

**STATEMENT
OF
DR. ROBERT W. MIDDLETON
DIRECTOR, OFFICE OF INDIAN ENERGY AND ECONOMIC DEVELOPMENT
OFFICE OF THE ASSISTANT SECRETARY-INDIAN AFFAIRS
DEPARTMENT OF THE INTERIOR
BEFORE THE SENATE SELECT COMMITTEE ON INDIAN AFFAIRS**

May 1, 2008

Good morning, Mr. Chairman and Members of the Committee. My name is Bob Middleton, and I am Director of the Office of Indian Energy and Economic Development (IEED) at the Department of the Interior. Thank you for the opportunity to present testimony today concerning the potential economic development opportunities available for American Indian and Alaska Native communities through energy resource development.

The Department believes that responsible development of tribal energy resources is critical to the economic viability of many American Indian tribes, and to the sustainability of many Alaska Native villages. Energy and mineral development represents a near-term solution for many tribes to promote economic development, small business, and job creation for their tribal members.

OVERVIEW

The U.S. Department of the Interior holds in trust, and assists tribes and Indian individuals in managing, approximately 56 million acres of land throughout Indian Country. In consultation with tribes, the Department has assisted tribes and allottees in the exploration and development of 2.1 million acres of active and 15 million acres of potential energy and mineral resources. This activity includes collection of exploratory data and identification of energy resources, funding of and assisting in feasibility studies, market analyses and other resource development initiatives, as well as overseeing leases and agreements for oil, natural gas, coal and industrial mineral deposits located on Indian lands.

The Department is responsible for developing, implementing and reviewing bureau-wide policies, plans, processes, environmental impact studies, industry leasing and development activities, and other functions related to development and production of energy and mineral resources on Indian lands. We provide advice and data concerning geotechnical, economic, and land-use issues to Tribes and Indian landowners who are seeking to manage and develop their energy and mineral resources. We also provide assistance in negotiating beneficial working agreements with developers, and guidance through the often complex and time-consuming regulatory approval process.

Also, the Department was given the responsibility for promulgating and implementing the regulations for Tribal Energy Resource Agreements (TERA), as authorized under Title V of the Energy Policy Act of 2005. These regulations were published in final form on March 10, 2008

and became effective on April 9, 2008. Use of these TERAs could provide significant flexibility for tribes that choose to develop their energy resources for economic purposes.

IMPLEMENTATION OF TITLE V

Since the passage of the Energy Policy Act of 2005, and the included Title V, titled the Indian Tribal Energy Development and Self-Determination Act of 2005, IEED has been working diligently to promulgate regulations to implement its provisions. We worked closely with tribes and tribal representatives to assure all of the provisions could be developed into a process that would be workable and effective for all parties. As I mentioned these regulations became final less than 1 month ago on April 9, 2008.

While it is too early to see what total effect these regulations will have in Indian country, we believe that a TERA will be a significant tool for tribes that would like to have more control over energy development decisions on tribal trust land. Several tribes have expressed interest in pursuing a TERA with the Department and on April 29, 2008, we held a national meeting in Denver with tribes that were interested in learning more about the final regulations and TERA development procedures. We provided tribes and the public with an overview of the TERA regulations that explained the processes and requirements for applying for and obtaining approval for a TERA and subsequent requirements for future monitoring and review of a tribe's activities under a TERA.

There are several tribes that are already major players in domestic energy markets, and we assume would take advantage of the additional flexibility of a TERA. In addition, there are many tribes that have less expertise in the energy development area but have significant energy resources and have indicated a desire to manage energy development projects on their tribal trust lands.

A TERA provides an alternative to those tribes that seek to use their energy resources to build their tribal economies and at the same time enhance their self-governing capability to control the pace and extent of development.

A TERA is an agreement between an Indian tribe and the Secretary of the Interior. Some of the concepts important to tribes included in Title V are:

- It is a transfer of authority, giving a tribe discretion to evaluate and manage energy-related business agreements or leases, or grant rights-of-way for pipelines, electric transmission and distribution lines without the Secretary's further review and approval.
- It only governs leases, business agreements, and rights-of-way related to energy resource development on tribal trust land.
- It provides enhanced self-determination and economic development opportunities for tribes by promoting tribal oversight and management of energy resource development on tribal land and providing Indian tribes an alternative to the Indian Mineral Development Act and the Indian Mineral Leasing Act.

- A TERA may include renewable and non-renewable energy resources.
- It may include all or part of a tribe's land that is restricted from alienation and some or all of the potential energy resources.
- Tribes may also assume related administrative and regulatory activities.
- A TERA can be amended to assume additional activities or to reduce the scope of the TERA.
- It may also include existing leases, business agreements, and rights-of-way that fall within the scope of the TERA.

While tribes have successfully used the provisions of the Indian Mineral Development Act and the Indian Mineral Leasing Act and the Department has implemented their regulatory responsibilities with a nod toward providing the maximum flexibility possible to tribes, these mechanisms and processes are not fully consistent with the self-determination and self-governance philosophy because, regardless of the level of technical, administrative or regulatory expertise of the tribe or its business partners, the Secretary is still required to evaluate and approve each energy development project negotiated between a tribe and a third party. A TERA would authorize tribes to take on this decision-making responsibility.

There are also two other provisions of Title V that IEED is implementing. First, we are soliciting proposals for capacity building grants that will allow tribes to build their internal skills needed to regulate, evaluate, and monitor their energy development activities. A Federal Register notice will be published this month announcing the availability of approximately \$1 million dollars in grants that will be available to tribes for this effort. This is only the second year of this type of funding. Last year we were able to issue \$400,000 in grants to several tribes. Over time, these technical assistance grants will allow many interested tribes to develop the capacity to maximize the benefits of entering into a TERA with the Secretary.

Second, we are developing a third-party web-based clearinghouse of environmental information that will be available to all tribes whether they have a TERA or not. The intent of this clearinghouse would be to allow easy access to environmental reviews, Environmental Impact Statements, Environmental Assessments, and other documents pertinent to energy resource development. We will also be developing individual environmental analysis modules specific to various energy project developments such as wind, oil and natural gas, coal, transmission, and electrical generation. The web portal will also provide tribes access to experts on environmental analysis, energy development, and natural resource protection who will be available to provide technical assistance to individual tribes.

As this program matures, it will be an invaluable opportunity for tribes to grow their own energy, environmental, and management experts to self-manage energy development on their tribal trust land. This will also allow tribes to capture significantly more of the value chain that results from energy development on reservations.

ENERGY PRODUCTION AND INCOME

Oil and natural gas production in Indian Country has been significant and has even greater future potential.

To date, more than 2 million acres of Indian lands have already been leased for oil and natural gas development. These lands account for about 10 percent of the oil and natural gas production from federally regulated onshore acreage. Based upon the latest data available from the Minerals Management Service, production of energy mineral resources generated \$475 million in royalty revenue paid to Indian individuals and tribes in 2007. Since 2002, annual income from energy mineral production increased by more than 113% and this trend is expected to continue for the foreseeable future.

However, the economic potential of future energy and mineral resources in Indian land has enormous possibilities. We estimate that an additional 15 million acres of undeveloped energy and mineral resources may exist on individual Indian and tribal lands, which if fully developed could result in billions of dollars in revenue for those tribes and individual Indian landowners over the period of production. Drawing from the results of various studies done over the years, we estimate that these lands contain over 5 billion barrels of oil, 37 trillion cubic feet of natural gas, and 53 billion tons of coal that are technically recoverable with current technologies.

As tribes and development companies create more sophisticated energy and mineral development agreements under the Indian Mineral Development Act, comprehensive energy and mineral information is required to understand, evaluate and negotiate these agreements. By having a more thorough understanding of the geo-technical data and economic information, tribes can confidently enter into complex agreements knowing they have a sound economic and business arrangement. In addition, if a tribe wants to take advantage of the opportunity to develop Tribal Energy Resource Agreements with the Department, we must ensure that the tribe has identified resources and land title information, and the technical and administrative capability to develop those resources.

Although historically energy production on Indian lands meant production from oil, natural gas, and coal, there is also significant potential for renewable resource development.

RENEWABLE RESOURCE DEVELOPMENT

The potential for renewable energy resource development in Indian Country is high. However, although many of these renewable energy resources are becoming more desirable to tribes, the amount of production from renewable resources has been limited by some external factors.

Many Tribal lands located contiguous with the lower 48 States are well situated to take advantage of a range of renewable energy resources. However, just because an area has a significant solar, wind, biomass, or geothermal resource does not always mean that resource development – even with tax incentives or renewable energy portfolios – is economically viable.

Other factors such as location of existing transmission lines and power generation stations, and distance to population centers affect the development prospects of these resources.

Many Indian lands evidence some form of biomass energy potential, from woody biomass from forestlands, and bio-diesel and ethanol production from agricultural and silviculture waste, to the growing and use of energy crops. We have identified 118 reservations with a high potential for biomass production. In addition, tribes in Nevada, California, Oregon, North Dakota, and South Dakota, and Pueblos in New Mexico also have potential to tap geothermal energy resources and most of the Indian lands in the Southwest and Western United States present opportunities for solar energy development. We are working with several tribes to identify available renewable energy resources.

I would like to use one of the most talked about and visible renewable energy resources – wind – as an example of how the Department is taking a proactive approach to assisting Tribes regarding these types of projects.

Indian Country encompasses some of the premier wind regimes in the U.S. Based upon recent site-specific calculations by IEED, for every 1 percent of acreage of tribal land within these wind regimes that are ultimately developed, an estimated 5.35 billion kWh per year, on average, may be generated using current technology. (Total U.S. electric generation from all sources in 2004 was 3,853 billion kWh).

We analyzed all the trust lands according to measurable factors affecting the economics that would determine a tribe's ability to build a utility scale wind farm. This screening process criteria included, but was not limited to, a wind resource of class three or higher, a land base with the potential for at least 50 MW (assuming 50 acres/MW or 2500 acres), distance to transmission lines, road access, and whether the Reservation/Trust Land is in a state with a Renewable Portfolio Standard that has not yet been met. There are currently 77 Reservations that meet these criteria.

Of the 77 Reservations, there are about 23 million acres with class three or higher wind potential. Although not all of this acreage will be developed, it does represent significant renewable energy potential in Indian Country.

Based on this analysis we intend to develop an Indian Land Wind Atlas. The purpose of the Wind Atlas is to attract potential investors and developers for commercial-scale wind development projects on Indian lands. IEED will create a map for each Reservation that features publicly available wind data, transmission lines, and a digital elevation model, along with some general information about the tribe(s) as well as contact information. The Wind Atlas will serve as a marketing tool that can be displayed at conferences. Each of the 77 Reservations will be offered the opportunity to be included in the Indian Land Wind Atlas.

In addition, IEED has already provided direct assistance to 25 tribes through funding or staff time with their wind projects. Currently seven Tribes are in the final stages of pursuing wind farm development, and a few others have been collecting data from anemometer towers and are close to approaching wind developers. The Blackfeet Reservation in Montana is currently in

negotiations with a developer to pursue a wind farm. In South Dakota, we supported the efforts of Rosebud Sioux Reservation to construct a single 750 kilowatt turbine which is currently in operation. We are also providing economic analyses and technical assistance as they pursue a 30 MW wind farm.

However, not all wind development is large-scale or intended for offsite use. IEED is providing support for construction of a 65 KW wind turbine at Pine Ridge Reservation to help provide power to the KILI radio station. I believe that more of these local, distributed generating opportunities need to be identified and supported. These are opportunities to decrease existing high-cost energy requirements while supporting the use of renewable energy.

ENERGY AND MINERAL DEVELOPMENT PROGRAM

In the last 25 years, Congress, through the Department of the Interior, has funded about \$83 million in projects to assess and help develop energy and mineral resources information on Indian Trust lands. IEED is now at the stage of working with tribes and providing them the technical assistance they need to move to the development and job-creation phase. We are further defining these resources by the use of detailed exploration, market studies, business plans, economic analysis, and lease negotiation that reflect the tribes economic, environmental and social needs. This is more proactive and useful to tribes to help them proceed with development and realization of economic benefits from their energy and mineral resources.

Today, our major objective is sustainable resource development focusing on Indian employment and income to the Indian Mineral Owner. This goes further than resource assessment which is the identification of the quantity and quality of mineral resources. Our focus on resource development (vs. resource assessment) is far more proactive and useful to tribes as they can proceed to an informed decision-making process for their resources that provides a springboard to the development and realization of the potential economic benefits.

We are providing tribes with access to state-of-the-art knowledge and geo-scientific based modern analysis of their energy and mineral resources to allow them to perform the following critical functions:

- a) strategic planning,
- b) formulation of economic and energy policies,
- c) evaluation of lands in the purview of the Federal government,
- d) development of sound environmental policies, and
- e) negotiation of sound Indian Mineral Development Act (IMDA) agreements with energy and mineral industry developers.

IEED also has accumulated a significant repository of industry-confidential exploration data (e.g., seismic data, well data). We have been actively providing technical assistance to various tribes by purchasing, reprocessing and interpreting thousands of miles of 2D seismic data as well as hundreds of square miles of 3D data. These studies have identified numerous prospects, some of which are essentially ready to drill. Some of the prospects still require additional data collection and evaluation to more accurately identify exploratory and development targets.

These evaluations yield prospects that enhance the marketability of Indian lands and results in better economic terms of an agreement.

During the boom era of the late seventies and early eighties, there was a considerable amount of acquisition of 2D seismic data acquisition on certain reservations, such as Wind River, Fort Berthold and Jicarilla. As needed, we purchase seismic data on tribal land using program funds. However because of changes in the petroleum industry over the last two decades, ownership rights to seismic data have passed to “seismic data brokers” who license data for use only. Therefore although the data is from Trust land, in most cases neither we nor the tribe have ownership of the data under this arrangement.

Based on the limited amount of seismic exploration on Indian lands discussed previously, most reservations in the western U.S. are lightly explored, especially with the newer technology 3D seismic data. However, many reservations are situated in sedimentary basins with proven oil and natural gas potential. Reservations are also currently surrounded by considerable industry activity, and therefore the probability is high that the oil and natural gas reserves that private industry is discovering just over the reservation boundary on Federal, State, or private, land will also be present on Indian lands.

ALASKA ENERGY SITUATION

Alaska Native villages have a unique energy situation. While rising energy costs certainly present problems for those of us who live in the lower 48, the consequences for Alaska Native communities, which are mostly rural, are alarming. The energy crisis impacts rural Alaska on both the individual and community level: when communities spend more on fuel, they spend less on key services. Many residents of rural Alaska often have to make difficult decisions regarding heating their homes, putting fuel in their vehicles, and feeding their families. Presented with these options, and in the face of the current upward trend of energy prices, it has been reported that many rural residents are abandoning traditional lifestyles for more urban settings thus devastating these longstanding vibrant rural communities.

Diesel fuel driven generators provide a majority of electricity in rural Alaska, especially on the Aleutian Islands where power transmission lines are non-existent. Because nearly all rural native villages generate their electricity locally using diesel generators, it is a balancing act each year for these communities. Diesel in Alaska is expensive at any time, with reported prices of around \$9 per gallon. Estimating how many gallons of diesel need to be stockpiled when it can be transported less expensively during the warmer months is an important decision. Order too much and a village has spent money it may need for other goods and services. But, order too little, and it quickly becomes very expensive to have diesel transported to the bush during the winter months, again spending money that may be needed for other things.

The Institute of Social and Economic Research (ISER) at the University of Alaska Anchorage issued a report which estimates that rural households face utility costs that are 50% higher than in 2000. Specifically, according to ISER, for a gallon of diesel fuel, prices have gone up 83 percent in rural communities from 2000 to 2006.

IEED has been approached by numerous communities for support on geothermal projects. The State of Alaska has completed preliminary surface geology mapping at many of these communities and documented the geothermal resources that are present. We have supported the communities of Unalaska and Adak on the Aleutian Islands. Both communities are currently generating their electricity using diesel fuel.

Geothermal prospecting basically involves finding an underground fracture system or swarm that can provide sufficient quantities of heat, steam and water. These three components are necessary for a successful project. To find a fracture system, and to significantly increase the success of the project, shallow seismic refraction studies are often done to locate the well and identify a drilling depth.

Unalaska has nearby thermal vents spewing steam and would be an ideal candidate for potential steam generation. This summer, the community is barging a drilling rig into the area to drill a municipal water supply well. This rig could be also be utilized to drill geothermal wells in the region. The mobilization costs for bringing in equipment are extremely high so it would be prudent to drill multiple holes while the rig is available. Unalaska currently is the home to an active fishing fleet and cannery.

Our second project area is on Adak Island, which formerly housed a large Department of Defense facility. The island's electrical generation facilities are powered by inefficient diesel powered generators to supply the electric needs of the 70 residents. There is a part-time cannery operation on the island supported by a small fishing fleet. In addition, the military left a 2.8 million gallon fuel supply tank that could potentially be used to fuel ships in the area and provide some job potential. The addition of geothermal generation would greatly reduce energy costs in the area. Numerous steam vents line the coast in the harbor near Adak. In addition, they have an extensive power line grid.

At both of these communities, IEED proposes acquiring and processing seismic data in an effort to locate the ideal site for a rig to drill an exploration borehole to help identify the optimal site for a future power generation facility.

We are also assessing potential wind projects that would enhance energy reliability for some villages. We are currently doing an assessment on the Pribilof Islands to determine the feasibility of developing a hybrid wind energy system.

SUMMARY

In closing, energy development on tribal lands is not a new industry. Certainly some tribes have a long history working cooperatively with industry to use natural resource development as a stimulus for their economies. However, with the current high demand for both traditional and renewable energy sources and technologies Native American communities contiguous with the lower 48 States are well situated to use their natural resources to enhance their local economies and meet the U.S. needs for energy. In addition, Native American communities in Alaska stand to benefit greatly from the development of alternative energy sources as a hedge against ever-rising crude oil and natural gas prices.

The Department believes that development of Indian energy and mineral resources can help foster strong Indian communities with sustainable economic development by promoting and supporting the creation of jobs, capital investment, Indian-owned businesses, and a trained workforce.