

DOE OFFICE OF INDIAN ENERGY

Office of Indian Energy Policy and Programs

Department of Energy
Office of Indian Energy

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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

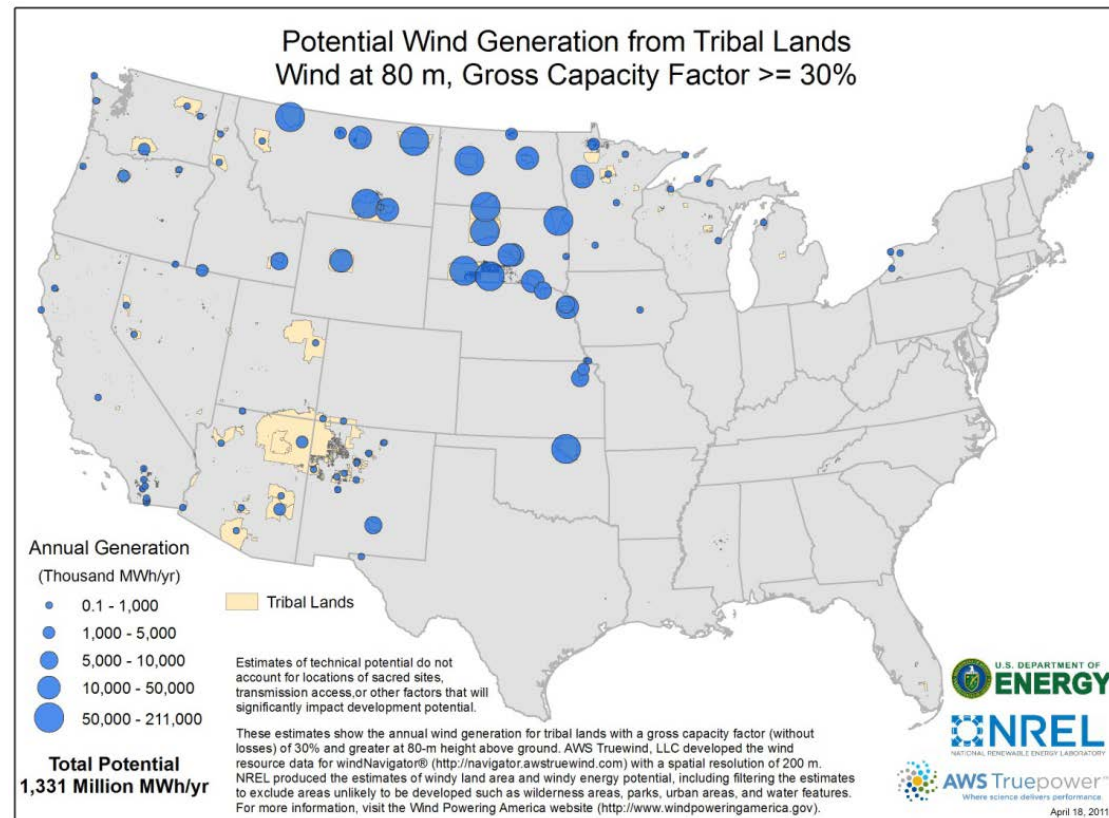
Tribal Lands:

- 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

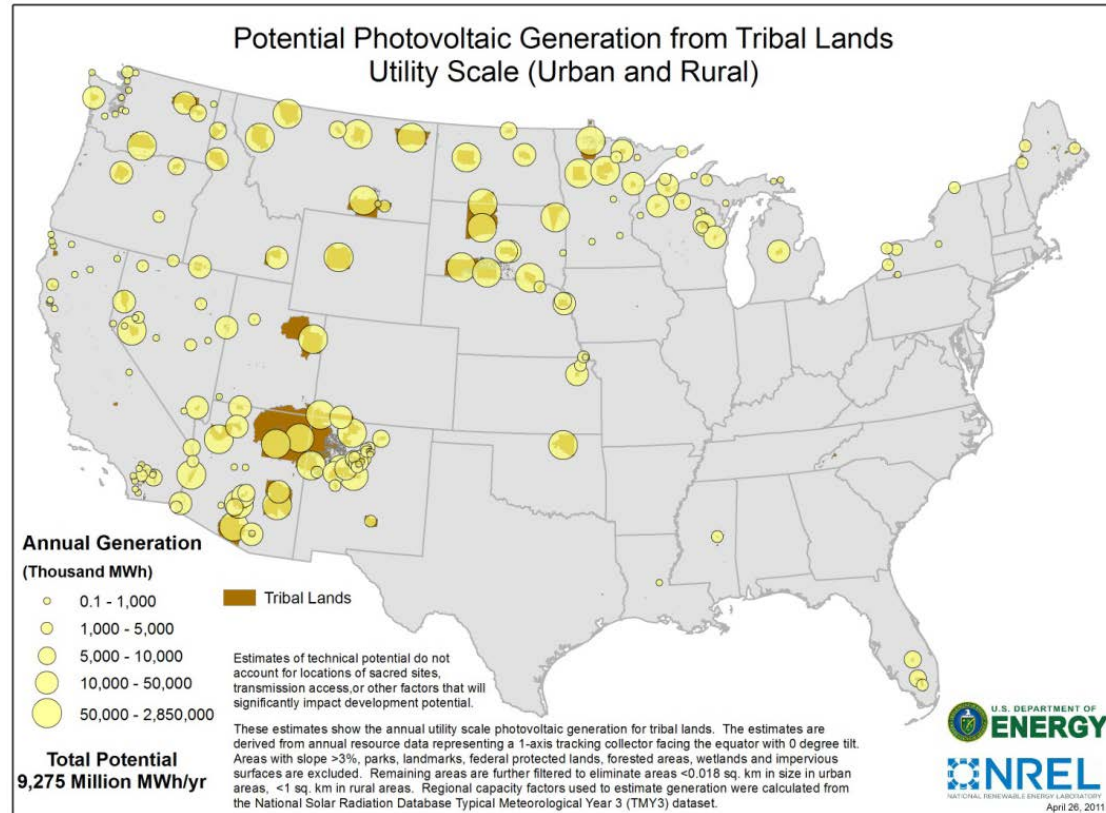


Source: U.S. Renewable Energy Technical Potentials: A GIS Based Analysis, National Renewable Energy Laboratory – Currently under peer review – Best available estimate until report is published.

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
 - Joint Ventures
 - Section 17 Tribal Corporations



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

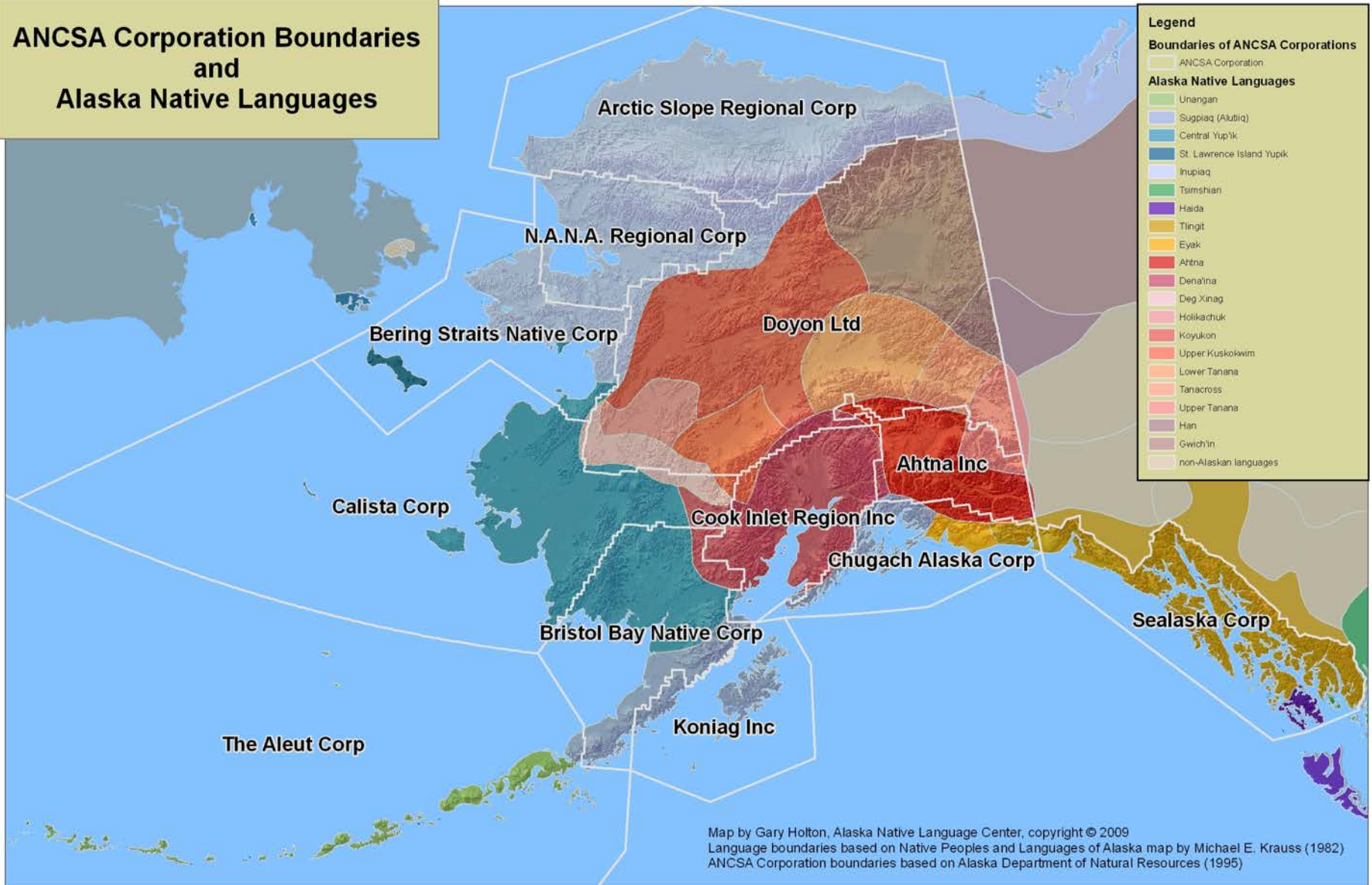
Office of Indian Energy Policy and Program Priorities—Integration with DOE Science and Research Priorities

- 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

ANCSA Corporation Boundaries and Alaska Native Languages



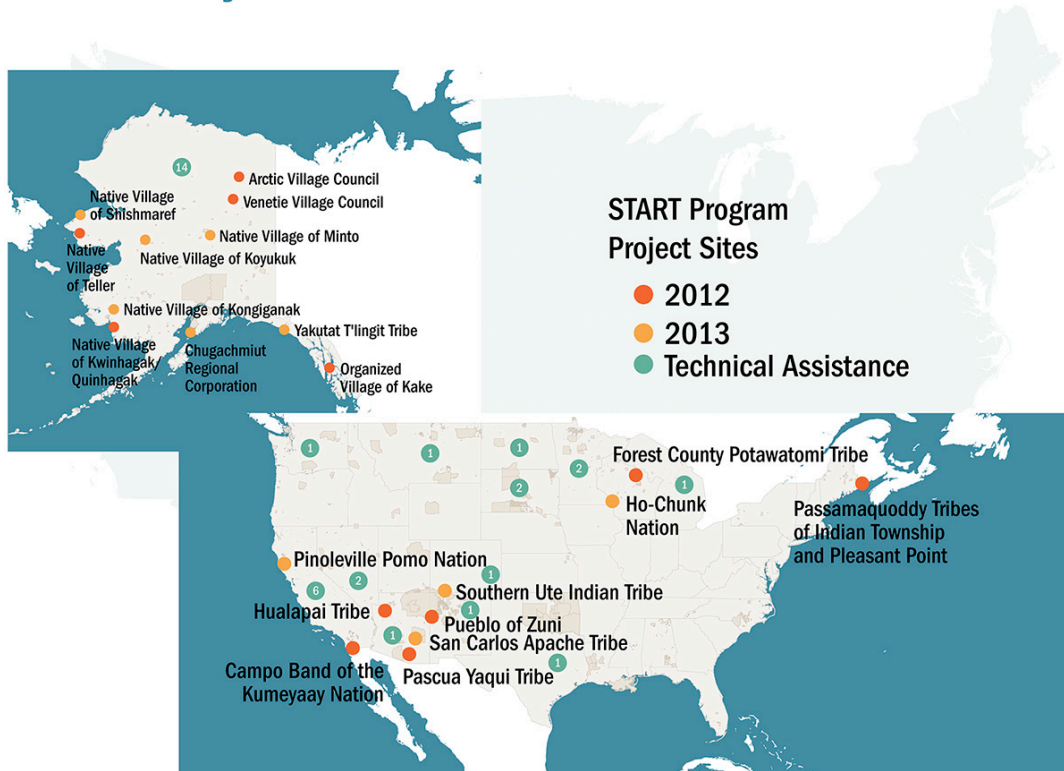
Alaska

- 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

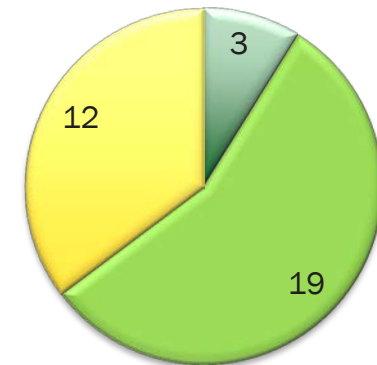
Technical Assistance

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



■ Finance
■ Policy and Program
■ Technology and Resources

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.

Office of Indian Energy Policy and Programs: START REPGA (L48) Awardees

- **Blue Lake Rancheria** (Blue Lake, California) will receive assistance with a community microgrid
- **Grand Portage Band of Chippewa Indians** (Grand Portage, Minnesota) will receive assistance with a community-scale wind project
- **Oneida Tribe of Indians of Wisconsin** (Oneida, Wisconsin) will receive assistance a solar photovoltaic (PV) project
- **Picuris Pueblo** (Peñasco, New Mexico) will receive assistance with a solar PV project
- **Ute Mountain Ute Tribe** (Towaoc, Colorado) will receive assistance with understanding their market and resources to help prioritize project development efforts and pursue various renewable energy projects.

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



INFORMATION & OUTREACH

- Conferences
- Resource library
- Roundtables



ANALYSES

- Resource assessment
- Market context
- Project potential and options



CAPACITY BUILDING

- Tribal Leader Forums
- Online educational curriculum
- In-person workshops
- Tribal webinar series



TECHNICAL ASSISTANCE

- START Program
- Strategic energy planning
- Project development support



FINANCIAL ASSISTANCE

- Funding opportunities
- Loan guarantee programs

STRENGTHENING TRIBAL COMMUNITIES, SUSTAINING FUTURE GENERATIONS

By providing accurate information, quality training, expert technical assistance, and project financial assistance, the DOE Office of Indian Energy is helping Tribes:

- ▶ **REDUCE ENERGY COSTS**
- ▶ **ENHANCE ENERGY SECURITY**
- ▶ **INCREASE CLIMATE RESILIENCY**
- ▶ **CREATE A SUSTAINABLE ENERGY FUTURE**

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

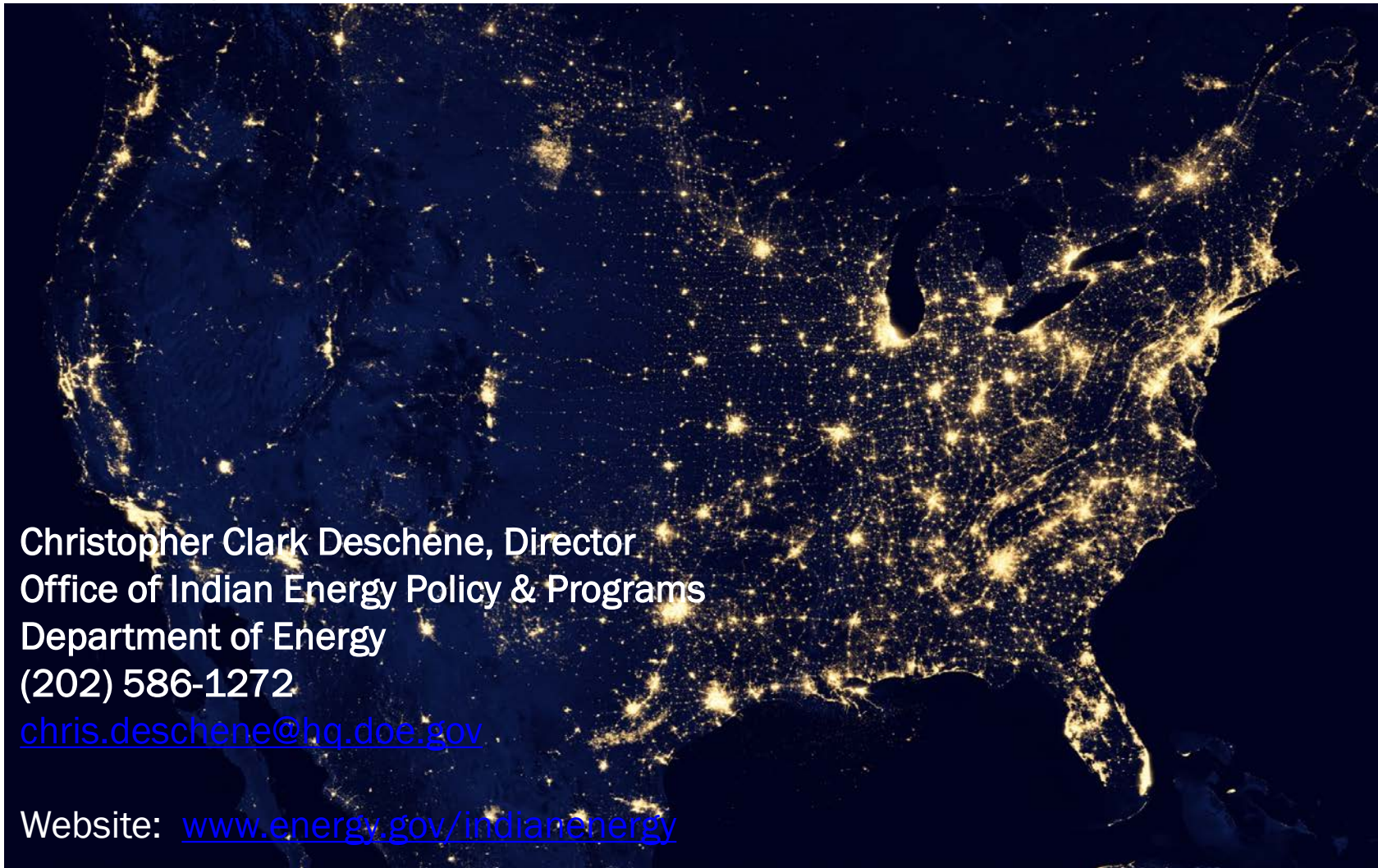
Save the Date: Sept. 24–25, 2015
Washington, D.C.

Transforming Our Energy Future NATIONAL TRIBAL ENERGY SUMMIT





Thank you



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