

DOE OFFICE OF INDIAN ENERGY

Office of Indian Energy Policy and Programs

Western Regional Partnership Webinar 2015

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U.S. DEPARTMENT OF
ENERGY

Office of
Indian Energy



Global Energy Infrastructure



Office of Indian Energy Policy and Programs: A Global Context

- Energy Sector of the Global Economy is measured in the Trillions of dollars.
- Global competition within energy and science has impacted job growth and national security priorities.
- Climate Change

US Energy Revolution

- US Oil & Gas production leading the world
- “On Shoring” in response to low NG prices
- Carbon Emissions to meet 2020 reduction targets; Clean Energy Research Center
- Integrated energy markets with Canada & Mexico
- Energy efficiencies, policies and technologies.
- Renewable energy deployment increasing

Challenges to US Energy Development

- Energy security with respect to global climate change
- Oil & gas price volatility and lowering dependency on oil
- Modernization of energy infrastructure
- Climate Change will spare no region of our country—or the globe.



U.S. Energy Infrastructure



RE Potential on Tribal Lands (not including Alaska)

Summary of Tribal Renewable Energy Installed Capacity and Generation Potential

Technology	Tribal Capacity Potential ¹ (MW)	Tribal Generation Potential ¹ (MWh)	% of National Capacity	% of National Generation
Wind (100m ht, >30% GCF)	408,690	1,544,174,253	3.2%	3.3%
Solar PV (Utility-scale, Rural)	4,445,369	9,259,278,339	3.1%	3.4%
Solar PV (Utility-scale, Urban)	7,224	15,372,684	0.6%	0.7%
Solar CSP	1,930,248	6,500,916,429	5.1%	5.4%
Geothermal (EGS)	763,252	6,017,487,000	19.2%	19.2%
Geothermal (Hydrothermal)	32	252,000	0.4%	0.4%
Biomass (Solid)	551	4,340,642	1.1%	1.1%
Biomass (Gaseous)	85	673,465	0.8%	0.8%
Hydropower ²	844	7,390,196	3.2%	3.2%
Total³	7,556,294	23,349,885,006	3.8%	4.9%

566 Federally recognized tribes

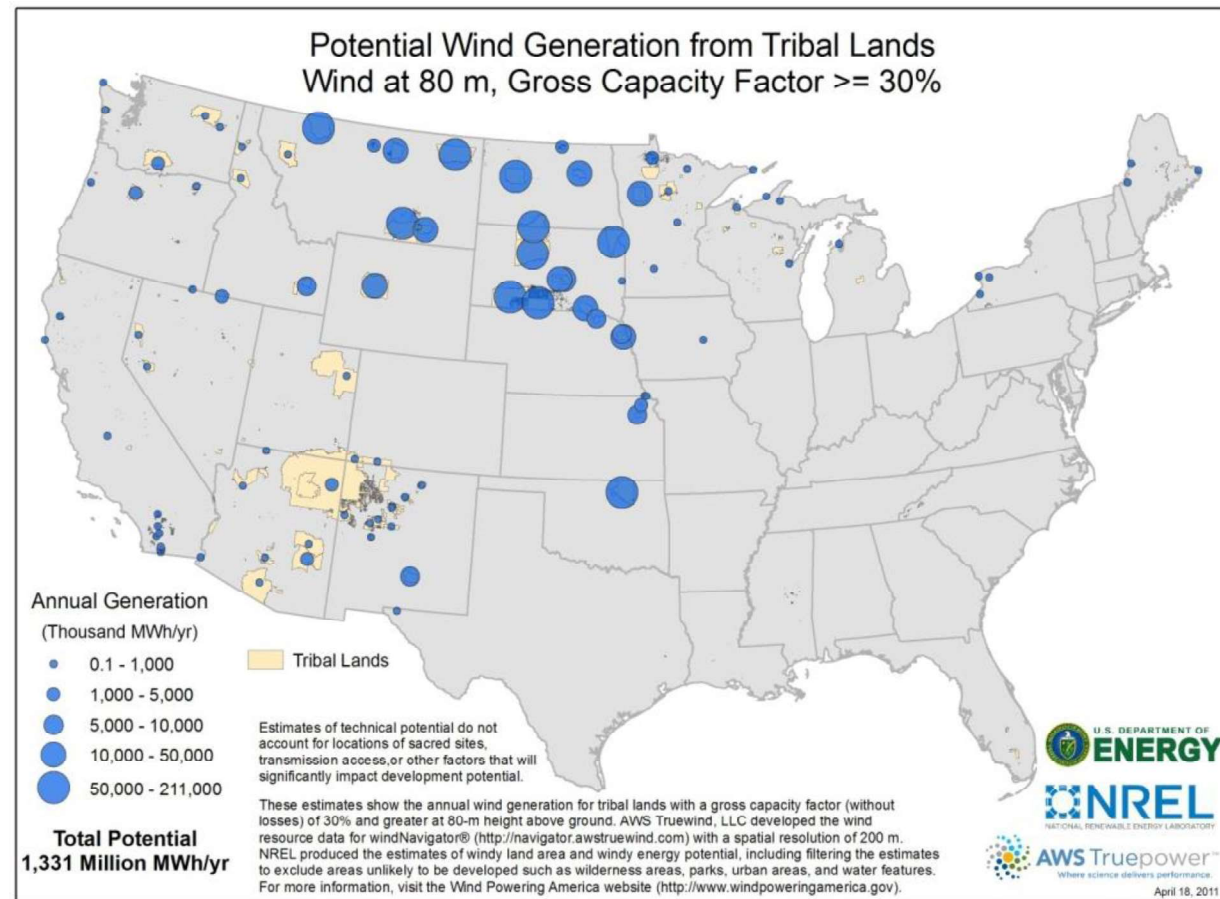
Tribal Lands:

- 2% of US land base,
- ~4% of the U.S. renewable energy potential

Wind Potential on Indian Lands

- 370,200 MW (installed capacity)
- 1,331 million MWh (generation)
- 32% of US generation
- Enough to power 116 million homes

Actual installed ~ 55 MW

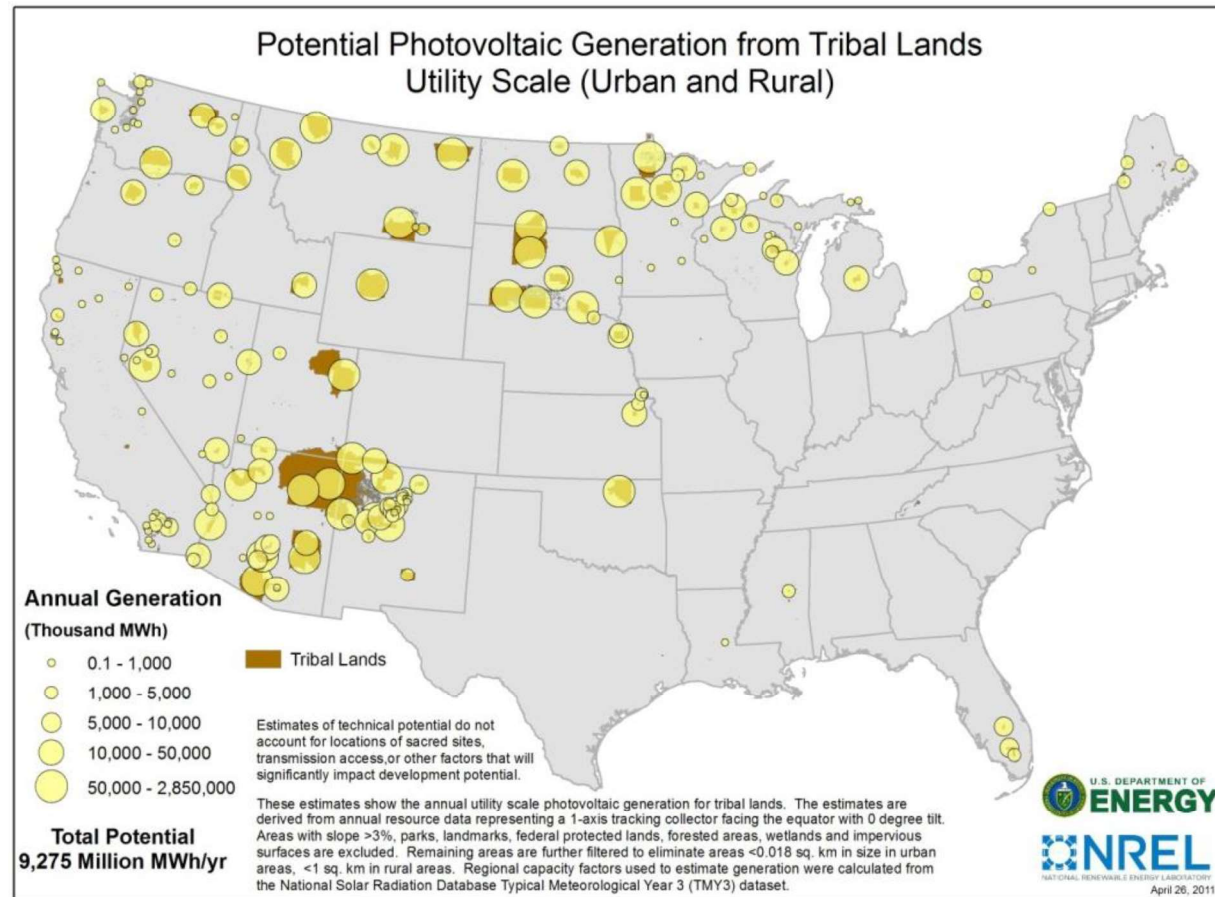


Source: U.S. Renewable Energy Technical Potentials: A GIS Based Analysis, National Renewable Energy Laboratory – Currently under peer review – Best available estimate until report is published.

Solar PV Potential on Indian Lands

- 4.5 million MW (installed capacity)
- 9,275 million MWh (generation)
- 200% of US generation
- Enough to power over 800 million homes per year

Actual installed ~ 5 MW



Source: U.S. Renewable Energy Technical Potentials: A GIS Based Analysis, National Renewable Energy Laboratory – Currently under peer review – Best available estimate until report is published.

Key Federal Indian Energy Regulatory Laws

- **Oil & Gas**
 - Indian Minerals Leasing Act, 25 USC § 398
 - Indian Minerals Development Act, 25 §§ USC 2101-2108
- **Coal**
 - Surface Mining Act, 30 USC § 1300
- **Other Related Laws**
 - Long Term Leasing Act, 25 USC § 415
 - Right of Way Act, 25 USC §§ 311-321, 323
 - Contracts and Agreements with Tribe, 25 USC § 81

Federal Power Regulations

- Federal Power Act, 16 USC § 791 et seq.
- Public Utilities Regulatory Policy Act, 16 U.S.C. § 2601 et seq.
- FERC Regulates:
 - Electric transmission and electric wholesale sales rates and services
 - Certification and decertification of “Qualifying Facilities,” and oversight of QF-utility dealings
 - Hydroelectric dam licensing and safety
- Not within FERC jurisdiction
 - United States government and its agencies and instrumentalities, and States and their agencies and instrumentalities (including municipalities) - with certain limited exceptions, e.g., FPA 206(e), 222 (16 USC 824e(e), 824w)
 - RUS-financed cooperatives and smaller cooperatives

Federal Environmental Laws

- National Environmental Policy Act (NEPA)
- National Historic Preservation Act (NHPA)
- Clean Air Act (CAA)
 - EPA, Tribe, State
- Clean Water Act (CWA)
 - EPA, COE, Tribe, State
- Endangered Species Act (ESA)
 - FWS

State Jurisdiction and Energy Policies

- Utility regulatory policies: tariffs, incentive programs, siting requirements, interconnection requirements
- Taxation policies: property, sales, and excise taxes, tax credits/off-sets, taxes on tribal lands
- Zoning and permitting: local government

Legal Considerations and Policy Implications of Tribal Energy Development

- Federal (BIA) regulatory authority over facility-scale projects
- State taxation in the context of tribal leasing authorities
- State energy regulatory jurisdiction over tribal energy commerce
- Applicability of state and FERC jurisdiction inter-tribal energy projects
- Tribal competition with retail prices
- State policy and regulatory actions
 - RPS carve-outs
 - Tax incentives
 - Net metering requirements
 - Backlash occurring in some states
 - Siting and interconnection
- Market innovation occurring with small scale solar and wind developers, local governments

Overcoming Federal and State Jurisdiction Impediments

- Federal policy to promote self-government:
 - HEARTH Act, TERAs
 - TAS for Clean Air, Clean Water, Safe Drinking Water
- Structure ownership of projects to emulate tribal ownership:
 - Tribal owned energy marketing
 - Lease/flip structures (inverted leases may be most amenable to IRS)



U.S. Indian Country Energy Infrastructure



Office of Indian Energy Policy and Programs

Provide, direct, foster, coordinate, and implement energy planning, education, management, conservation, and delivery programs of the Department that:

- Promote Indian tribal energy development, efficiency and use
- Reduce or stabilize energy costs
- Enhance and strengthen Indian tribal energy and economic infrastructure relating to natural resource development and electrification
- Bring electrical power and service to Indian land and the homes of tribal members

Energy Policy Act of 2005, Title V, Sec. 502

Office of Indian Energy Policy and Program Priorities FY15/16

- Program Direction
 - Meeting the Needs and Priorities of Indian Country (including Alaska)
- Technical Assistance, Education, and Capacity Building
 - Community-based Strategic Energy Planning
 - Project Development Planning, Transmission Studies, Tribal Utility Regulation and Operation
 - Tribal Research Agenda: QER, QTR, SEP Tribal Leader Engagement
- Financial Assistance
 - Deployment Grants, Loan Guarantee Program, AK Micro-grid study

Office of Indian Energy Policy and Program Priorities – FY15/16 cont'd

- Increase collaboration within DOE and with federal partners
 - Tribal Indian Energy Loan Guarantee Program
 - Climate resiliency; i.e. Climate Action Champions
 - Arctic Council and Alaska Program
 - Grid modernization; rural community modular scalable micro-grids
 - Water-energy nexus; Water Energy Tech Team demonstration projects
 - White House Generation Indigenous Initiative
- Elevate ICEIWG's leadership profile and expand its membership and role
- White House Council on Native American Affairs Energy Subgroup
 - Project Specific Collaboration: Oceti Sakowin Sioux Tribes Wind Power Project
 - Co-hosting regional roundtables
 - Hosting a Tribal Energy Summit later in the year

Office of Indian Energy Policy and Program Priorities—Integration with DOE Science and Research Priorities

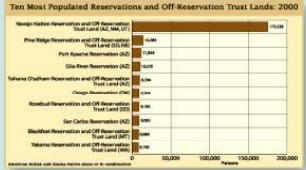
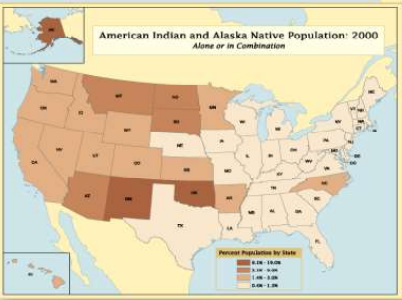
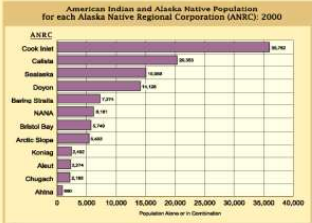
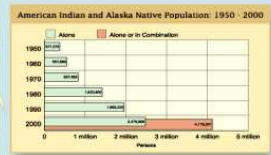
- Quadrennial Technology Review— It is a roadmap of national energy science and technology priorities.
- Quadrennial Energy Review—this year focused on an analysis of the nation’s energy infrastructure.
- National Climate Assessment—DOE’s preparing two report on energy system vulnerabilities, one is funded by us focusing on Indian Country (a first).

Indian Country Energy and Infrastructure Working Group (ICEIWG)

- **11 participating Tribes**
 - Exchange information about current state of Indian Country energy development and infrastructure practices, needs, obstacles, and potential solutions
- Outreach mechanism for White House Council on Native Affairs Energy Subgroup
 - Share information, transfer lessons-learned, and inform/be informed on current policy, procedures, and industry partnership mechanisms

American Indians and Alaska Natives

in Alaska



Legend

- American Indian Reservation and/or Off-Reservation Trust Land (Federal)
- Tribal Designated Statistical Area
- Alaska Native Village Statistical Area
- Alaska Native Regional Corporation
- International Boundary
- State Boundary

2007: The boundaries and statistical areas shown on this map are based on the 2000 Census. The boundaries and statistical areas shown on this map are based on the 2000 Census. The boundaries and statistical areas shown on this map are based on the 2000 Census.

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U.S. DEPARTMENT OF COMMERCE Economic and Statistics Administration • U.S. Census Bureau

Prepared by Geography Division

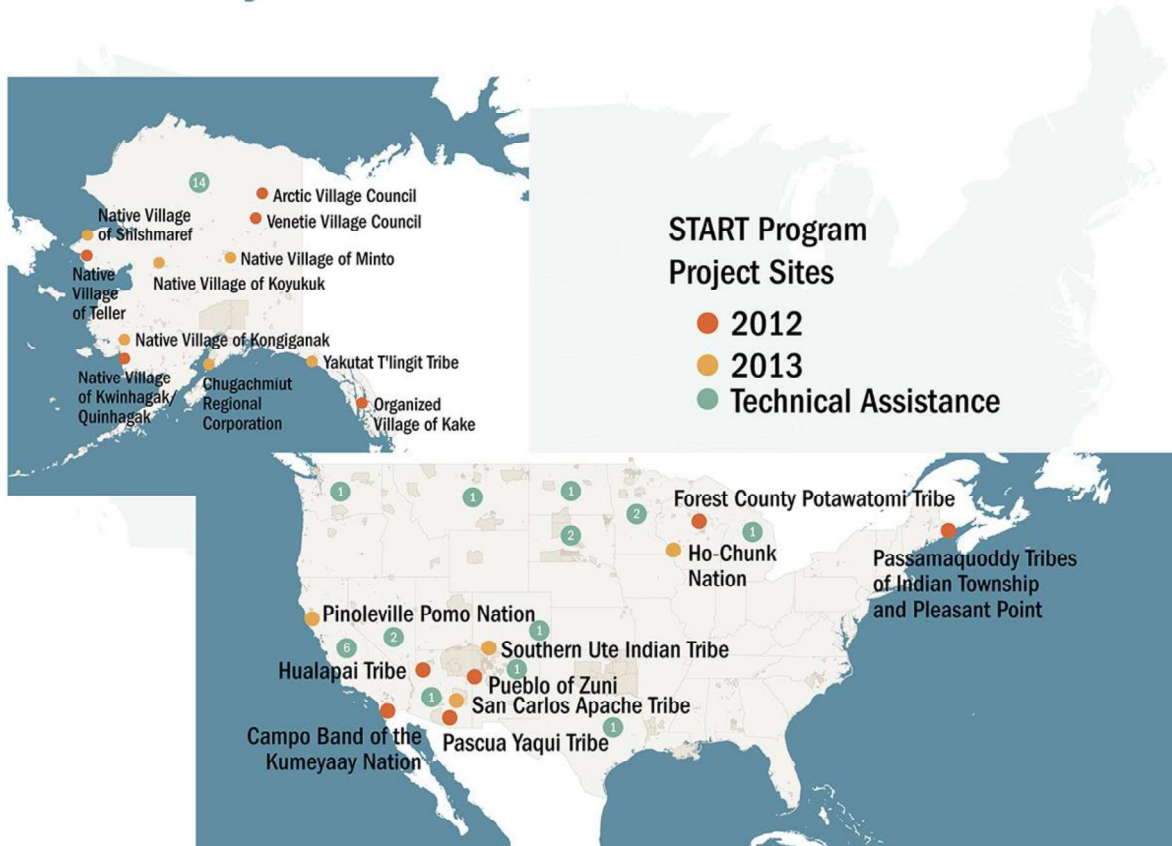
Alaska

- 226 federally recognized Tribes
- 12 regional and over 160 village Alaska Native Corporations
- MOU with Denali Commission to support clean energy development in rural Alaska Native villages
- START Alaska partners include AEA, AHFC, RurALCAP
- IE Alaska Program Manager started in January 2014 in Anchorage

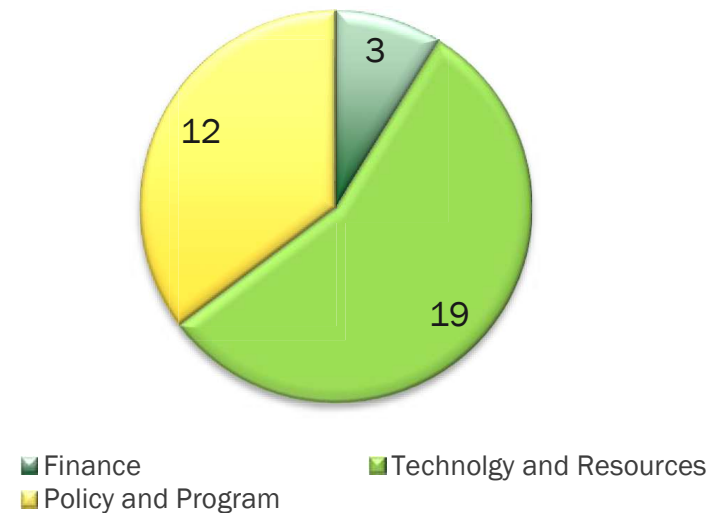
Technical Assistance

Since 2012, Indian Energy has supported 56 Tribes and Alaska Native Villages through START and On-Request Technical Assistance

START Projects and Technical Assistance for Tribes



Total On-Request Technical Assistance by Topic



Office of Indian Energy Policy and Programs: Alaska START Awardees

- **Kokhanok:** The community has existing wind turbines that are not operating optimally. The community asks the START program for support in optimizing the wind-diesel power system and also development of a business plan to expand an existing biomass project.
- **Kwethluk:** The community power generation and transmission system has at times experienced problems in adequately serving the local community's electrical needs. The community asks the START program to provide assistance on issues such as unbalanced loads, electrical grid zone planning, and exploration of electrical efficiencies.
- **Shungnak:** The community has been working with a number of local and regional partners on prospective energy improvements. They ask for support from the START program to help them prioritize energy projects such as energy efficiency improvements and prospective alternative energy projects.
- **Huslia:** The community recognizes that they have a number of prospective energy improvements such as LED lighting, weatherization, biomass, solar thermal and other energy efficiency opportunities. The community asks the START program to assist them in prioritizing these prospective energy investments.
- **Hoonah:** The community requests assistance from the START program to conduct strategic energy planning workshops and develop a community strategic energy plan. In addition, the community wants to explore both a near term energy efficiency improvement project associated with the heat system at the local school, and a potential community biomass waste-to-energy plant.

2015 Tribal Clean Energy Projects Selected for Funding

#	Applicant	Technology	Requested DOE Funds	Proposed Tribal Cost Share*	Estimated Total Project Cost
1	Agua Caliente Band of Cahuilla Indians (CA)	Solar Electric	\$132,952	\$132,953	\$265,905
2	Bishop Paiute Tribe (CA)	Solar Electric	\$218,557	\$218,621	\$437,178
3	Central Council Tlingit & Haida Indian Tribes (AK)	Wx Retrofits	\$500,000	\$500,000	\$1,000,000
4	Oneida Nation of New York (NY)	Combined Heat & Power	\$1,000,000	\$1,997,457	\$2,997,457
5	Oneida Tribe of Indians of Wisconsin (WI)	Solar Electric	\$1,000,000	\$1,000,000	\$2,000,000
6	Pala Band of Mission Indians (CA)	Solar Electric	\$219,705	\$219,705	\$439,410
7	Santo Domingo Tribe (NM)	Solar Electric	\$210,000	\$210,000	\$420,000
8	Soboba Band of Luiseno Indians (CA)	Solar Electric	\$1,000,000	\$1,514,000	\$2,514,000
9	Standing Rock Sioux Tribe (ND)	Solar Electric	\$1,000,000	\$1,039,863	\$2,039,863
10	Tonto Apache Tribe (AZ)	Solar Electric and Solar Thermal	\$380,496	\$380,497	\$760,993
11	Washoe Tribe (NV & CA)	Solar Electric	\$307,686	\$307,686	\$615,371
Total			\$5,969,396	\$7,520,762	\$13,490,157

How We Advance Program Priorities

Information & Outreach

- Office of Indian Energy website
- Project development and finance resource library
- ICEIWG
- Tribal leader roundtables
- Communications (listserv, blog, newsletter, fact sheets)
- Inter-tribal conference attendance and sponsorships

Analyses

- Geospatial Analysis of RE Tech Potential on Tribal Lands
- Financing Opportunities for RE Development in AK
- Military Base Off-taker Opportunities for Tribal RE Projects

Capacity Building

- Tribal Leader Education Programs and Forums
- Online educational and training curriculum (technology basics and project development)
- Project Development and Finance In-Person Workshops
- Tribal Renewable Energy Webinar Series

Technical Assistance

- START Program (Alaska and L48)
- Short-term, in-depth technical assistance (up to 40 hours) with strategic energy planning and project development support to address specific barriers

Financial Assistance

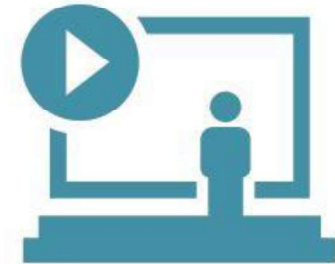
- Competitive funding opportunity announcements
- Tribal Indian Energy Loan Guarantee Program

Outreach



Project Development and Finance Workshops attended

292 
Attendees October 2013-August 2014



Tribal Renewable Energy Webinar Series

nearly **1,200** 
people October 2013-September 2014



Energy Resource Library

1,270 
visitors October 2013-August 2014

Office of Indian Energy FY 2016 Budget (Comparable)

Dollars in Thousands

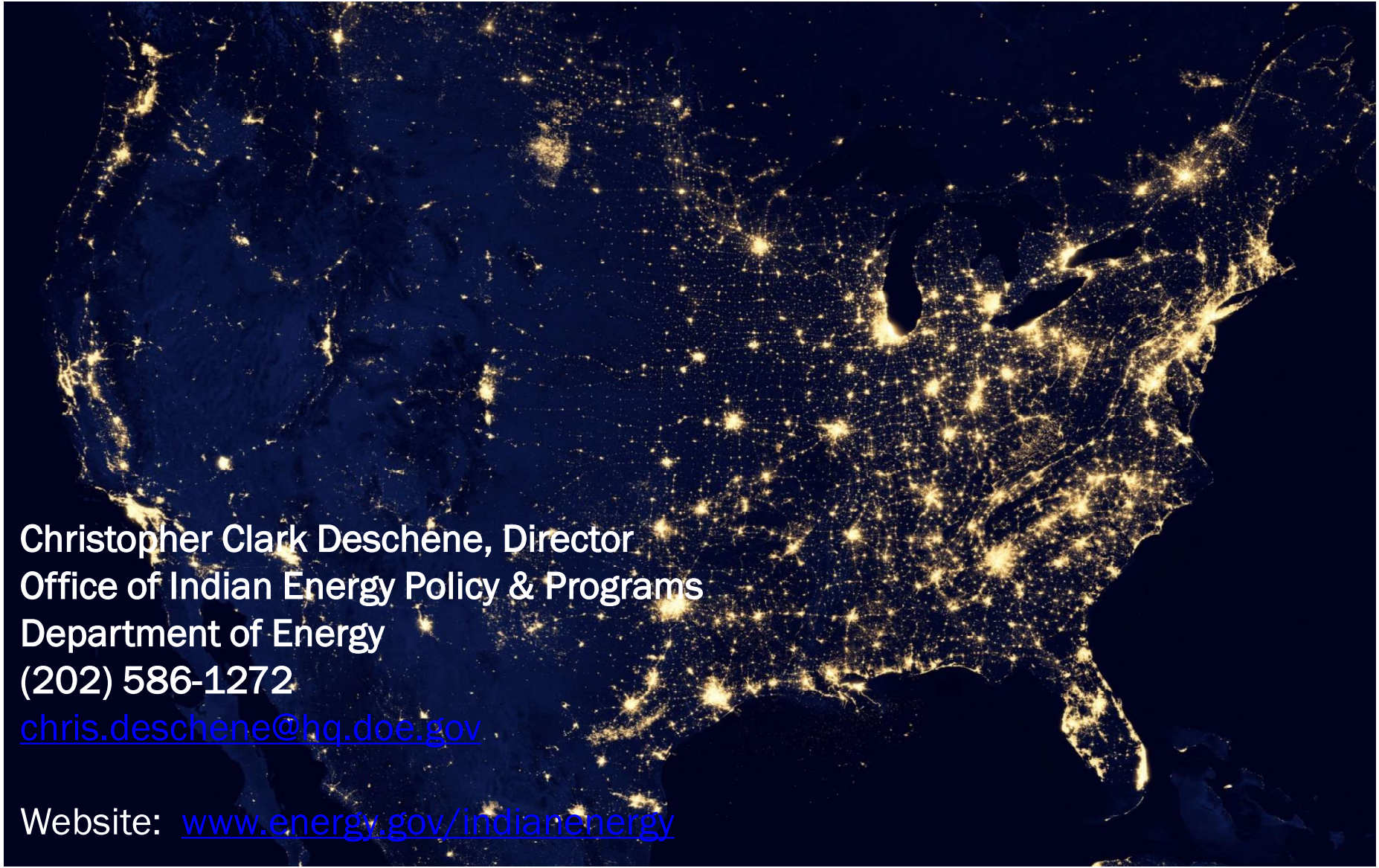
	FY 2014 Enacted	FY 2014 Current	FY 2015 Enacted	FY 2016 Request	FY 2016 vs FY 2015
Office of Indian Energy Policy and Programs					
Program Direction	1,171	1,171	2,510	3,510	+1,000
Technical Assistance	1,335	1,335	2,500	3,500	+1,000
Tribal Energy Grant Program	6,996	6,996	10,990	12,990	+2,000
Total, Office of Indian Energy Policy and Programs	9,502	9,502	16,000	20,000	+4,000
Federal FTEs	5	5	7	9	+2

Upcoming Activities- Lower 48

Activity	Date
2015 Tribal Renewable Energy Webinars	January – August, 2015
START REPDA Announcement	Early March
START REPDA Applications Due	May 1, 2015
START REPDA Notifications	July 1, 2015
ICEIWG Quarterly Meeting <i>Choctaw, Mississippi</i>	June 2, 2015
<i>Tribal Leader Forum: Utility Formation</i>	July 27, 2015
Project Development Workshop	July 28-30, 2015
Commercial Scale RE Project Development and Financing Workshop <i>Golden, CO</i>	September 1-3, 2015
Tribal Leaders Summit <i>Washington, D.C.</i>	September 23-25, 2015



Thank you



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