- Contact Sandra Begay-Campbell at (505) 844-5418 or [skbegay@sandia.gov](mailto:skbegay@sandia.gov)
- Application form posted on TEP website annually

## Interns

- Twenty-five (25) interns sponsored since 2002

## Student Papers Posted on TEP Website



Summer Interns on the Navajo  
Reservation (2003)

Summer Interns on a windy day (2004)



# Funding Sources & Information Resources



# Information Resources

## Join the DOE Tribal Energy Email List

Distributes information on funding opportunities through the DOE Tribal Energy Program and those from other agencies, training opportunities, and upcoming events.

Subscribe today at [http://apps1.eere.energy.gov/tribalenergy/join\\_email\\_list.cfm?subject=Join E-Mail List](http://apps1.eere.energy.gov/tribalenergy/join_email_list.cfm?subject=Join E-Mail List)

## Funding Opportunities

- Tribal Energy Program Funding Opportunities
- Federal, State & Utility Funding Opportunities (Grants.gov)
- Federal Funding Available for State, Local, and Tribal Governments

## Training Opportunities (Also see the TEP website)

- Workshops
- Webinars
- Internships
- Classroom

## Upcoming Events (Also see the TEP website)

- Program Events
- Conferences
- Summits



First 750 kW Turbine on  
Tribal Lands in the  
Contiguous U.S.

# DOE's Guide to Tribal Energy Development

## Development Processes

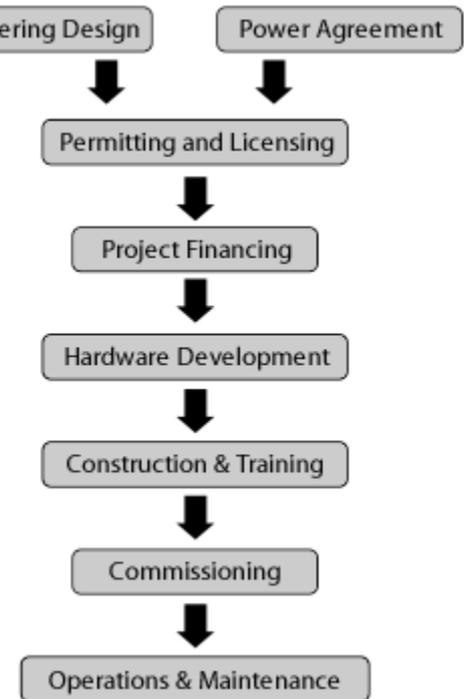
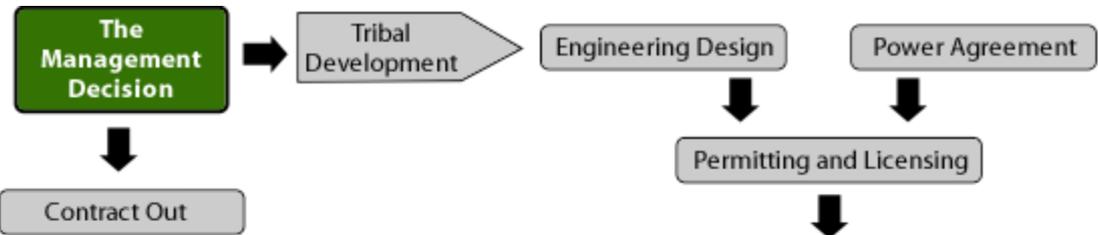
- Strategic Planning
- Options Analysis
- Organizational Development
- Project Development

## Business & Financing

- Under development

## Resource Library

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





# DOI's TEEIC Website

## Tribal Energy and Environmental Information Clearinghouse

The site includes information about energy resource development and associated environmental impacts and mitigation measures; guidance for conducting site-specific environmental assessments and developing monitoring programs; information about applicable federal laws and regulations; and federal and tribal points of contact.



**Energy Resources**



**Assessment & Monitoring**



**Assessment & Monitoring**

**<http://teeic.anl.gov/index.cfm>**



## Resources & Tools

### DOE EERE Energy Savers ([www.energysavers.gov](http://www.energysavers.gov))

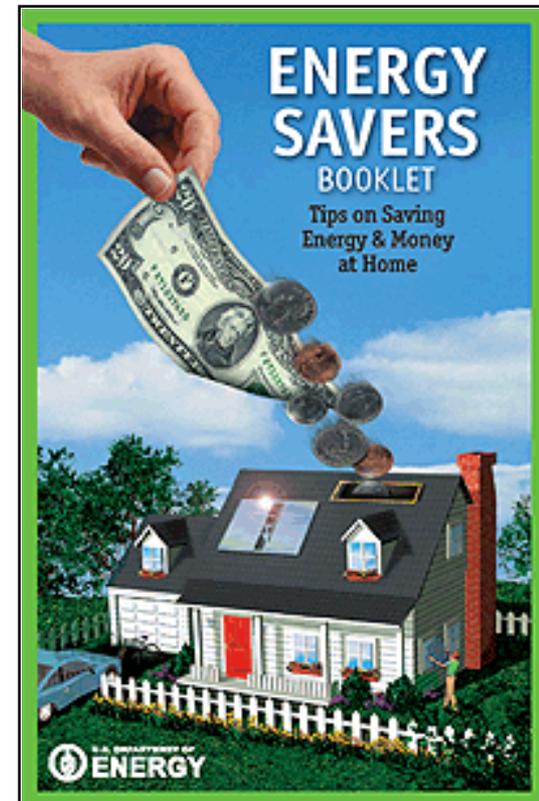
- Energy Efficient Appliance Rebate Programs
- Estimating Energy Use
- Reducing Energy Use
- Designing & Remodeling a Home

### EPA's Energy Star ([www.energystar.gov](http://www.energystar.gov))

- Energy Savings Calculators
- Savings Calculator
- Product Information

### EPA's Portfolio Manager ([www.energystar.gov/benchmark](http://www.energystar.gov/benchmark) )

- Free online tool that helps you the benchmark, track, report, and disclose public building energy use.
- Portfolio Manager is an interactive energy management tool that allows you to track and assess energy and water consumption across your entire portfolio of buildings in a secure online environment.



## Resources & Tools

### **Energy-10™ Software Tool (<http://www.nrel.gov/buildings/energy10.html>)**

- ENERGY-10™ is a software tool that helps architects, builders, and engineers quickly identify the most cost-effective, energy-saving measures to take in designing a low-energy building.
- ENERGY-10™ can conduct a whole-building analysis, evaluating the energy and cost savings that can be achieved by applying energy-efficient strategies such as daylighting, passive solar heating, and high-performance windows and lighting systems.
- Using the software at the early phases of design can result in energy savings of 40% to 70%, with little or no increase in construction cost.
- Licensed to: Sustainable Buildings Industry Council, Innovative Design

### **RETScreen Clean Energy Project Analysis Software (<http://www.retscreen.net/ang/home.php>)**

- Unique decision support tool developed with the contribution of numerous experts from government, industry, and academia.
- The software, provided free-of-charge, can be used worldwide to evaluate the energy production and savings, costs, emission reductions, financial viability and risk for various types of Renewable-energy and Energy-efficient Technologies (RETs).
- The software also includes product, project, hydrology and climate databases, a detailed user manual, and a case study based college/university-level training course, including an engineering e-textbook.



# Funding Sources

## U.S. Department of Interior Grant Opportunities

For energy and mineral development grant opportunities or for technical assistance provided through DOI's Division of Energy and Mineral Development (DEMD), contact the Division at (303) 969-5270 or write to 12136 West Bayaud Avenue suite 300, Lakewood, CO 80228.

## U.S. Department of Agriculture Grant Opportunities

The U.S. Department of Agriculture (USDA) provides [Rural Business Enterprise Grants](#) to public bodies, private nonprofit corporations, and Federally-recognized Indian Tribal groups to finance and facilitate development of small and emerging private business enterprises located in any area other than a city or town that has a population of greater than 50,000 inhabitants and the urbanized area contiguous and adjacent to such a city or town.

USDA provides [Rural Business Opportunity Grants](#) to public body, nonprofit corporation, Indian tribe, or cooperative with members that are primarily rural residents to promote sustainable economic development in rural communities with exceptional needs. This is accomplished by making grants to pay costs of providing economic planning for rural communities, technical assistance for rural businesses, or training for rural entrepreneurs or economic development officials.



# Funding Sources

## U.S. Department of Commerce Grant Opportunities

The U.S. Department of Commerce's Economic Development Administration (EDA) offers grants for [Comprehensive Economic Development Strategy \(CEDS\) development grants](#). Technical assistance and funding is also available for [economic development](#).

## U.S. Environmental Protection Agency Grant Opportunities

For funding opportunities available through EPA, see the American Indian Environmental Office's [Tribal Grants](#) Web page.

## U.S. Housing and Urban Development Grant Opportunities

For U.S. Department of Housing and Urban Development (HUD) grants for Indian housing and community development, see [Public and Indian Housing Grants](#).

## Low-Income Energy Assistance

The U.S. Department of Health and Human Services (HHS) offers assistance to low-income households to meet their home heating and cooling needs through the [Low-Income Home Energy Assistance Program](#) (LIHEAP). If your Tribe is not a LIHEAP [tribal grantee](#), you may need to contact [state grantees](#) for assistance. The DOE [Weatherization Assistance Program](#) reduces energy costs for low-income households by increasing the energy efficiency of their homes while ensuring their health and safety.



# Funding Sources & Information Resources

## Tribal Energy and Environmental Information Clearinghouse

The TEEIC Web site (<http://teeic.anl.gov>) provides information about the environmental effects of energy development on tribal lands.

Includes information about energy resource development and associated environmental impacts and mitigation measures; guidance for conducting site-specific environmental assessments and developing monitoring programs; information about applicable federal laws and regulations; and federal and tribal points of contact.

## Western Area Power Administration

- Green Power and Market Research News  
<http://ww2.wapa.gov/sites/western/es/pubs/greennews/Pages/default.aspx>

## Save Energy at Home

- Consumer's Guide <http://www.energysavers.gov>
- Energy Savers Tips on Saving Energy & Money at Home <https://www1.eere.energy.gov/consumer/tips>

## Weatherization Assistance for Low-Income Families

- Weatherization Assistance Program <http://apps1.eere.energy.gov/weatherization>
- Low Income Home Energy Assistance Program (LIHEAP)  
<http://www.acf.hhs.gov/programs/ocs/liheap/grantees/states.html>



# Funding Sources & Information Resources

## Government Grants

- Government Grants <http://grants.gov>
- Federal Grants <https://www.fedconnect.net/>
- Rural Development Grants and Loans <http://www.rurdev.usda.gov/>
- Financial Opportunities for Consumers <http://www1.eere.energy.gov/financing/consumers.html>

## Database of Incentives

- Database of State Incentives for Renewables and Efficiency <http://www.dsireusa.org/>

## Government Loans and Loan Guarantees

- Rural Development Grants and Loans <http://www.rurdev.usda.gov/>
- Bureau of Indian Affairs (BIA) Loan Guarantees  
<http://www.lrboi.com/commerce/docs/BIAloanprogrambrochure.pdf>
- Department of Energy (DOE) Loan Guarantees <http://www.lgprogram.energy.gov/>

## Bond Financing

- Clean Renewable Energy Bonds (CREBs) <http://www.crebs.org/>
- Tribal Economic Development Bonds <http://www.indiancountryworks.org/webinars.cfm#financeoptions>



# Funding Sources & Information Resources

## Other Financing Options

- New Market Tax Credits (NMTC)  
[http://apps1.eere.energy.gov/tribalenergy/pdfs/course\\_biz0904\\_glynn.pdf](http://apps1.eere.energy.gov/tribalenergy/pdfs/course_biz0904_glynn.pdf)
- Renewable Energy Credits (RECs)  
<http://apps3.eere.energy.gov/greenpower/markets/certificates.shtml?page=0>

## Utility RFPS

- Tribal Energy Program Email List  
[http://apps1.eere.energy.gov/tribalenergy/join\\_email\\_list.cfm?subject=Join E-Mail List](http://apps1.eere.energy.gov/tribalenergy/join_email_list.cfm?subject=Join E-Mail List)
- Green Power and Market Research News  
<http://ww2.wapa.gov/sites/western/es/pubs/greennews/Pages/default.aspx>

## Business Structure and Project Financing in Indian Country

- Tribal Business Development and Project Financing  
<http://apps1.eere.energy.gov/tribalenergy/business.cfm>
- Tribal Good Governance [http://apps1.eere.energy.gov/tribalenergy/pdfs/course\\_biz0710\\_taylor1.pdf](http://apps1.eere.energy.gov/tribalenergy/pdfs/course_biz0710_taylor1.pdf)
- Overview of Tribal Business Structure Options, Including Joint Ventures  
[http://apps1.eere.energy.gov/tribalenergy/pdfs/course\\_biz0904\\_nilles.pdf](http://apps1.eere.energy.gov/tribalenergy/pdfs/course_biz0904_nilles.pdf)
- Legal Structures for Developing Tribal Energy Projects  
[http://apps1.eere.energy.gov/tribalenergy/pdfs/course\\_biz0904\\_maccourt2.pdf](http://apps1.eere.energy.gov/tribalenergy/pdfs/course_biz0904_maccourt2.pdf)



# Funding Sources & Information Resources

## Tax Incentives

- Database of State Incentives for Renewables and Efficiency <http://www.dsireusa.org/>
- Tax Incentives Assistance Project <http://energytaxincentives.org>
- Consumer Tax Incentives (also see the Database of State Incentives for Renewables and Efficiency) <http://www.energy.gov/additionaltaxbreaks.htm>
- Federal Renewable Electrical Production Tax Credits (PTC) [http://www.dsireusa.org/incentives/incentive.cfm?Incentive\\_Code=US13F&re=1&ee=1](http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=US13F&re=1&ee=1)
- Business Energy Investment Tax Incentives (ITC) [http://www.dsireusa.org/incentives/incentive.cfm?Incentive\\_Code=US02F&re=1&ee=1](http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=US02F&re=1&ee=1)
- Grant in Lieu of Investment Tax Credits [http://www.dsireusa.org/incentives/incentive.cfm?Incentive\\_Code=US53F&State=federal&pageid=1&ee=1&re=1](http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=US53F&State=federal&pageid=1&ee=1&re=1)
- Federal Tax Credits for Energy Efficiency [http://www.energystar.gov/index.cfm?c=tax\\_credits.tx\\_index](http://www.energystar.gov/index.cfm?c=tax_credits.tx_index)
- Fuel Efficient Vehicle Tax Incentives [link to <http://www.fueleconomy.gov/feg/taxcenter.shtml>]
- Tax Breaks for Businesses, Utilities, and Government <http://www.energy.gov/additionaltaxbreaks.htm>
- Financial Opportunities for Consumers <http://www1.eere.energy.gov/financing/consumers.html>

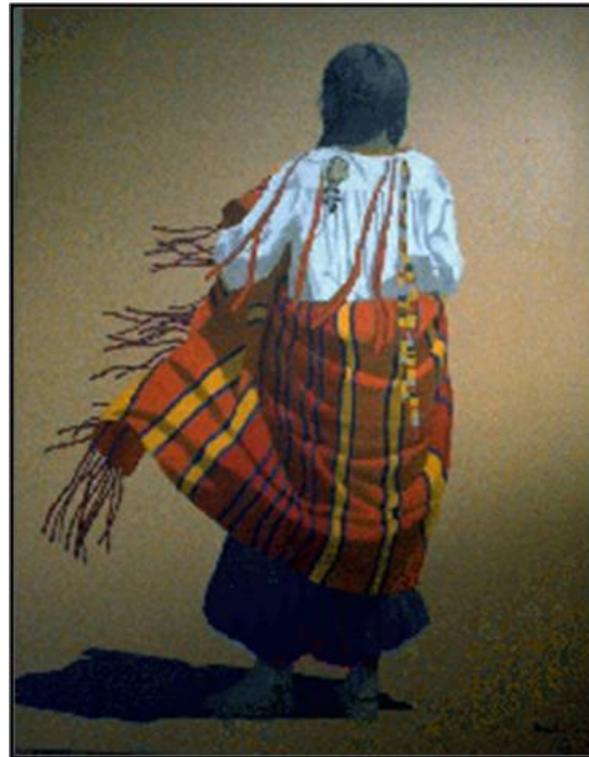


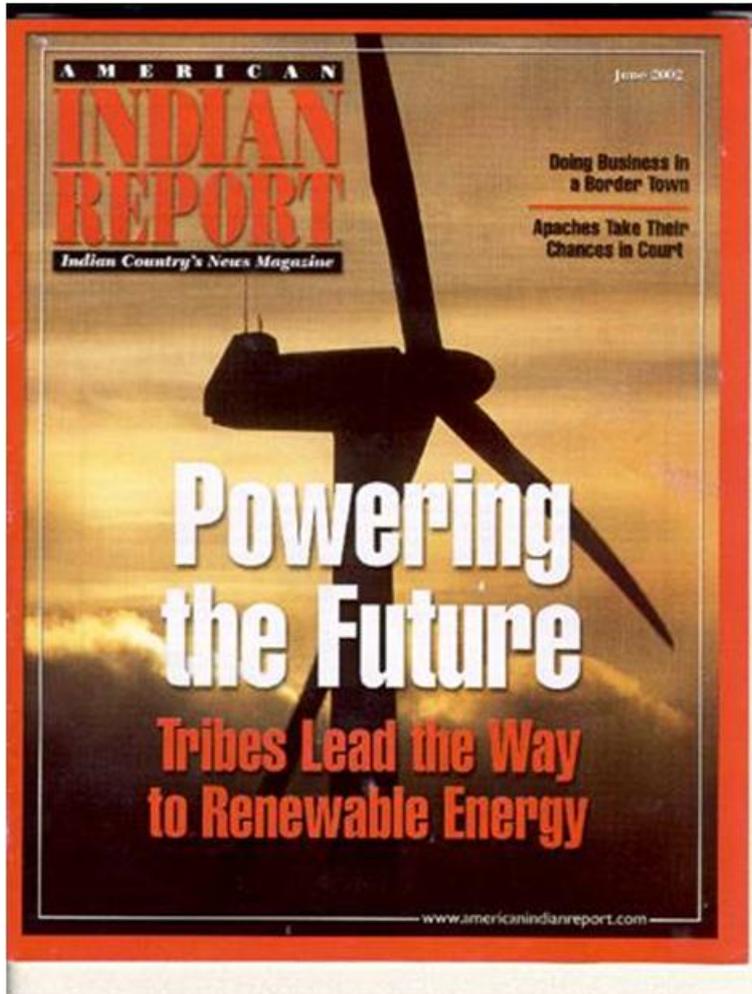
# Contact Information

Tribal Energy Program  
Department of Energy  
Golden Field Office  
Telephone: (720) 356-1352 (Main)  
Email: [tribal@go.doe.gov](mailto:tribal@go.doe.gov)

To receive periodic email information on funding opportunities, upcoming workshops and training, and other tribal energy information

“Join Our Email” List on-line at  
[www.eere.energy.gov/tribalenergy](http://www.eere.energy.gov/tribalenergy)





## Questions

**“Tribes Lead the Way to Renewable Energy”**

American Indian Report  
June 2002

