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U.S. Department of Energy: *Strengthening Tribal Communities, Sustaining Future Generations*

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Abstract: Indian Country consists of 567 federally recognized Indian tribes including Alaska Native villages, over 200 Alaska Native village and regional corporations, and other tribal and intertribal organizations and associations. Staggering gaps exist between tribal communities and the rest of the Nation. Specifically,

- Native Americans are three (3) times as likely to live in overcrowded housing and with inadequate infrastructure (plumbing, sewage systems, water treatment, electrical, and broadband).¹
- About one in four (4) American Indians and Alaska Natives (27%) live in poverty.²
- Unemployment rates are twice (2X) as high as those among non-Indians nationally.³
- More than 175 remote Alaska Native villages rely almost exclusively on diesel fuel for electricity and heating oil for heat. In some communities, electricity costs exceed \$1.00/kilowatt-hour; more than eight (8) times the national average of \$0.12/ kilowatt-hour.⁴
- 14.2 percent of tribal households lack access to basic electricity.⁵

Energy and infrastructure development in Indian Country are limited due to a lack of access to capital, absence of tribal capacity for energy and economic development, and a complicated legal and regulatory structure governing the use of Indian lands. However, Indian lands have vast undeveloped resources (86% of Indian lands with energy or mineral potential remain untapped⁶). For example,

- American Indian land comprises approximately 2% of U.S. land but contains an estimated 5% of all renewable energy resources.⁷
- According to the U.S. Department of the Interior, there are “15 million acres of potential energy and mineral resources” that are undeveloped on Indian lands and only 2.1 million acres of Indian land are being tapped for their energy resources.⁸

¹ U.S. Department of Housing and Urban Development. Public and Indian Housing, Native American Housing Block Grants 2017 Summary Statement and Initiatives. https://portal.hud.gov/hudportal/documents/huddoc?id=11-Nat.Am_HSNG_BIK_Grants.pdf. Accessed April 2017.

² U.S. Census Bureau. Macartney, S., Bishaw, A., Fontenot., K. Poverty Rates for Selected Detailed Race and Hispanic Groups by State and Place: 2007 – 2011. <https://www.census.gov/library/publications/2013/acs/acsbr11-17.html>. Accessed April 2017.

³ U.S. Department of Housing and Urban Development. Public and Indian Housing, Native American Housing Block Grants 2017 Summary Statement and Initiatives. https://portal.hud.gov/hudportal/documents/huddoc?id=11-Nat.Am_HSNG_BIK_Grants.pdf. Accessed April 2017.

⁴ Schwabe, P. (2016). *Solar Energy Prospecting in Remote Alaska: An Economic Analysis of Solar Photovoltaics in the Last Frontier State* (No. NREL/TP-6A20-65834; DOE/IE-0040). NREL (National Renewable Energy Laboratory (NREL), Golden, CO (United States). <https://energy.gov/sites/prod/files/2016/02/f29/Solar-Prospecting-AK-final.pdf>. Accessed April 2017.

⁵ U.S. EIA. *Energy Consumption and Renewable Energy Development Potential on Indian Lands*. SR/CNEAF/2000-01. April 2000. <http://www.eia.gov/cneaf/solar/renewables/ilands/ilands.pdf>. Accessed April 2017.

⁶ Regan, S. E., & Anderson, T. L. (2014). The Energy Wealth of Indian Nations. *LSU J. Energy L. & Resources*, 3, 195. <http://digitalcommons.law.lsu.edu/cgi/viewcontent.cgi?article=1048&context=jelr>. Accessed April 2017.

⁷ Doris, E., Lopez, A., & Beckley, D. (2013). *Geospatial Analysis of Renewable Energy Technical Potential on Tribal Lands*. US Department of Energy, Office of Indian Energy. <http://www.nrel.gov/docs/fy13osti/56641.pdf>. Accessed April 2017.

⁸ Indian Energy Development. Hearing before the Committee on Indian Affairs. Senate. 110th Cong. 2 (2008). (Testimony of Robert Middleton). <https://www.indian.senate.gov/sites/default/files/upload/files/May12008.pdf>. Accessed April 2017.

- Reservations contain almost 30% of the coal reserves west of the Mississippi, 50% of potential uranium reserves, and 20% of known oil and gas reserves.⁹
- At current values, present-day revenue projects for energy resources on Indian lands amount to nearly \$1.5 trillion.¹⁰

Additionally, major barriers to the development of renewable energy on Indian lands, identified through expert elicitation, include: financing and funding; infrastructure; leadership, internal capacity, and education of tribal leadership and staff on energy issues; customers (primarily for large scale development); and partnerships.¹¹

The Department of Energy (DOE) Office of Indian Energy Policy and Programs (hereafter referred to the Office of Indian Energy) assists in addressing these staggering gaps and barriers for Indian tribes interested in developing their vast undeveloped energy resources.

The Office of Indian Energy was mandated by Congress under the Indian Tribal Energy Development and Self-Determination Act of 2005 (Title V, Indian Energy, of the [Energy Policy Act of 2005, Pub. L. 109-58](#))¹² to “provide, direct, foster, coordinate, and implement energy planning, education, management, conservation, and delivery of programs of the Department that (1) promote Indian tribal energy development, efficiency, and use; (2) reduce or stabilize energy costs; (3) enhance and strengthen Indian tribal energy and economic infrastructure relating to natural resource development and electrification; and (4) bring electrical power and service to Indian land and the homes of tribal members located on Indian lands or acquired, constructed, or improved (in whole or in part) with Federal funds.” 42 U.S.C. § 7144e.

The Office of Indian Energy accomplishes this through technical assistance, education and capacity building, financial assistance, and policy research and analysis.

Under technical assistance, subject matter experts assist Indian tribes including Alaska Native villages with the deployment of energy projects, as well as high-level technical support for energy planning, project development, transmission interconnection, utility formation and intertribal coordination to improve energy systems and economic conditions on tribal lands. And if developed, contributes to domestic energy production, as well as the enhancement of national energy security and resilience of remote, rural tribal communities. Research and analysis involves surveying energy needs and energy resources on Indian lands, including available infrastructure support, and developing strategies for electrification and energy deployment. Financial assistance to Indian tribes supports the deployment of energy generation and energy efficiency projects, reducing the cost/use of energy on Indian lands and building the essential governmental, business, and community capacity within and between Indian tribes to foster sustainable tribal energy programs and infrastructure within tribal communities.

Through financial assistance, the Office of Indian Energy has assisted in positioning Indian tribes to thrive. Specifically, between 2010 and 2016, the Office of Indian Energy co-funded the deployment of 43 tribal energy

⁹ Regan, S. E., & Anderson, T. L. (2014). The Energy Wealth of Indian Nations. *LSU J. Energy L. & Resources*, 3, 195. <http://digitalcommons.law.lsu.edu/cgi/viewcontent.cgi?article=1048&context=jelr>. Accessed April 2017.

¹⁰ Indian Energy and Energy Efficiency. Hearing before the Committee on Indian Affairs. Senate. 111th Cong. 1 (2009). (Testimony of Marcus Levings). <https://www.indian.senate.gov/sites/default/files/upload/files/October222009.pdf>. Accessed April 2017.

¹¹ Jones, T., Necefer, L. (2016). Identifying Barriers and Pathways for Success for Renewable Energy Development on American Indian Lands (SAND2016-311J). Sandia National Laboratories (SNL-NM), Albuquerque, NM (United States) <http://energy.sandia.gov/download/40250/>. Accessed April 2017

¹² Congress, U. S. (2005). Energy policy act of 2005. *Public Law*, 109(58), 42. <https://www.gpo.gov/fdsys/pkg/PLAW-109publ58/pdf/PLAW-109publ58.pdf>. Accessed April 2017.

projects valued at more than \$70 million. DOE's investment of \$25 million in these renewable energy and energy efficiency projects, resulted in [tangible results](#)¹³, including:

- Approximately 18.5 MW of new tribal renewable energy generation capacity.
- Annual electricity savings of 51 million kilowatt-hours (kWh) – enough to power about 4,700 U.S. homes for one year.
- Lower electricity prices for more than 2,500 tribal buildings and more than 29,000 tribal members.
- Total cost savings of about \$10 million annually and more than \$0.5 billion over the life of the projects.
- Every \$1 of DOE funding results in \$7.22 savings for Indian tribes.
- Annual greenhouse gas emission reductions of 73,000 tons – the equivalent of taking 14,000 passenger vehicles off the road for one year – and reduced by 4.4 million tons over the life of the projects.
- Reduced the average price of electricity for Alaska Native communities from \$0.55/kWh to \$0.13/kWh – roughly equivalent to the current U.S. average electricity price.
- The investment of \$70 million is the equivalent of 2,000 jobs created.

¹³ U.S. Department of Energy Office of Indian Energy Policy and Programs. Tribal Energy Project Successes. Available at <https://energy.gov/indianenergy/tribal-energy-project-successes>. Accessed April 2017.