

THE NEW ENERGY FUTURE IN INDIAN COUNTRY: Confronting Climate Change, Creating Jobs, and Conserving Nature

NATIONAL WILDLIFE FEDERATION 2010



IntertribalCoup.org



Report

CONFRONTING GLOBAL WARMING

Executive Summary

Indian Tribes are disproportionately bearing the brunt of climate change, and their economic, cultural, and spiritual practices, which are closely tied to the natural world, are suffering. But the vast potential on tribal lands to generate clean energy from renewable energy resources like solar, wind, biomass, and geothermal power presents tribes with the opportunity to be a significant part of the solution. They can help confront climate change and continue their legacy as conservationists, while creating clean energy jobs and generating revenue in their communities to help lift them out of poverty.

On average, Tribal households pay significantly more in home energy expenses than other Americans. Most utilities are solely owned and operated by non-Tribal entities, so the money paid to energy providers immediately leaves tribal communities. More than 14 percent of American Indian households on reservations have no access to electricity, compared to 1.2 percent of all U.S. households.¹ However, tribal lands, which cover almost 5 percent of the total area of the United States, hold an estimated 10 percent of the country's renewable energy resources, including enough solar energy potential to generate 4.5 times the national total energy consumption in 2004.²

The infrastructure and revenue streams created by tribal renewable energy and energy efficiency projects could help tribes achieve economic growth and energy independence, and strengthen tribal sovereignty. These projects would help keep utility revenue within tribal communities and create worker training opportunities in clean energy jobs, such as installation, maintenance, weatherization, and construction. While such projects must carefully consider the potential impacts on the land, wildlife and habitat, they could help tribes meet their energy demands and sustain their natural resources for future generations.

Several pilot projects are under way across the country. Programs in the Department of Energy and Department of Health and Human Services, other state incentives, and the rising carbon offset market are helping tribes save money and discover critical funding opportunities. However, large-scale tribal renewable energy development faces several obstacles, including insufficient federal funding, limited tax credit benefits, and transmission line planning.

Current federal climate and energy bills such as the American Clean Energy and Security Act of 2009 and the Clean Energy Jobs and Power Act of 2009 have addressed some of these obstacles, and other tribal needs and interests. But Indian tribes have been excluded from some key programs; it is critical to include tribes in these to fully realize the renewable energy potential on their lands.

Introduction

Indigenous peoples in the U.S. and abroad are disproportionately bearing the brunt of climate change, and their economic, cultural, and spiritual strength, closely tied to the natural world, has suffered.

Socioeconomic conditions, already dire on many reservations, are being further exacerbated by the deterioration of natural habitats and the thinning of critical plant and animal populations. Business-as-usual is sapping the vitality of already at-risk regions and peoples. Meanwhile, the national economy lags, and U.S. dollars continue to line the pockets of foreign oil producers.

Fortunately, there may be a mutually beneficial solution. Tribal lands are rich in solar, wind, and other energy resources, and, if utilized responsibly, have the potential to fulfill our domestic energy needs while providing jobs and revenue for impoverished communities.



Jon Nickles/USEWS

“When it comes to creating jobs, closing the opportunity gap, and leaving something better for our future generations, few areas hold as much promise as clean energy.”

President Obama
November 5, 2009, addressing the
Tribal Nations Conference

A Heavy Load: The Burden of Climate Change



Courtrland White/Studio 47 Imaging

Indian tribes whose cultural and economic well-being depends on the condition of Tribal lands are disproportionately shouldering the burden of man-made global climate change. The effects of environmental shifts touch all aspects of Tribal life: health, governance, economic security, and cultural identity.

HEALTH AND WELL-BEING

Wild foods have been a fundamental component of Native American diets for thousands of years. Climate change has begun to alter the natural

conditions on which wild plants and animals rely, forcing declines in plant abundance and shifts in animal ranges. This will produce a nutritional deficit among subsistence communities. Climate change will also increase the frequency and severity of extreme weather events. Depending on the characteristics of the region, this may bring about prolonged drought, decreasing the supply of fresh water and increasing the need for agricultural irrigation; or could result in intense flooding, which may lead to water contamination, injuries, and deaths from drowning. Native American communities are already ill-equipped to manage extreme weather, and climate change will worsen the impact of these events.

TRIBAL GOVERNANCE

Already strained by poverty, crime, and public health issues, tribes lack the capacity to deal with the problems created by climate change, and will have to rely increasingly on federal support.

ECONOMIC SECURITY

Tribal communities that capitalize on wild resources, such as the fish-harvesting tribes of the Pacific Northwest, will lose revenue as natural habitats weaken. As the conditions that support wild plants and animals continue to decline, subsistence communities will have to rely further on outside food suppliers.

More than 14 percent of American Indian households on reservations have no access to electricity, compared to 1.2 percent of all U.S. households. In the native villages of Alaska, fuel must be flown in at exorbitant cost to power inefficient

diesel generators. On average, Tribal households pay more in home energy expenses than other Americans. Most utilities are solely owned and operated by non-Tribal entities, so the money paid to energy providers immediately leaves the community.

NATURAL RESOURCES AND TRIBAL IDENTITY

The natural world is a cornerstone of Tribal identity, forming the foundation for spiritual beliefs, everyday customs, and artistic traditions. Climate change threatens not only the physical basis of Tribal livelihood and survival, but the underpinnings of culture itself.

For the tribes of the Pacific Northwest, salmon has long been a key species. For thousands of years, salmon have served as the cornerstone of tribal spirituality, and communities have relied on the catch for subsistence. The species has also been the cornerstone of tribal spirituality. Climatic changes have shifted the timing and location of seasonal migrations, raising juvenile mortality rates and forcing salmon populations farther north, away from traditional Northwestern Tribal territory. Similarly, the tribes of the Northern Plains and the Great Lakes have reported diminishing elk and moose, as climate change has forced animals north to colder habitats. Tribes have seen a similar decline in native plants that have longstanding spiritual significance and that serve as food, medicine, and building material.

The Possibilities

While Tribal communities have suffered disproportionately, they are now presented with the opportunity to harness their abundant lands and resources to build a stake in the economy of the future while acting as guardians of the natural world.

TRIBAL LAND

Tribal communities own and manage over 95 million acres nationwide—11 million more than the National Park Service and almost 5 percent of the total area of the United States. These lands contain more than 997,000 acres of lakes and impoundments, 13,000 miles of streams and rivers, and 18 million acres of forested lands. Tribes operate approximately 114 fish hatcheries, with many producing threatened or endangered fish species. In addition, these lands provide vital habitat for more than 525 federally listed plants and animals, many of which are ecologically and culturally significant to indigenous peoples.

RENEWABLE ENERGY POTENTIAL

Despite the energy difficulties of Indian tribes, Tribal lands hold an estimated 10 percent of the country's energy resources.³ The National Renewable Energy Laboratory estimates that Indian lands alone carry the potential for 17,600 billion kilowatt-hours per year of solar energy, equivalent to 4.5 times the total national energy generation in 2004.⁴ Despite this, many tribal members do not have access to electricity because of the remote location of many reservations.

With the country's current push towards energy independence, interest in renewable energy development is high. The infrastructure and revenue streams created by Tribally-owned renewable energy projects could help tribes achieve economic independence and strengthen community autonomy while helping to sustain natural resources for future generations.



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All development comes at a cost, but careful planning can lessen damage to the environment. Planning for renewable energy projects must take into account potential impacts on the surrounding land, with special attention paid to the size and placement of utility sites. Projects and resultant development should be sited away from animal migration corridors, bodies of water, and sensitive habitats.



Jay Warner

Tribal Wind

Turbines harness the wind's kinetic energy and yield clean and inexhaustible power. Wind is intermittent, but battery banks and backup generators can provide stored electricity when it isn't blowing. Advances in wind turbine design have made the process more efficient over the years, making development more viable than ever. Wind energy is the least expensive form of renewable energy and can often be established without disturbing agricultural land use. The National Renewable Energy

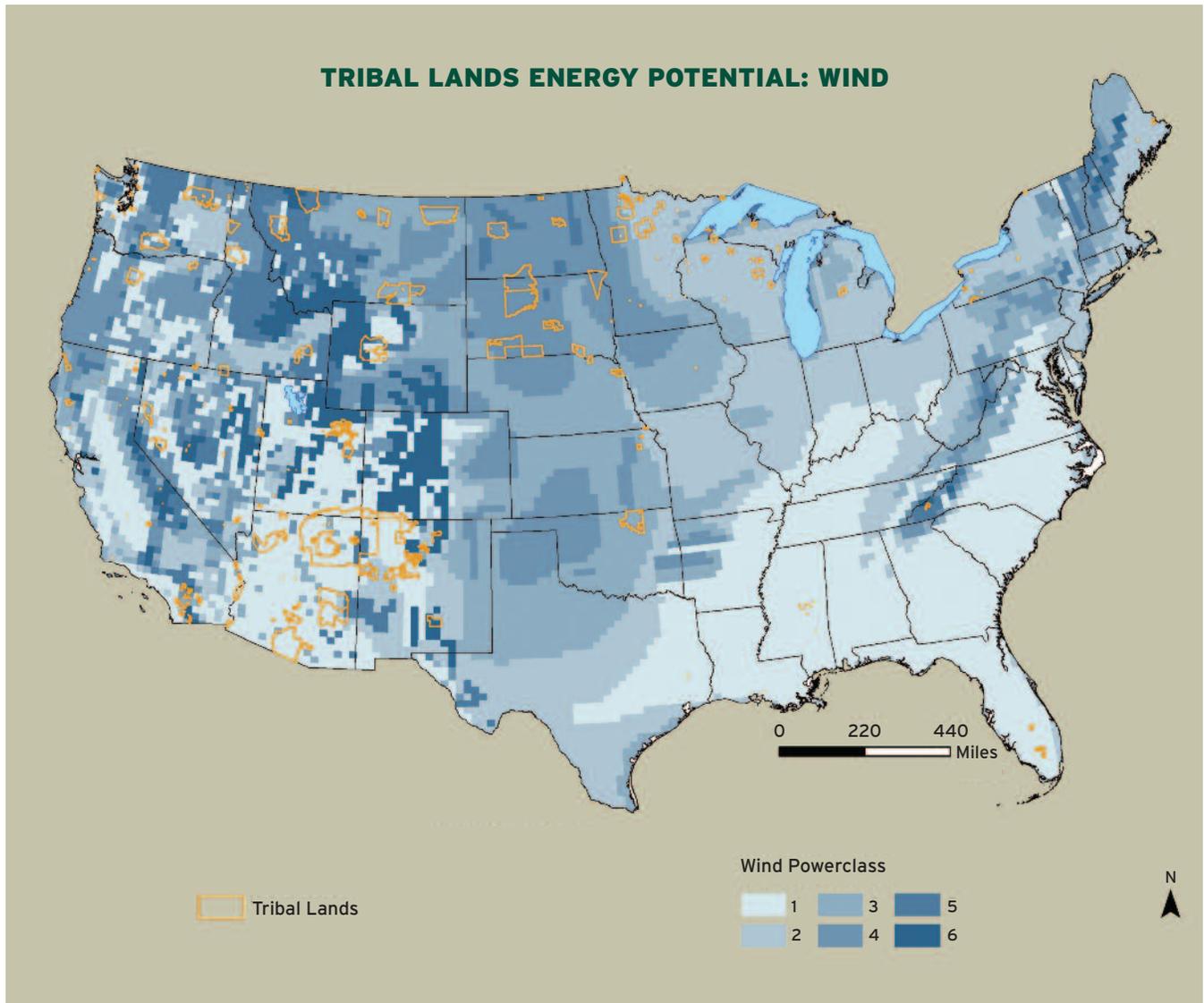
Laboratory has detailed wind resource maps for Tribal lands in most states.

WIND FARMS

Large-scale wind farms connected to a grid can power entire communities, with individual turbines fueling agriculture, home energy use, and communal power.

Small System Turbines can be connected to a power distribution system to reduce electric bills. Excess energy produced by these grid-connected turbines can be sold back to

the power company. In remote areas, individual turbines can be more cost-effective than extending transmission lines, which can cost around \$10,000 per mile. Off-grid turbines can provide all of a home's electrical needs, or supplement other generating systems. Small 10kw turbines can be used for simpler tasks like pumping water. Off-grid systems require deep-cycle battery banks and charge controllers to store electricity for use during periods of low wind. The American Wind Energy Association estimates the



CAMPO KUMEYAAY NATION, KUMEYAAY WIND FARM



Garrit Voggeser

The Campo Kumeyaay Nation completed its first wind project, a 60-megawatt, 25-turbine wind farm, in 2005. The Kumeyaay wind farm is the first and only wind farm on Tribal land to date, and it is helping California toward its goal of 20 percent renewable energy by 2020. The farm produces enough energy to power 50,000 homes and saves approximately 110,000 tons of greenhouse gas emissions annually. The tribe is set to start on its second project, a 160-megawatt wind farm, within the year (2010). The tribe will partner with Invenergy LLC and San Diego Gas and Electric on the project, which is expected to be fully

operational by 2012. With an initial investment of \$60 million, the Campo Kumeyaay Nation will acquire 20 percent ownership in the new wind farm, and will obtain full ownership of both projects after 25 years of operation. When completed, the new wind farm will provide enough energy to power 104,000 homes.

cost of a home wind system to be around \$32,000.⁶

THE IMPORTANCE OF CAREFUL SITING

Wind turbines can pose a threat to birds and bats, which can be killed by collision with the turbines or electrocution from perching on high voltage equipment. When planning a wind project, turbines should be sited away from migration corridors, mating and nesting areas, areas with high incidence of fog or mist, and sensitive habitats. Turbine designs should discourage nesting and perching, avoid the use of sodium vapor lights to discourage attraction, and bury electrical lines where possible.

TRIBAL OPPORTUNITY

Many Tribal lands, particularly those in the Great Plains and Alaska's coastal native villages, have high potential for utility-scale wind farms. In 2009, the Bureau of Indian Affairs identified 77 reservations that could support viable wind-based economies.⁷ The Natural Renewable Energy Laboratory determined that tribal lands alone could meet 14 percent of the nation's energy needs.⁸

“Our band is at the forefront of national efforts to build a new energy future. Our wind power project is the accelerant to the Campo people's comprehensive community improvement plan, but it's also good for the people of San Diego County and all of America.”

Monique LaChappa, Campo Kumeyaay Nation Chairwoman



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Tribal Solar Energy

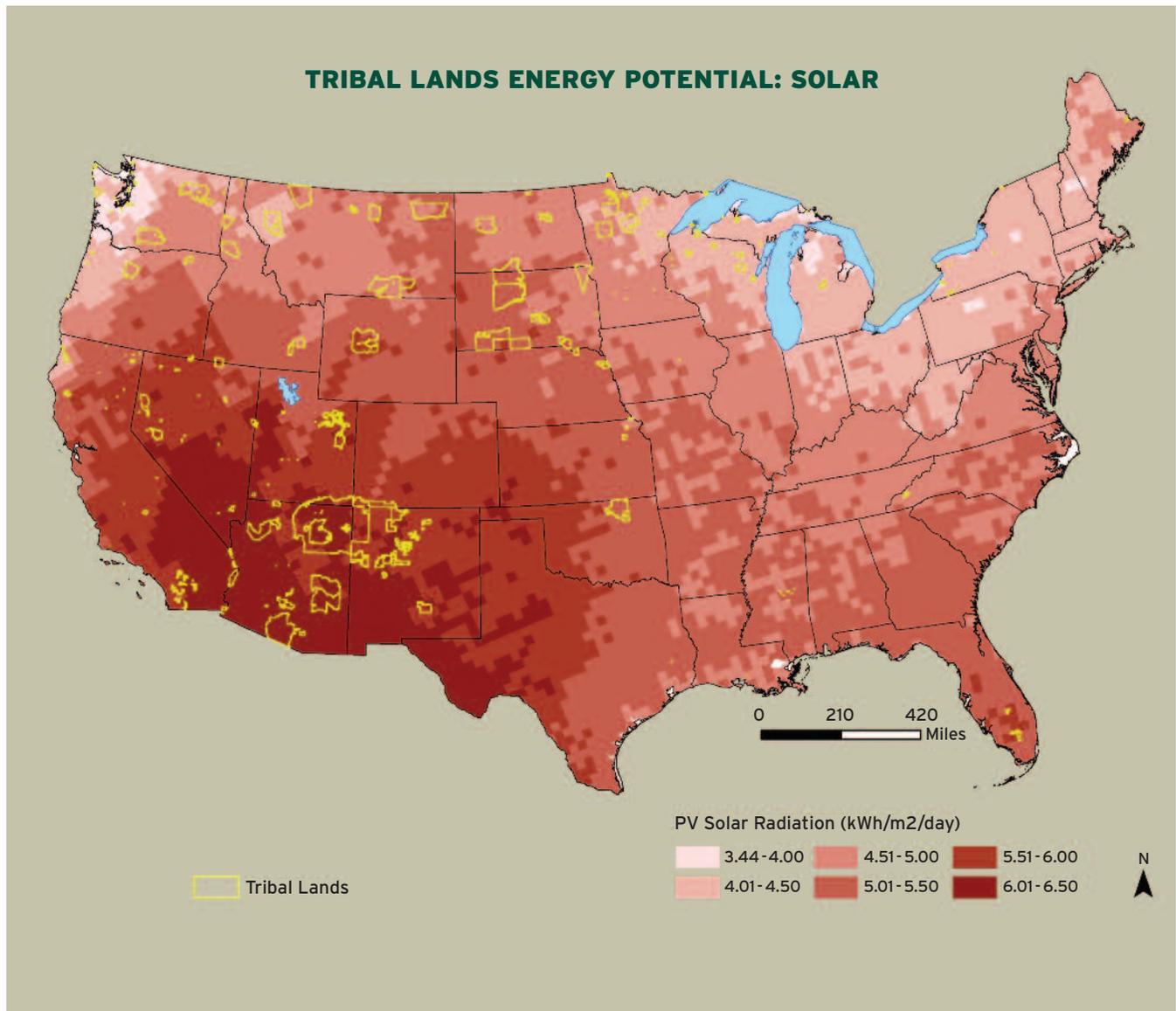


Solar energy systems convert sunlight into heat or electricity. Photovoltaic (PV) systems are made up of semiconducting materials that absorb sunlight and convert it into electricity. If connected to a grid, small-scale household systems can be used to dramatically reduce home energy costs. Off-grid systems store electricity in battery banks for use on cloudy days or at night, and allow for total energy independence. Solar networks are feasible almost anywhere in the country, with only

slight variability. Solar thermal technology converts the sun's energy into heat, a cost-effective way of regulating, building, and generating hot water.

TRIBAL OPPORTUNITY

Solar networks are especially practical for the many tribes of the arid Southwest, where sunshine is abundant and other resources are scarce. Tribal lands have the capacity to power the country 4.5 times over with solar energy.⁹



HUALAPAI WATER PIPELINE AND TRIBAL UTILITY DEPARTMENT

The Hualapai tribe's economy depends on tourism on its popular Grand Canyon West reservation, but strained infrastructure and water resources have long limited the tribe's capacity for expansion of the necessary tourism facilities. The tribe used Department of Energy (DOE) funds to build two photovoltaic arrays and pumphouses to power its 13-mile water pipeline. The success of the project has greatly improved the agricultural and tourism capabilities of the tribe.

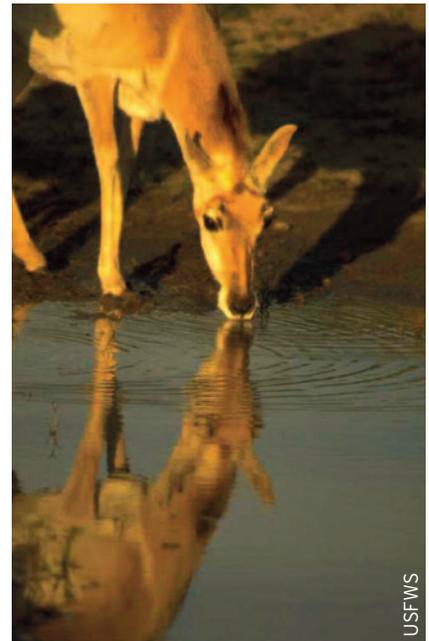
Following up on this success, the Hualapai recently received a DOE grant to explore the possibilities of a utility-scale solar project. Initial studies have been completed, and the tribe is planning to build a 2mw solar hybrid utility and 50 miles of transmission lines. The Hualapai tribe currently sees about 150,000 visitors annually, and projects a tenfold increase once the utility infrastructure is complete.



USFWS/Gary Stoiz

“Because indigenous peoples are forced into the global market with only our resources and labor with which to negotiate, we often find ourselves forced to choose between economic development and cultural survival. Clean energy from renewable sources offers the opportunity to break free from the cycle of being dependent on our own cultural destruction.”

Kandi Mossett, Tribal campus organizer for the Indigenous Environmental Network and member of the Mandan, Hidatsa and Arikara Nations located on the Fort Berthold Reservation, North Dakota.



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Tribal Geothermal

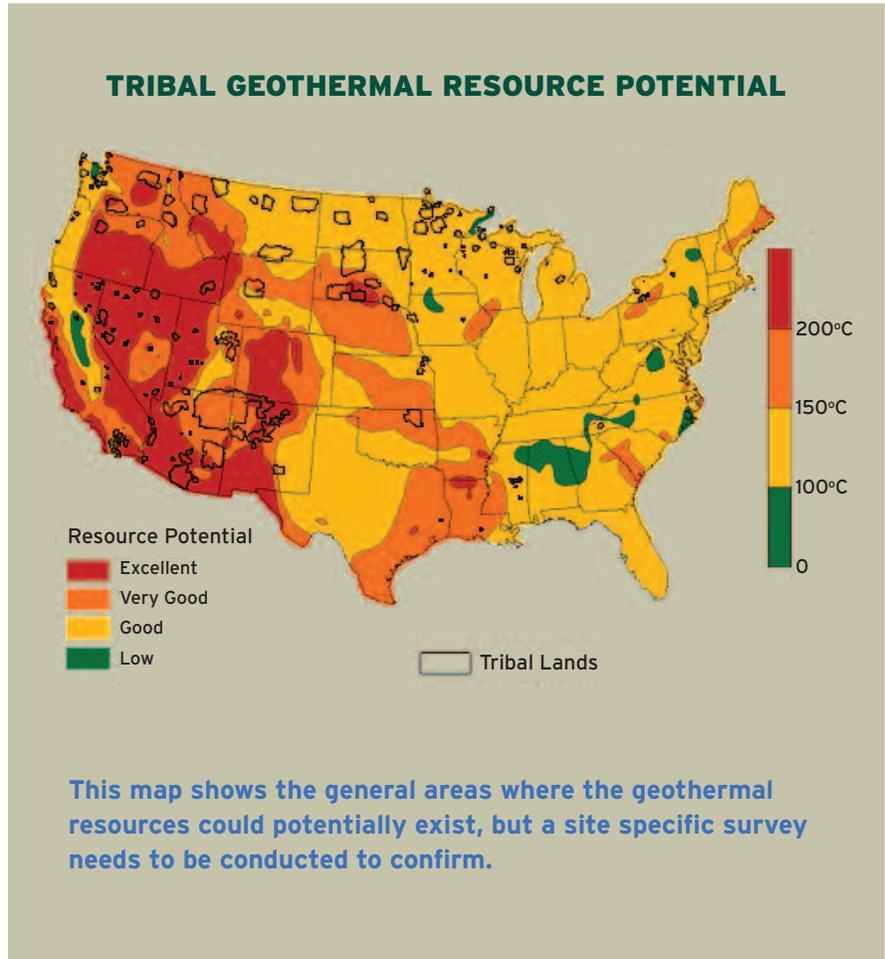
Geothermal energy is derived from concentrations of the Earth's subsurface heat. Heat from the earth's core is brought to the surface by magma, where it heats up underground pockets of water, creating hydrothermal reservoirs. This is seen in the hot springs and geysers that are abundant in the West, Alaska, and Hawaii. Hot water from hydrothermal reservoirs can also be pumped through pipes to transport heat.

Geothermal power plants emit 1/6th the carbon dioxide of natural gas power plants and, though they carry a significant initial investment, emerge as viable fossil fuel competitors due to their low fuel costs and strong, consistent, and reliable production capabilities.

In areas with significant hydrothermal reservoirs, deep wells can bring up steam and hot water to power generators. The water that is removed can be re-injected, and pumped well below freshwater aquifers to avoid contamination of groundwater sources. In order to avoid damaging delicate aquatic habitats, it is important to avoid pumping heated water into nearby streams and lakes.

DIRECT USE

Geothermal systems can be used in a wide range of agricultural and industrial applications. They can also be used by entire communities to heat homes and melt snow and ice on roads and sidewalks.



CONFEDERATED TRIBES OF WARM SPRINGS, KA-NEE-TA SWIMMING POOL



Flicker: surfonaut

The Confederated Tribes of Warm Springs' swimming pool is located on the tribe's resort and casino adjacent to the Warm Springs River. Water is fed from the nearby hot spring into separate storage tanks, where it passes through a heat exchanger. The hot water is mixed with cold water piped in from a local water treatment facility to regulate the temperature. This is then used to supply hot water for showers, hot tubs, swimming pools, a bath house, and a nearby rental facility, all Tribally-owned. The tribe saves an estimated \$400,000 annually compared to heating the water using natural gas. Now the swimming pool's only electrical expenses come from operating water pumps.¹⁰

GEOTHERMAL HEAT PUMPS

The first 10 feet of the earth's crust maintain an almost constant temperature between 50 and 60 degrees Fahrenheit. A system of shallow pipes buried near a building can remove and dissipate hot air during the summer, and bring in warm air during the winter. This type of system can be used almost anywhere.

TRIBAL OPPORTUNITY

The United States has enough geothermal resources to power the country for an estimated 750,000 years at the current rate of consumption.¹¹ Geothermal potential varies by location, and a site-specific survey is necessary to confirm the presence of viable hydrothermal pockets for power generation.



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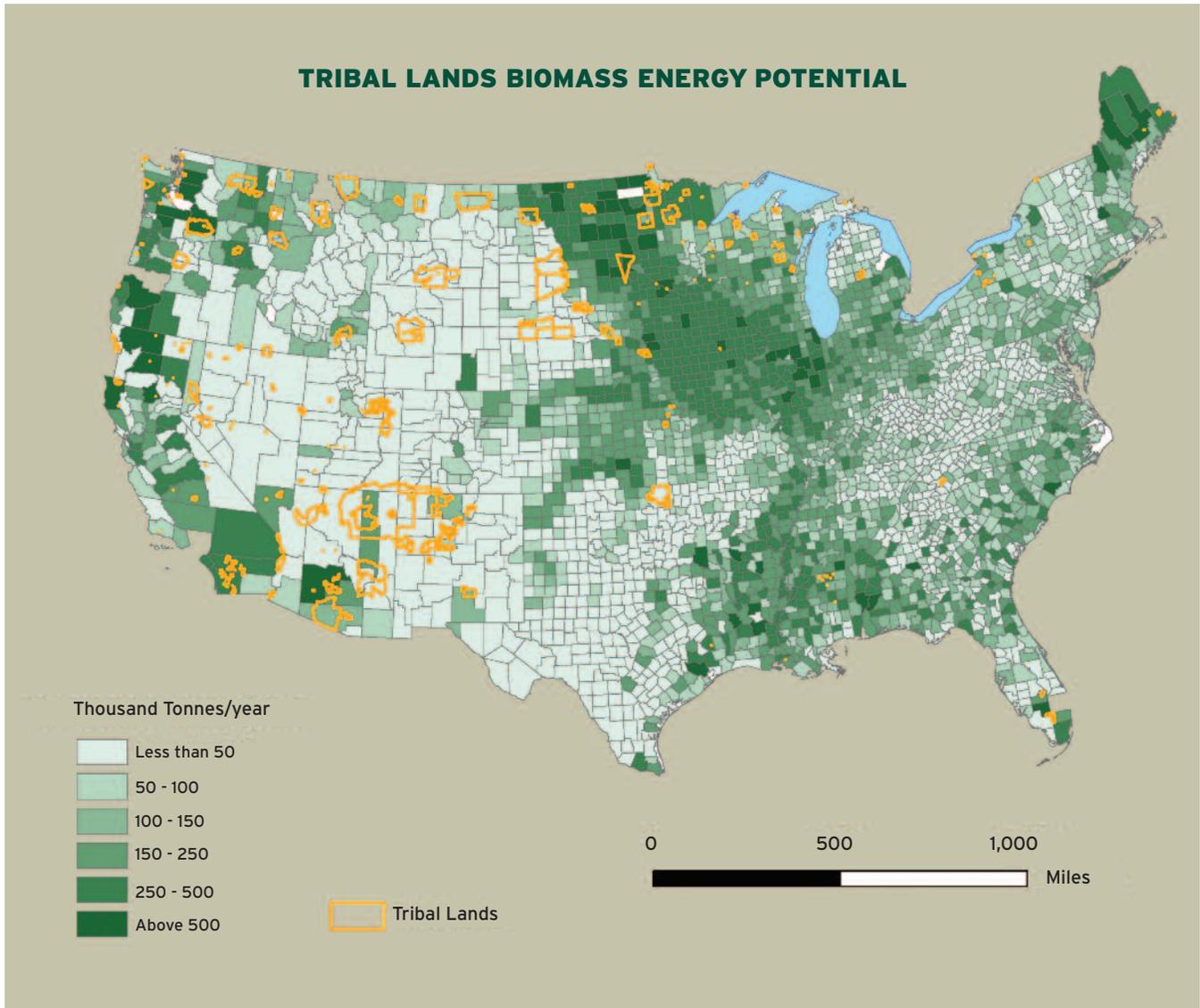
Tribal Biomass



Generators burn biomass products from plant matter or animal waste to generate heat and steam. The steam is then used to power generators, with excess heat re-routed to heat buildings. Biomass products are also chemically processed to produce transportation fuels such as ethanol, methanol, biodiesel, biocrude, and methane. Biomass plants can provide reliable energy production using cultivated native vegetation—which serves as wildlife habitat in the meantime—and yield significantly reduced greenhouse gas emissions.

Animal biomass sources include manure, which can be converted into combustible methane gas, and animal fat, which can be converted into biodiesel.

Biomass crops should be planted on existing agricultural land to avoid habitat destruction, and these crops should be grown with minimal use of chemical pesticides and fertilizers. Priority should be given to native plants when considering biomass crops, as these provide vital habitat to wildlife and are the most ecologically-sound choice.



CASE STUDY: SHAKOPEE MDEWAKANTON SIOUX, KODA ENERGY VENTURE

Minnesota's Shakopee Mdewakanton Sioux Community and Rahr Malting Company own and operate a joint-venture biomass energy plant. Koda Energy burns agricultural byproducts, including 50,000 tons of waste from Rahr Malting and 120,000 tons from local agribusiness contractors annually. The plant also uses prairie grass from local farms. Because these crops are perennial, low-maintenance vegetation, farmers reap significant profits. All of Koda Energy's biomass fuels come from within 60 miles of the facility. The plant produces 24 megawatts of energy per hour, and supplies electricity for itself and the Rahr Malting plant, with excess energy sold to Xcel Energy Incorporated. Surfeit heat is used by Rahr Malting to process barley, reducing the plant's consumption of natural gas.^{12, 13}

TRIBAL OPPORTUNITY

According to the Department of Energy, various forms of biomass energy (including but not limited to agricultural crops and residues, trees and forest residues, animal wastes) account for 45 percent of renewable energy used in the United States. There is no specific estimate for how much of this resource is on tribal land, but nearly every tribe has access to the associated residual materials from commercial or industrial processes. Tribes also control vast tracts of forests and prairie grasslands.



“Native prophecy and science have arrived at the same place relative to climate change impacts that are here now. Native people are not only aware of climate change, but offer solutions to lessen the impacts of global warming and help restore the balance of creation. Renewable energy from the earth, the sun, and the wind can provide energy and jobs for our communities and green the federal transmission grids that interconnect us all.”

Pat Spears, co-founder and president, Intertribal Council On Utility Policy (COUP), representing 11 tribes in the Dakotas, Wyoming, and Nebraska.

Weatherization

The simplest and most cost-effective way of reducing energy costs and emissions is by increasing the energy efficiency of buildings. Weatherization includes strengthening insulation barriers, sealing gaps, replacing inefficient materials, and installing energy-efficient heating and cooling systems. These should be the first stages of any energy efficiency plan.

TRIBAL OPPORTUNITY

Because Indian tribes endure the highest energy costs in the nation, great strides can be made in economic savings by weatherizing tribal homes and buildings. While no method currently exists to project total economic savings via weatherization on all Indian reservations, a few examples illustrate the significant potential to lower energy costs and conserve energy. Depending on the

condition of the building, weatherization can save 15 to 40 percent in energy consumption and costs.¹⁴ The Mashpee Wampanoag Tribe recently renovated its tribal headquarters, investing \$39,000 for energy efficiency and green features. The energy savings of \$7,600 per year resulted in a payback period of 5 years and an 18 percent annual return on the green investment.¹⁵ The Sault Sainte Marie Tribe of Michigan plans to weatherize 20 tribal buildings that had a combined electrical cost of \$947,135 in 2008.¹⁶ Even with a modest 15-percent reduction, the tribe could save over \$142,000 per year by making the buildings energy efficient. With the need for weatherization by many of the nation's 564 tribes, the opportunities to conserve energy and lower energy costs on tribal lands are dramatic.



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“Global warming is undermining the social identity and cultural survival of Alaska Natives and American Indians. As we watch our ice melt, our forests burn, our villages sink, our sea level rise, our temperatures increase, our oceans acidify, and our animals become diseased and dislocated, we recognize that our health and our traditional ways of life are at risk.”

Mike Williams,
Yupiaq from Akiak, AK

Case Study

ALEUTIAN PRIBILOF ISLANDS WEATHERIZATION PROJECT

The isolated Pribilof Islands of the Bering Sea are home to the native villages of Kutan, Atka, Unalaska, False Pass, King Cove, Nelson Lagoon, Nikolski, Saint George Island, Saint Paul Island, and Sand Point. These native villages experience harsh winds and frigid winters. A combination of high fuel prices, inefficient buildings, and outdated heating systems has raised costs each year. The Pribilof Islands Association and partners have launched an initiative to provide villagers with energy conservation education, home energy and safety reviews, and on-site weatherization services. The project has helped control costs, empowered tribal members by offering a path to employment as energy technicians, and strengthened community autonomy.¹⁷



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Green Jobs in Indian Country

Tribal renewable energy and energy efficiency projects create valuable training opportunities for clean energy—or “green”—jobs on and off the reservation. These require a broad range of working skills, many of which are already prevalent in the workforce. Examples include:

- The installation and maintenance of solar panels, wind turbines, solar heating systems, and rainwater harvest systems.
- Weatherization retrofitting, energy efficiency improvements, and energy auditing.
- Green construction and sustainable building design.

Workers can receive training on-the-job or through the Tribal college programs. With the move toward a national clean energy economy, demand for such jobs is expected to increase significantly in the coming years. Because the work is geared towards environmental preservation and impact-reduction, it aligns well with traditional Tribal values.



Funding, Incentives, and Investment

FEDERAL FUNDING OPPORTUNITIES

- The Department of Energy’s Tribal Energy Program offers competitive grants to tribes for renewable energy projects. Between 2002 and 2007, the DOE funded 91 Tribal energy projects totaling \$14.1 million. The DOE’s Energy Efficiency and Conservation Block Grant program offers competitive funding for building retrofits and weatherization job training. The DOE Weatherization Assistance Program offers similar funding for weatherization projects.
- Tribally-owned small businesses, including renewable energy ventures, can secure federal funding through the US Department of Agriculture’s Rural Business Opportunity Grant program.
- The Department of Health and Human Services’ Low Income Home Energy Assistance Program offers

grants to help poor households meet their heating and cooling needs.

- Tribes are eligible for many of the clean energy grants created under the American Recovery and Reinvestment Act of 2009. For more information, see http://epa.gov/cleanenergy/documents/local_guide_to_arra.pdf.
- The Green Jobs Act of 2007 offers \$125 million for green jobs training, with a special program focused on low-income communities.
- The DOE’s Weatherization Assistant Program offers grants to tribes for weatherization projects.

STATE INCENTIVES FOR RENEWABLE DEVELOPMENT

- Property tax credits: Exemption from taxes on renewable energy properties
- Sales tax exemption on renewable energy equipment.



■ Revolving loan programs.

State incentives for Tribal renewable energy development vary by state. In addition, tribes must create state-chartered corporations to take advantage of state tax incentives, but such enterprises lose sovereign immunity and become subject to state laws and reporting requirements.

CARBON OFFSETS

Carbon offsets are investments in projects that reduce greenhouse gas emissions, including carbon sequestration and renewable energy ventures. They are sold to individuals, companies, and government agencies

seeking to counteract their own emissions from electricity use, fossil fuel consumption, and industrial production. Offsets can be sold domestically and internationally. With increasing awareness of the effects of global warming, offsets are gaining popularity: the global carbon market reached \$136 billion in 2009, up from \$56 billion in 2007, and offset roughly 8.2 billion tons of carbon emissions. The sale of carbon offsets for Tribal communities developing renewable energy products would provide an additional economic boost.

Obstacles to Tribal Renewable Energy Development

“Up to 15 percent of our potential wind energy resources are on Native American land, and the potential for solar energy is even higher. But too often, you face unique hurdles to developing these renewable resources. . . We’re streamlining and expediting the permit process for energy development and transmission across Tribal lands. We are securing Tribal access to financing and investments for new energy projects.”

President Barack Obama, addressing Tribal leaders at the 2009 Tribal Nations Conference

Tribes rely heavily on federal funding, which is insufficient for the full development of renewable energy projects. Communities must therefore typically turn to non-Tribal investors. In such relationships, tribes receive a relatively small but reliable source of revenue from lease payments and have little to no actual equity.

Tribes do not benefit from the renewable energy tax credits, accelerated depreciation allowances, and loan guarantees that make wind and other renewable energy projects financially attractive to investors.

States often assess taxes on non-Indian entities whose facilities are on fee land within Indian country, making

it difficult, as a practical matter, for tribes to assess similar taxes, as double-taxation would drive investors away.

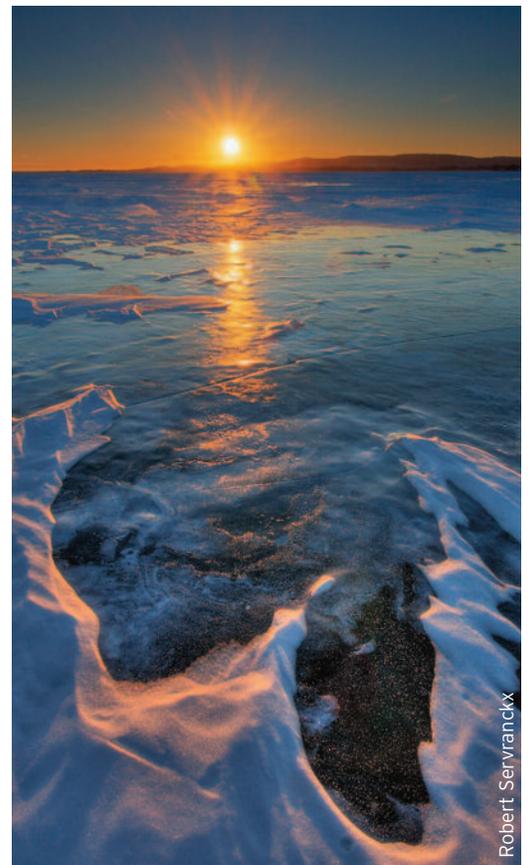
Capacity considerations are vital. Transmission lines often skirt Tribal lands, and the cost of extending transmission lines over long distances can be astronomical. Unless they are in close proximity to these transmission lines, large-scale utility projects are typically unfeasible. In the future, tribes must be included in regional transmission line planning.



Tribal Principles for Climate Legislation

“Throughout Alaska and the nation, we are in peril from global warming. For the sake of our children and grandchildren, seven generations and beyond, Congress must take meaningful action to address this issue now.”

Mike Williams, Yupiaq from Akiak, AK



Robert Servanckx



Myra Wilensky

- Indian tribes, as defined in the Indian Self-Determination and Education Assistance Act, must be sovereign partners in assessing and addressing climate change at the local, regional, national, and international levels. Legislation must accord tribes, and other indigenous peoples worldwide, at least the status and rights recognized in the U.N. Declaration on the Rights of Indigenous Peoples and other international law.
- Indian tribes shall be provided equitable access to the same

financial and technical resources provided to states and local governments, without having to obtain treatment-as-a-state (TAS) status or meet a similar burden, to access such resources.

- Indian tribes shall be provided adequate resources by the federal government to enable them to assess the adverse impacts of climate change on their culture and resources, and in partnership with others, where appropriate, to address those impacts through adaptation and mitigation measures that will ensure the integrity of their cultures, homelands, infrastructures, services, natural resources, and off-reservation resources. These resources shall specifically include those necessary to gather the traditional tribal knowledge necessary to this process, with this knowledge given proper weight in assessing and addressing climate change.
- A set-aside of direct monies or allowances shall be made available for distribution to Indian tribes. In accordance with a negotiated rulemaking process, a federal-tribal advisory committee shall design and manage a program for the implementation of mitigation and adaptation strategies to address climate change, which shall include criteria as to how tribes would qualify for a monetary or allowance distribution. Tribes shall have their choice of direct monies or allowances, and considerable discretion in how to use such monies or allowances. This set-aside is justified by the disproportionate impact of climate change on tribes, the difficult economic situation of many tribes, the fact that their survival as peoples depends on safeguarding their resources on and off tribal lands, and the federal trust responsibility to tribes.



“Not every tribe is a gaming tribe, but every tribe is an energy tribe... Indian people have always given. We have an opportunity to give once again to America and her energy security.”

Roger Fragua, a Denver-based consultant who works with the Council of Energy Resource Tribes.

- Indian tribes shall have direct, open access to the necessary resources to actively engage in renewable energy development, enact and implement energy efficiency building codes, and provide green job transition assistance for tribal members.
- The federal tax code shall allow Indian tribes to take advantage of opportunities available to other entities.
- Indian tribes shall have direct open access to the necessary resources to improve their transportation, health, housing, water, and other infrastructures.
- Alaska Native Villages shall have direct, open access to funding and technical assistance to relocate those communities threatened by climate change, with their free prior and informed consent.
- Indian tribes shall have direct, open access to the resources provided for under any offsets program.



For More Information

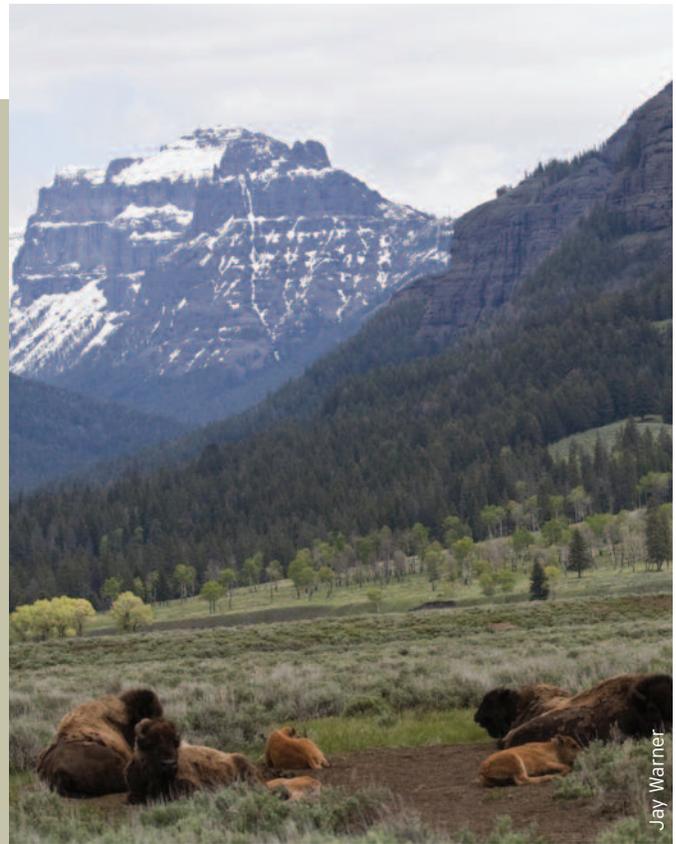
GENERAL RESOURCES:

www.eere.energy.gov/Tribalenergy
teeic.anl.gov/index.cfm
www.honorearth.org
www.intertribalcoup.org/
www.nativeworkplace.com/
<http://www1.eere.energy.gov/Tribalenergy/guide/>
<http://www.dsireusa.org/>
www.nrel.gov

State incentives for renewable energy projects:
www.dsireusa.org

Renewable technology information and resource maps:
www.nrel.gov

Carbon Offsets:
www.nativeenergy.com



Endnotes

¹ 1990 U.S. Census

² 2004 National Renewable Energy Laboratory Analysis

³ Department of Energy, Energy Information Administration- Energy Consumption and Renewable Energy Development Potential on Indian Lands, April 2000

⁴ 2004 National Renewable Energy Laboratory Analysis

⁵ 1990 U.S. Census

⁶ U.S. Department of Energy. *Small Wind Electrical Systems: A U.S. Consumer's Guide* DOE/GO-102005-2095. March 2005

⁷ U.S. Department of the Interior. *Wind Atlas for Indian Reservations*, Office of Indian Energy and Economic Development, 2009

⁸ Based on a 2004 NREL analysis

⁹ 2004 National Renewable Energy Laboratory Analysis

¹⁰ Lund, John W. "Kah-Nee-Ta Swimming Pool, Warm Springs, Oregon." *GHC Bulletin* 25.1 (2004)

¹¹ http://www1.eere.energy.gov/tribalenergy/guide/geothermal_resources.html

¹² <http://www.cleanairchoice.org/energy/ShakopeeTribesBiomassPowerProject.pdf>

¹³ <http://www.shakopeedakota.org/>

¹⁴ Carolyn Stewart, Red Mountain Tribal Energy and Thelma Antonio, Pueblo of Laguna Utility Authority, "Sustainable Building, Energy Efficiency and Weatherization," a presentation at the National Wildlife Federation "Tribal Energy Solutions to Climate Change" Conference, Albuquerque, NM, March 2008.

¹⁵ Ibid.

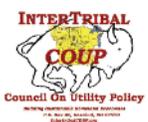
¹⁶ Jeffrey Holt, Sault Sainte Marie Tribe, "Government Building Energy Audits," a presentation at the Department of Energy Tribal Energy Program Review, Denver, CO, November 2009.

¹⁷ <http://www.aleutian-housing.com/servlet/content/weatherization.html>

¹⁸ Tribal trust lands only represent 55 million acres of the total 95 million acres of tribal lands.



INSPIRING AMERICANS TO PROTECT WILDLIFE FOR OUR CHILDREN'S FUTURE.



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