WIND POWER AND OTHER RENEWABLE ENERGY PROJECTS: THE NEW WAVE OF POWER PROJECT DEVELOPMENT ON INDIAN LANDS[1]

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Advocates of wind energy have long crowed about its economic upside and environmental benefits. The cost of generating electricity with wind is now less expensive than with natural gas. It is also safer environmentally as wind turbines, unlike other types of power generation facilities, will never be accused of causing dangerously high mercury levels in water supplies. By comparison, the environmental threat of wind turbines is virtually non-existent.

Yet for all of its economic upside and feel-good greenie appeal, wind power was merely a blip on the power generation screen for most of the modern era of electricity production. Wind projects floundered throughout most of the twentieth century as pie-in-the-sky investment forecasts were reduced to pie-in-the-face of wind power proponents.

After a few false starts in the 1970s, the development of wind power projects in this country exploded near the end of the century. Since then, soaring natural gas prices and new governmental policies towards the electricity sector have drawn investors to explore and accept renewable energy sources such as wind power. By 2005, the Chairman of the Federal Energy Regulatory Commission, which oversees wholesale electric power markets in the U.S., was declaring that, "Wind energy will be the biggest generation investment in the next few years."[4] Such enthusiastic predictions have been backed by a coast-to-coast gust of major wind power projects, with 2,500 megawatts of wind power scheduled to be built in 2005, including:[5]

- One energy company on the West Coast has planned to add approximately 400 MW of wind to its portfolio;
- In Texas, the municipal utility of San Antonio will purchase energy from a 100 MW wind farm new Sweetwater, Texas;
- One large company serving Western and Midwestern states is planning to supply electricity from 1,500 MW of wind power by 2010; and

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[4] Randall Swisher, *Wind Power Outlook 2005: Burgeoning Wind Energy Market Generates New Investment, Jobs*, OGEL, vol.3, issue 2 (June 2005), http://www.gasandoil.com/ogel (last visited Sept. 10, 2005). [hereinafter "Swisher, *Wind Power Outlook 2005*"]
[5] *Id.*

- In upstate New York, the first 198 MW of a project called the Maple Ridge wind energy project will be on-line and generating power by the end of 2005.

Perhaps there is no better place for investors interested in wind projects to look than Indian lands. For a wide range of reasons, including attractive wind resources and the federal government's efforts to fund and support the exploration and development of wind energy projects on Indian lands, Indian reservations and lands controlled by tribes have become an attractive place for wind power investment. Due to the geographic advantage of having large amounts of tribal lands in the wind-rich Great Plains and other wide open and windy locales, tribes are well positioned to take advantage of this apparently bullish attitude towards wind power generation.

This paper will explore the reasons for the current growth of wind power projects on Indian lands. It will set out the background of wind energy projects in the U.S. and the reasons for wind power's growth in recent times. It will then discuss energy projects on Indian lands and explain why it has become beneficial for tribes and private investors to look towards wind power projects. Also included is a summary explanation of the significant regulations and legal enactments related to wind power and their impact on potential investors in such projects.

I. An Overview of Energy Resources on Indian Lands

A. High availability of renewable resources on tribal lands.

The federal government recognizes the sovereignty of over 500 different tribes, most of which have "established land holdings, independent tribal governments, and a growing demand for more energy to fuel emerging and rapidly expanding economies."[6] With tribal memberships rising at an annual rate of 3%, American Indian tribes and Native Alaskan groups are the fastest growing demographic group in the country (outside of immigrant populations).[7]

The term "Indian lands" is used to denote federally recognized Indian reservations. "Indian Country", on the other hand, encompasses all land within the boundaries of any Indian reservation of any federally recognized tribe plus all "dependent Indian communities."[8] Reservations are found in 33 states and cover approximately 3 percent of the land area in the contiguous 48 states.[9] The size of Indian reservations in the U.S. ranges from a few acres to 24 that are larger than Rhode Island. They are located anywhere from remote rural areas to just

[6] Jim Williamson, *Solar Power for Native Americans*, Clean Power Journal, (1997), http://www.ceert.org/pubs/cpjournal/97/earthday/solar.html (last visited Sept. 2, 2005). [hereinafter "Williamson, *Solar Power for Native Americans*"]
[7] *Id.*
[8] 18 U.S.C. § 1151 (Supp. II 2000).
[9] Dean Suagee, *Renewable Energy in Indian Country, Options for Tribal Governments*, REPP Issue Brief No. 10 (May 1998), http://www.crest.org/repp_pubs/articles/issuebr10/index_ib10a.html (last visited Sept. 7, 2005). [hereinafter "Suagee, *Renewable Energy in Indian Country*"]

outside metropolitan areas.[10] The economies of many of these reservations are fueled by revenue from their local energy resources, and may increasingly include wind power.

Approximately 2 million acres of Indian land have some kind of energy exploration, but another 15 million acres of potential energy resources remain untapped. Indian lands hold ten percent of the nation's onshore gas reserves and a third of the coal in the West.[11]

With regard to wind power, Indian lands hold great potential for wind projects.[12] Tribes in the southwest and on the northern plains have tremendous wind power resources.[13] Opportunities are so abundant on reservations in New Mexico and North Dakota that, at one time or another, they have been referred to as "the Saudi Arabia of renewables"[14] and "the Saudi Arabia of wind energy," respectively.[15] The top ten states for wind energy potential also happen to be states containing large blocks of Indian lands. They include North Dakota, Kansas, South Dakota, Montana, Wyoming, Minnesota and Iowa.[16]

B. History of Energy Projects and Resources on Indian Lands.

The federal government has long controlled energy development on Indian lands. Energy development was managed and administered by the federal government under its trust responsibilities for tribal lands. In some cases, particular tribes were active in promoting the development of their resources. But, historically, many tribes played relatively minor roles in the exploitation and extraction of energy sources from their lands. Although some collected substantial royalties from oil and gas, and coal production, few tribes took the initiative to seek out and develop energy sources on the reservations.[17]

Indian tribes today, however, have gained a whole new perspective on energy development. Their motivation: Profits.[18] Major policy shifts by the federal government changed tribes' opinions about, and opportunities for, energy production. The deregulation of the natural gas supply and the more recent turmoil in the reconfiguring of the electricity sector were among the initial factors that have opened the door for tribes to re-think their position on developing energy resources.[19] But, as explained below, the keys to the growth and investment in renewable energy on Indian lands have been the federal government's passage of enactments supporting renewable energy development on reservations and its hands-off approach to energy

[10] Economic Development Administration of the U.S. Dept. of Commerce, American Indian Reservations and Trust Areas (Washington D.C. 1996) http://www.eda.gov/Research/AmerIndianRes.xml.
[11] Richard Simon, *Tribes Mine New Opportunities in Energy Projects*, L.A. TIMES, Oct. 16, 2003, at A14.
[12] *Id.*
[13] *See* Suagee, *Renewable Energy in Indian Country*. *See also* The Task Force for Developing Renewable Energy in Indian Country, Indian Tribes: Their Unique Role in Developing the Nation's Renewable Energy Resources: A White Paper (Salt Lake City, UT: Center for Resource Management, January 1997).
[14] Matthew Wald, *Wind Power is Becoming a Better Bargain*, N.Y. TIMES (Feb. 13, 2005), at 17. [hereinafter Wald, *Wind Power*]
[15] ROBERT RIGHTER, WIND ENERGY in AMERICA: A HISTORY 281 (Univ. of Okla. Press 1996).
[16] AWEA, *Wind Energy: An Untapped Resource*, http://www.awea.org/pubs/factsheets/top202001.pdf (last visited Sept. 15, 2005).
[17] *See* Williamson, *Solar Power for Native Americans*.
[18] *See* Suagee, *Renewable Energy in Indian Country*.
[19] *See* Williamson, *Solar Power for Native Americans*.

programs on reservations which allows the shift of important regulatory powers to tribal governments.

Perhaps the best example of the potential benefits of this shift in attitude is the impressive story of the Southern Utes in southwestern Colorado. The tribe sits on very large natural gas reserves and sought to obtain more direct control of its resources from the larger outside companies who previously developed tribal lands for energy extraction.[20] Eventually, after years of political struggles within the tribe and also with oil and gas producers, the Southern Utes gained the financing to control its own energy operation and eventually formed a conglomerate with $1.45 billion in assets.[21] The Southern Ute success story could be the model for similar results with wind power.

II. The Evolution of Wind Power: From Paddle Wheels to Wind Turbines

A. Wind energy utilization through history.

The harnessing of wind energy dates back over 5000 years.[22] Wind energy was first captured in the 20th century B.C. by windmills to pump water for crops at the order of the Babylonian Emperor Hamurabi.[23] Windmills were predominant in Persia between 200 B.C. – 600 A.D. where turbines resembling paddle wheels were built to grind grain.[24] It is believed that windmill technology was spread across Europe when marauding Crusaders returned home. "This technology was especially utilized and refined in Holland, and the Dutch brought their use of windmills with them when they immigrated to North America."[25]

Early European settlers in the U.S. used windmills to grind wheat and corn, to pump water and to cut sawmills.[26] "By the early twentieth century, small windmills were used for pumping water and electric power generation in Europe, the United States, Africa, and elsewhere." By 1970, thousands of small wind electric generators and a few larger systems had been built in North America and Europe.[27]

"Wind energy is the world's fasted growing energy technology. Today, the U.S. has more than 6,300 megawatts of wind generating capacity."[28] Investment in wind power could

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[20] Ianthe Dugan, *A Business Empire Transform Life for Colorado Tribe*, WALL ST. J., June 13, 2003, at B1.
[21] *Id.*
[22] Joseph Wilson, *The Answer, My Friends, is in the Wind Rights Contract Act: Proposed Legislation Governing Wind Rights Contracts*, 89 Iowa L. Rev. 1775, 1778 (2004).
[23] SIDNEY BOROWITZ, FAREWELL FOSSIL FUELS: REVIEWING AMERICA'S ENERGY POLICY 145 (Plenum Trade 1999).
[24] Nat. Res. Def. Council, *Wind Energy; Alternative Energy Technologies Hold the Key to Curbing Air Pollution and Global Warming*, http://www.nrdc.org/air/energy/fwind.asp (last visited Sept. 5, 2005). [hereinafter Nat. Res. Def. Council, *Wind Energy*]
[25] Avi Brisman. *Aesthetics of Wind Energy Systems*, 13 N.Y.U. ENVTL. L.J. 1, 5 (2005). [hereinafter Brisman, *Aesthetics of Wind Energy Systems*]
[26] *See* Nat. Res. Def. Council, *Wind Energy*.
[27] *Id.*
[28] EERE, *Wind and Hydropower Technologies Program*, http://www.eere.energy.gov/windandhydro/ (last visited Sept. 14, 2005).

bring up to $3 billion into the power generation sector and, by 2020 provide six percent of the nation's electricity.[29]

B. Modern wind energy turbines.

"The terms "wind energy" or "wind power" refer to the process by which wind turbines convert the kinetic energy in wind into mechanical power."[30] A wind energy facility is a facility that uses wind to produce electricity.[31]

The facilities used today are known as wind turbines. "Large, modern wind turbines operate together in wind farms to produce electricity for utilities. Small turbines are used by homeowners and remote villages to help meet energy needs."[32] According to a study by the Renewable Energy Policy Project, approximately 90 companies in 25 states currently manufacture wind turbine components and over 16,000 companies have the technical potential to enter the wind turbine market.[33]

The most prevalent wind turbine design today is the horizontal axis turbine.[34] The typical horizontal turbine resembles a windmill. A set of three feather-shaped blades sits atop a high tower.[35] "Winds cause the blades to spin and the blades turn a shaft."[36] This eventually produces electro-magnetic pulses, similar to what occurs in conventional power plant generators.[37] A generator converts the rotational movement into electricity at medium voltage. "The electricity then flows down heavy electric cables inside the tower to a transformer, which increases the voltage of the electric power to the distribution voltage (a few thousand volts). The distribution-voltage power flows through underground lines to a collection point where the power may be combined with other turbines."[38]

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[29] *See* Swisher, *Wind Power Outlook 2005*. Wind power's popularity has recently spread to areas of South America with its first wind production plant being installed in Argentina earlier this year. *See* Monte Reel, *Argentine Town Hopes to Transform Wind Into Windfall*, The WASH. POST, May 15, 2005, at A22.

[30] *See* Brisman, *Aesthetics of Wind Energy Systems*, at 45-46.

[31] Joint Committee on Taxation, *Present Law and Background Relating to Tax Credits for Electricity Production from Renewable Sources (JCX-36-05)*, May, 19, 2005, OGEL, vol.3, issue 2 (June 2005), http://www.gasandoil.com/ogel (last visited September 10, 2005). [hereinafter "Joint Committee on Taxation, *Present Law*"]

[32] U.S. Dept. of Energy, *Wind*. http://www.doe.gov/engine/content.do?BT_CODE=WIND (last visited Sept. 14, 2005).

[33] George Sterzinger and Matt Svrcek, *Wind Turbine Development: Location of Manufacturing Activity*, Tech. Rep., Sept. 2004, http://www.repp.org/articles/static/1/binaries/WindLocator.pdf (last visited September 10, 2005). *See also* Swisher, *Wind Power Outlook 2005*.

[34] Shane Thin Elk, *The Answer is Blowing in the Wind: Why North Dakota Should Do More to Promote Wind Energy Development*, 6 Great Plains Nat. Resources J. 110, 113 (2001). [hereinafter "Elk, *Answer is Blowing in the Wind*"]

[35] *Id. See also* Brisman, *Aesthetics of Wind Energy Systems*, at 45-46.

[36] *Id.*

[37] *Id. See also* Christine Real de Azua, *Emerging Issues in Energy and the Environment*, 14 TUL. ENVTL. L.J. 485, 488 (2001). [hereinafter "Azua, *Emerging Issues*"]

[38] Am. Wind Energy Ass'n, *Wind Energy Fact Sheets*, http://www.awea.org/pubs/factsheets.html (last visited Sept. 15, 2005). [hereinafter "Am. Wind Energy Ass'n, *Wind Energy Fact Sheets*"]

"The output of a wind turbine depends on the turbine's size and wind's speed through the rotor."[39] The larger the wind turbine, the more capable it is of generating large amounts of electricity, even though the blades will be spinning much more slowly than with smaller machines."[40] High towers provide more energy because they allow wind turbines to intercept stronger and less turbulent winds.[41]

"Since wind turbines produce much more power in stronger winds, wind turbine designers try to put turbines on the tallest possible towers."[42] The tower of one of the more popular turbine types today, the General Electric 1.5 MW, stands taller than the Statue of Liberty at over 325-feet, with blades stretching 112-feet each and a rotor diameter (blade sweep) of 231 feet.[43] The entire turbine weighs over 163 tons and produces 1,500 kilowatts.[44]

The newest towers currently being installed range in height from 330-feet to over 400-feet.[45] These large turbines can cost over $1.5 million and "feature complex electronic controls, which monitor wind speed and direction, as well as relaying information about turbine performance to computer monitors. The monitors may be located as far away as Denmark."[46]

For remote sites, however, small wind turbine systems are often the most inexpensive source of power. The turbines for these small systems are very simple and can operate unattended for long periods in the most severe locations.[47]

Unlike the mammoth large turbines, these smaller turbines may have a 50-foot rotor mounted on a 120-foot tall tower. Costs may range from a few thousand dollars for very small units, to up to $80,000.[48]

Currently, there are four major types of wind power applications:[49]

- Remote Power – Commonly used in rural areas for telecommunications and water pumping. Remote power systems using small turbines have been installed in over 70 countries worldwide.

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[39] *See* Azua, *Emerging Issues*, at 488.
[40] *Id.*
[41] Nat'l Wind Coordinating Comm., *Permitting of Wind Energy Facilities A Handbook* at 5 (Rev. Aug. 2002), http://www.nationalwind.org/publications/permit/permitting2002.pdf (last visited Sept. 19, 2005).
[42] Nat'l Wind Coordinating Comm., *Wind Energy Series: Wind Energy Resources*, no. 4 (Jan. 1997) http://www.nationalwind.org/publications/wes/wes04.htm (last visited Sept. 14, 2005). [hereinafter "Nat'l Wind Coordinating Comm., *Wind Energy Series*"]
[43] GE Energy, *1.5 MW Series Wind Turbine*, http://www.gepower.com/prod_serv/products/wind_turbines/en/15mw/index.htm (last visited Oct. 11, 2005). There are currently over 2,800 of these models active today worldwide.
[44] *Id.*
[45] Glebe Mountain Group, http://www.glebemountaingroup.org/ (last visited Sept. 1, 2005); *See also Wind Power Firm Files Plans for Mars Hill Peak*, CAPE COD TIMES, Jan. 27, 2004, http://www.capecodonline.com/special/windfarm/mewind27.htm.
[46] *See* Azua, *Emerging Issues*, at 489.
[47] *See* Nat'l Wind Coordinating Comm., *Wind Energy Series*.
[48] *See* Am. Wind Energy Ass'n, *Wind Energy Fact Sheets*.
[49] *See* Nat. Res. Def. Council, *Wind Energy*.

- Grid Connected – Mostly used for producing electric power on-site at homes, farms and businesses already served by a utility grid. Most effective in areas where winds are seasonal.

- Utilities – Generally this takes the form of wind turbines installed in wind power plants known as "wind farms."

- Hybrid Systems – By incorporating additional generating systems such as diesel generators, these wind power systems provide improved reliability of power supply.

Larger offshore wind turbines, which can have a capacity of 3-5 MW, are now found in Europe, and are imminent in U.S. waters. There currently exists a proposal by a developer to build the first offshore wind facility in the U.S. in Nantucket Sound. The proposal has been a source of controversy, in part because there are no statutes specifically governing offshore wind farms.[50]

For onshore wind projects, however, state and local law play a large role in determining the location and size of wind power plants. This is true for both small-scale and utility-scale wind sites.[51]

III. Wind Energy Projects Sparked by Federal and State Incentives and Soaring Gas Prices

A. Energy Policy Act of 1992: Production tax credits encourage commitment to renewable energy.

Entering the latter part of the 20th Century, interest in wind power was lagging, in part due to fundamental economic disadvantages, and also due to government policies that favored the construction of utility lines and fossil plants.[52] For instance, from 1943 through the early 1990's, wind technology has received less than one percent of all federal subsidies aimed at nuclear, solar and wind electricity production.[53]

This changed dramatically, however, with the passage of the Energy Policy Act of 1992. Labeled "the most significant U.S. policy driving wind power production,"[54] the Act triggered an outbreak of renewable electrical power projects nationwide and had a tremendous impact on

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[50] Guy Martin & Jena MacLean, *The World's Largest Wind Energy Facility in Nantucket Sound? Deficiencies in the Current Regulatory Process for Offshore Wind Energy Development*, OGEL, vol.3, issue 2 (June 2005), http://www.gasandoil.com/ogel (last visited Sept. 10, 2005). *See also* University of Delaware Graduate College of Marine Studies, *Offshore Wind Power*, http://www.ocean.udel.edu/windpower/ (last visited Oct. 11, 2005).

[51] E.E. Smith, *US Legislative Incentives for Wind-Generated Electricity: State and Local Statutes*, OGEL, vol.3, issue 2 (June 2005), http://www.gasandoil.com/ogel (last visited Sept. 10, 2005).

[52] There was one brief spurt in the 1970s when California passed legislation favorable to wind power generation, but this was short-lived.

[53] Marshall Goldberg, *Federal Energy Subsidies: Not All technologies are Created Equal*, http://solstice.crest.org/repp_pubs/pdf/subsidies.pdf (last visited Sept. 7, 2005). *See also* Brisman, *Aesthetics of Wind Energy Systems*, at 61.

[54] Ari Reeves & Fredric Beck, *Wind Energy for Electric Power*, REPP Issue Brief 8 (July 2003), http://www.repp.org/articles/static/1/binaries/wind%20issue%20brief_Final.pdf (last visited Sept. 7, 2005).

wind power development on Indian lands.[55] But for the Act, one author explained, wind energy in this country "would still be a loser."[56]

Wind power development in general was boosted by Title 19 of the Act which provides the private sector with a production tax credit for the production of electricity derived from renewable sources such as wind and solar. The credit is based on electricity kilowatt hours produced during the first 10 years of a plant's operation.[57] The base amount of the credit is 1.5 cents per kilowatt-hour of electricity produced. The amount of the credit is 1.9 cents per kilowatt-hour for 2005.[58] "For a taxpayer with a positive tax liability, the electricity production credit is equivalent to a subsidy that pays the taxpayer for each kilowatt-hour of electricity produced in addition to the price at which the producer sells the electricity."[59] The credit is available for wind energy facilities in service during a set time-frame.[60]

Investors today continue to cite the production tax credit as the driving force behind their decision to invest in wind power.[61] A number of new projects have been announced in the last few years. For instance, in September 2005, two of the largest wind energy developers, FPL Energy and PPM Energy, placed large orders for turbines to be installed in various projects under development.[62]

Similarly, Title 12 of the Act provides a production incentive through a payment from the DOE to eligible public generators from wind and solar energy sources.[63] Some of the more notable projects to emerge in Indian country from the Act include:

- The Blackfeet tribe installed a wind turbine at its community college near Browning, Montana.[64]

- The Spirit Lake Sioux tribe of North Dakota installed a wind turbine to supply electricity to the tribal casino. They are seeking to create a tribal utility powered by renewable energy.[65]

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[55] Energy Policy Act, 25 U.S.C. §§ 2601 – 2606 (1992). [hereinafter "Energy Policy Act"] *See also* Williamson, *Solar Power for Native Americans*.

[56] David Armstrong, *Blow Hard: Wind-Generated Power is Back. Will It Make Money This Time Around?*, FORBES, Jan. 8, 2001, at 217. [hereinafter "Armstrong, *Blow Hard*"]

[57] *See* Brisman, *Aesthetics of Wind Energy Systems*, at 55-60. *See also* John Herrick, *Federal Project Financing Incentives for Green Industries: Renewable Energy and Beyond*, 43 Nat. Resources J. 77, 101-02 (2003) [hereinafter "Herrick, *Federal Project Financing*"].

[58] *See* Joint Committee on Taxation, *Present Law*.

[59] *Id.* at 8.

[60] *Id.*

[61] Investment on tribal lands could be expected to increase even more if federal law more clearly provided for those projects to be eligible for the production tax credit.

[62] Siemens Press Release, Siemens receives order from FPL Energy for up to 600 megawatts of wind turbines, (Sept. 14, 2005) http://www.siemens.com. GE received orders for 300 megawatts of its turbines. Turbine manufacturer Vestas also reported receiving large orders. *See also* Randers, *Vestas receives large order for V80-1.8 MW wind turbines for 2006 delivery in the USA* http://www.vestas.com/uk/news/press/newsDetails_UK.asp?ID=211 (last visited Oct. 10, 2005).

[63] *See* 10 C.F.R. §§ 451.2, 451.4 (2005). *See also* Herrick, *Federal Project Financing* at 101-02..

[64] *See* Williamson, *Solar Power for Native Americans*.

- Solar system manufacturing projects and local financing for solar business startups began being explored on Navajo sites in the Southwest.[66]

The wind-friendly attributes of the 1992 Act were carried over into the Energy Policy Act of 2005. The 2005 Act places an emphasis on renewable energy, with several sections dedicated to enhancement and promotion of such resources.[67] With regards to the production tax credit, the placed in service deadline was extended through December 31, 2007.[68] New transmission and reliability provisions should remove some of the obstacles that previously stymied wind project developments.[69] The non-discrimination portion of the reliability provision is intended to ensure that a wind plant's production reliability will be judged fairly by an independent organization with no ties to commercial energy interests.[70] The Act also encourages the federal government to purchase an increasing portion of its power needs from renewable sources such as wind power, with goals ranging from three percent in 2007 to 7.5 percent in 2013.[71]

B. Grants awarded by the 1992 Act motivate tribes to establish their own companies and pursue outside investors.

With regards to Indian lands, Title 16 of the 1992 Act encourages tribes to establish their own electric utilities by authorizing the DOE to provide grants and loans to tribes to develop energy resources, including solar and wind energy.[72] The government's intent was clearly to get tribes and outside investors to pursue alternative energy options such as wind and solar:

> **Sec. 2606. [Tribal Government Energy Assistance Program.]- (a) [Financial assistance.]** – The Secretary may grant financial assistance to Indian tribal governments, or private sector persons working in cooperation with Indian tribal governments, to carry out projects to evaluate the feasibility of, develop options for, and encourage the adoption of energy efficiency and renewable energy projects on Indian reservations.[73]

Pursuant to the Act, several wind projects have received financial assistance from the DOE.[74] Among the first wind projects to result from the Act were utility scale wind turbines on

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[65] *Id.*
[66] *Id.*
[67] *See* Energy Policy Act of 2005, at §§ 201-245, 1301-1303.
[68] *Id.* at § 1301.
[69] *Id.* at §§ 1211, 1221.
[70] American Wind Energy Ass'n, Press Release, Trade Group: Energy Policy Act Signed by President Improves Market Access for Wind Power (Aug. 9, 2005), http://www.awea.org/news/energy_policy_act__signed_by_pres.080905.html (last visited Oct. 10, 2005).
[71] Energy Policy Act of 2005, at § 203.
[72] *See* Suagee, *Renewable Energy in Indian Country*. *See also* Energy Policy Act, at §§ 2603, 2606. The Act speaks to "vertical integration projects" which it defines as follows: "Projects involving solar and wind energy, oil refineries, the generation and transmission of electricity, hydroelectricity, cogeneration, natural gas distribution, and clean, innovative uses of coal." Id. at § 2603(2).
[73] *See* Energy Policy Act, at § 2606.
[74] Stephen Sargent & Ernest Chabot, *American Indian Reservations: A Showplace for Renewable Energy*, presented at the 1996 Annual Conference of the American Solar Energy Society, Asheville, NC, April 13 – 18, 1996,

the Blackfeet Reservation in Northwestern Montana and Spirit Lake and Turtle Mountain Reservations in North Dakota in 1994 and 1995. Also, wind resource assessments were undertaken by the Fort Peck Assiniboine and Sioux Tribes in Northeastern Montana and the Manzanita Band of Mission Indians in Southern California.[75] More recently, the Northern Cheyenne Tribe and the Makah Nation in Washington are each exploring wind farms.

The federal government continues to entice tribes to go renewable by awarding millions towards research into wind energy technology. When the research produces promising results, the tribes may then begin exploring business opportunities for the most promising ventures.[76]

Last June, the DOE awarded $2.5 million to several Native American tribes for projects including: [77]

- the evaluation of wind power development in the Aleutian Islands of Alaska, which is one of the windiest places in the world,
- the installation of wind power plants on tribal lands of the Hualapai and Hopi in Arizona to power its 9,000-acre tourism operation,
- research by the Aroostook Band of Micmacs in Maine into wind power,
- the Grand Traverse Band in Michigan has undertaken a feasibility study into diversification of energy sources to be used at the tribe's facilities. This DOE grant was awarded through the Department of Energy's Tribal Energy Program.[78]

This was not the first time the DOE had offered such enticements. In April 2003, it awarded $1.3 million to eight tribes toward the development of renewable energy projects, including wind power.[79] Then, in August 2003, the DOE awarded tribes $2.9 million for energy projects, including a 660-kilowatt wind turbine on the Fort Peck Reservation in Montana and 30-megawatt wind energy projects for the Rosebud Sioux Tribe in South Dakota, the Cheyenne Tribe in Montana and the Makah Indian Nation in Washington.[80]

In July 2004, the United States Department of Agriculture (USDA) awarded several million dollars in grants for six projects, including one in the Navajo Nation in New Mexico for

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www.eere.energy.gov/tribalenergy/report_reservations.html (last visited Sept. 5, 2005). [hereinafter "Sargent & Chabot"]

[75] *See* Sargent & Chabot.

[76] *See* Williamson, *Solar Power for Native Americans*.

[77] *Id. See also* Energy.Gov, *Energy Department Makes $2.5 million Available to Native American Tribes to Develop Renewable Energy Resources*, (June 14, 2005) http://www.energy.gov (last visited Sept. 20, 2005).

[78] U.S. Dept. of Energy, Energy Efficiency and Renewable Energy, *DOE to Award $2.5 Million to 18 Tribes for Efficiency, Renewable Energy*, (June 14, 2005) http://www.eere.energy.gov/windandhydro/news (last visited Sept. 20, 2005).

[79] U.S. Dept. of Energy, Energy Efficiency and Renewable Energy, *DOE Funds Eight Native American Tribes to Develop Renewable Energy*, (April 24, 2003) http://www.eere.energy.gov/windandhydro/news (last visited Sept. 20, 2005).

[80] U.S. Department of Energy, Energy Efficiency and Renewable Energy, *DOE to Award $2.9 Million to 16 Clean Energy Projects*, (August 8, 2003) http://www.eere.energy.gov/news (last visited Sept. 20, 2005).

hybrid solar and wind power systems, and one on the Hualapai Reservation in Arizona.[81] In 2003 alone, the USDA granted over $15 million towards the development of energy projects, most of which were wind systems.[82] Tribes have also taken advantage of other federal and state grants to develop wind projects for reservation schools.[83]

C. States support wind projects with an assortment of incentives.

Just as the federal government's support for wind power continues to grow, states are also becoming more and more committed to renewable energy. In fact, every state (plus the District of Columbia) has some provision relating to promoting or mandating the use of electricity generated from wind and solar power.[84]

In support of their promotion of renewable energy such as wind power, states have set lofty goals – expressed in programs sometimes called "renewable portfolio standards" -- for future energy consumption:

- New Mexico has established a goal of using 10% renewable energy by 2011.[85]
- Earlier this year the Governor of Illinois ordered that 8% of the state's power come from renewable energy by 2012.[86]
- The state government of Connecticut plans to purchase 20% of its electricity from renewable sources such as wind power by 2010 and all of its electricity from those sources by 2050.[87]

Depending on the state, incentives can take the form of loan programs or rebates. Also, like their federal cohorts, states offer tax incentives.[88] State incentives for wind power take the form of:

- credits against state income tax liability (based on the cost of installing the renewable energy system),

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[81] U.S. Department of Energy, Energy Efficiency and Renewable Energy, *USDA Award Grants for Wind and Solar Energy*, (July 7, 2004) http://www.eere.energy.gov/news/news_detail.cfm/news_id=7092 (last visited Sept. 20, 2005).
[82] USDA/Rural Development, *2003 High Energy Cost Grants*, http://www.rurdev.usda.gov/rd/newsroom/2003/highenergy.html (last visited Sept. 5, 2005).
[83] A Guide to Tribal Energy Development, *Wind Opportunities for Tribal Schools*, (Mar. 11, 2005) http://www.eere.energy.gov/tribalenergy/guide/wind_opportunities.html (last visited Sept. 10, 2005).
[84] Database of State Incentives for Renewable Energy http://www.dsireusa.org (last visited Sept. 12, 2005). Many states requires their utilities to purchase a certain amount of power from renewable energy and at least 18 have some form of renewable power requirement. *See* Armstrong, *Blow Hard*; *See* Wald, *Wind Power*. See, e.g., California's program, described at http://www.mayerbrownrowe.com/Energy/publications/article.asp?id=207&nid=531
[85] Swisher, *Wind Power Outlook 2005*..
[86] *Id.*
[87] *Id.*
[88] E.E. Smith, *U.S. Legislative Incentives for Wind-Generated Electricity: State and Local Statutes*, OGEL, vol.3, issue 2 (June 2005), http://www.gasandoil.com/ogel (last visited Sept. 10, 2005).

- tax deductions, which allow taxpayers to deduct a portion of the energy source's cost from their gross income, and

- sales tax exemptions for wind energy machinery and equipment.[89]

Also, developing legal infrastructure in many states has made the entrance into wind power development easier. Wind power may seem like a foreign concept at first glance, but many of the legal structures and relationships have become relatively standardized and now resemble more conventional energy or project finance contracts and transactions. As explained by one author, wind plants have become so common that the documentation is similar to that used in oil and gas:

> [A]lthough the nature of the rights granted to wind plants differs from state to state, in some states there are relatively standard legal instruments and drafting guidelines that the parties and their attorneys can use to define their rights. In Texas, for example, which ranks second only to California in wind-generating capacity, instruments modeled in part on traditional oil and gas leases are widely used by both private landowners and state agencies in leasing land for wind use and have been the subject of several continuing legal education courses and institutes.[90]

Such government assistance has caused tribes and outside investors to aggressively seek each other out to form partnerships for wind projects. One of the more publicized partnerships was announced in December 2004, when the Confederated Tribes of the Umatilla Indian Reservation ("CTUIR") teamed with Columbia Energy Partners, an independent developer of wind power projects in the Pacific Northwest, to build a $130 million 104-megawatt wind power project in northeastern Oregon.[91] The CTUIR will participate in a development loan with the Oregon Department of Energy in exchange for an ownership stake in the project.[92]

D. High gas prices fuels interest in wind power

The recent astronomical increase in natural gas prices (with prices presently hovering at $12-$13/MMBtu) has made wind energy an attractive alternative. As explained by the operator of a major wind energy center in New Mexico: "Gas prices helped get – pardon the pun – the wind at our backs."[93]

Weary of the escalating gas prices and chastened by the overbuilding of gas-fired generating capacity in some areas, utilities may be more reluctant to construct new gas-fired plants. This is understandable considering that the fuel needed to produce a kilowatt-hour at a

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[89] *See id.*
[90] *Id.*
[91] News Release, Confederated Tribes of the Umatilla Indian Reservation, *Tribe and Columbia Energy Partners go forward on wind power project*, (Dec. 2, 2004), http://www.umatilla.nsn.us/news120204B.html (last visited Sept. 10, 2005).
[92] *Id.*
[93] *See* Wald, *Wind Power*.

gas plant costs a minimum of 4 cents while wind energy projects can sell wind energy for as little as 3 cents a kilowatt-hour.[94]

IV. Advantages for Outside Investors in Wind Projects on Indian Lands: Tribal Sovereignty Eases Development of Power Projects on Indian Lands.

A. Tribal councils allowed to make their own rules to promote power projects on their lands.

Among the various elements that make wind power projects attractive to outside investors, perhaps the most appealing is the fact that, for the most part, tribes constitute sovereign governments within the federal system.[95] As explained by one author, "while Congress is said to have 'plenary power' over Indian affairs, tribal governments hold inherent sovereignty and also exercise power pursuant to delegations of authority from Congress. Within reservation boundaries, states generally have only limited powers over Indian lands and Indian persons."[96]

In other words, tribal councils make the rules, which benefits all parties when it comes to developing wind projects and avoiding the complexity and delay often attendant to the bureaucracy of federal guidelines and procedure. This power has come about due to the federal government's relatively recent policy towards Indian tribes of tribal self-determination, allowing tribal governments to take control of programs previously run solely by the federal government.[97]

To be sure, laws governing non-Indians doing business in Indian country are confusing, complex and difficult to understand and apply. But the increasing trend – reinforced in the Energy Policy Act of 2005 -- is toward tribes taking more and more control over their own affairs.

"Building on this, many tribes are becoming increasingly proficient in administering a range of governmental services and in using their inherent sovereignty to fashion programs that serve tribal needs when federal programs fall short. Thus, in this era of tribal self-determination, tribes can use their governmental powers in many ways to promote the use of renewable energy in Indian Country."[98]

B. Courts lean toward tribal council independence in regulatory matters.

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[94] *See id.*
[95] *See* Suagee, *Renewable Energy in Indian Country*. *See also* Williamson, *Solar Power for Native Americans*.
[96] *Id.*
[97] *Id.*
[98] *Id.* "Tribal governments can thus do many of the same kinds of things as state governments to promote renewable energy, such as using government buildings and programs to showcase systems, enacting legislation, and creating regulatory programs to influence and in some ways control private decisions about energy consumption." *Id.* It is important to note, however, that many tribal governments have failed to take advantage of this independence due to various constraints which include limited finances and competing demands for available funds and limited infrastructure for community education in Indian Country. *Id.*

A telling example of the growing independence of tribes with respect to energy development on Indian lands is the federal courts' reluctance to restrict tribal authority in regulatory matters for utility-related concerns on Indian land. Modern case law suggests that where a project involved is a utility built on tribal lands for tribal members and run by a tribal organization, the scale will likely tip in favor of preserving tribal sovereignty and not subjecting such project to federal regulations.[99] In some instances, tribes have even gained complete regulatory control over important environmental matters for power plants on their lands, such as air emissions.[100]

Tribes have not shied away from seeking total regulatory control for utilities on their reservations.[101] Recently, federal courts have upheld assertions of tribal authority over regulatory matters on Indian lands concerning the Clean Water Act.

In 1998, the Ninth Circuit ruled that an Indian tribe with tribe status under the Clean Water Act has regulatory authority over all lands and parties located within an Indian reservation.[102] Likewise, the Tenth Circuit upheld tribal authority to set water quality standards as "in accord with power inherent in Indian tribal sovereignty."[103] Armed with the power created by this independence, "only the availability of the resource and the creativity of the individuals involved limit the options available to tribal governments."[104]

C. Uncertainty in Indian country regulation presents future opportunities for outside investors?

Uncertainty abounds in the arena of Indian country regulatory matters, and this may be a sign that the federal government's hands-off approach will continue to expand. So uncertain is the regulatory law surrounding Indian country that there is still no true definition of the term.

Congress has not adequately identified the scope of tribal regulatory authority over lands outside reservation boundaries.[105] Federal courts have relied upon 18 U.S.C. § 1151 which defines "Indian country" to determine the scope of tribal or federal regulatory authority in civil

[99] *Brendale v. Confederate Tribes & Bands of the Yakima Indian Nation*, 492 U.S. 408 (1989); *In the Matter of the Application of Otter Tail Power Co.*, 451 N.W.2d 95, 100 (1990); *Federal Power Comm'n v. Tuscarora Indian Nation*, 362 U.S. 99 (1960); *Oliphant v. Suquamish Indian Tribe*, 435 U.S. 191 (1978); *Martin v. Kirkwood*, Federal and State Regulation of Tribal Utilities, 7 Nat. Resources & Env't (ABA) 27 (Spring 1993).

[100] *Policy Debate: Power Plants on Navajo Land*, Indian Country Today (June 8, 2005). [hereinafter *Policy Debate*] (Operators of power plants on Navajo lands in New Mexico and Arizona have agreed to recognize the sovereignty of the Navajo Nation and its right to control air emissions.)

[101] *See Devils Lake Sioux Indian Tribe v. North Dakota Public Service Comm'n*, 896 F. Supp. 955 (D.N.D. 1995); *In re Otter Power Co*., 116 F.3d 1207 (8th Cir. 1997).

[102] *See State of Montana v. U.S. EPA*, 137 F.3d 1136 (9th Cir. 1998).

[103] *City of Albuquerque v. Browner*, 97 F.3d 415, 423 (10th Cir. 1996).

[104] Suagee, *Renewable Energy in Indian Country*.

[105] Tim DeYoung & William Scott, *Environmental Protection in Indian Country*, NR&E (Summer 2000) (copy on file at Mayer, Brown, Rowe & Maw LLP) [hereinafter "De Young & Scott"].

matters.[106] The Code's definition includes all "dependent Indian communities" within the borders of the U.S. But the contours of "dependent Indian communities" is ever expanding.[107]

Most recently, the U.S. Supreme Court narrowed it to "a limited category of Indian lands that are neither reservations nor allotments that are both set aside by the federal government for use by Indians as Indian land and under federal superintendence."[108] While this somewhat limits "dependent Indian communities," there remains much consternation and confusion as to whether such lands should be subject to state, federal or tribal jurisdiction for regulatory purposes, including the regulation of energy-related activities and facilities.[109]

Uncertainties like these will deter certain non-Indian investors, but others will be willing to use the lack of clear jurisdiction of certain agencies, or the questions about the applicability of certain regulatory schemes, to press forward with meritorious projects.

V. The Perks of Investing in Wind Power on Indian Lands

A. Comparatively speaking, the government's hands-off policy makes the wind project approval process relatively easy.

The government's hands off policy and the federal system's unsettled handling of Indian country affairs has sent a message to outside investors that, in some cases, they can minimize the nuisance of government intervention by investing in projects on Indian lands. This is especially true when it comes to the always crucial element of project approval. Thanks to the growing independence of tribal councils, investors and developers can sometimes get projects approved without being subjected to local and state laws and procedures.

The typical approval process for power plants on non-Indian soil is a tedious exercise of numerous and exhaustive reviews and approvals by regional, state, local or county agencies and boards.[110] Also, state officials may be more likely to shoot down proposed projects in the face of opposition by environmentally concerned voters. Federal and state environmental protection laws and agencies will also have a substantial role in the approval process.[111]

By comparison, the approval process on Indian lands is a breeze. On Indian lands, the role normally played by various local and state officials and agencies is often filled by a tribal council. "Once a tribe approves a plant, the federal Bureau of Indian Affairs conducts an environmental review and decides whether to approve the lease to an energy company. Bureau officials say they seldom veto a project approved by a sovereign tribe."[112]

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[106] *Id.*
[107] *Id.*
[108] *Alaska v. Native Village of Venetie Tribal Government*, 522 U.S. 527 (1998).
[109] *See* De Young & Scott.
[110] David Greene, *Power plants sprout on Indian reservations, Tax breaks abound; approval is routine*, The BALTIMORE SUN (Mar. 3, 2002). [hereinafter "Greene, *Power Plants*"].
[111] *Id.*
[112] *Id.* (One official with the Bureau of Indian Affairs conceded that the federal government makes a rule of deferring to the decision of the tribal councils).

As explained by Craig Goodman, former president of the National Energy Marketers Association, lack of stringent governmental policies equates to lack of headaches in the approval process: "Plant developers do not have to go through a thousand yards of red tape. It's literally one-stop shopping. You're really lowering your political risk by only having a single tribal council to deal with."[113] Also, the approval of the tribal council is usually accompanied by the approval of the community.[114]

B. The advantage of small power projects: Less government intervention.

Because of the potential environmental impact that a large power project may have on Indian lands, the government is more likely to assert jurisdiction over most aspects of its development and regulation. As explained by a member of the California Energy Commission: "[w]hen there are proposals to do things on tribal lands that would have serious environmental effects off the tribal land, a state has a legitimate reason to protect its citizens and its environment."[115] Less intrusive small projects, however, are likely to be left in the hands of the tribal council and its outside partners.

Also, small power projects can be exempt from some federal and state regulations. A power production facility that meets certain operating and output efficiency standards under the Public Utility Regulatory Policies Act[116] qualifies as a "Qualifying Facility" and as such is exempt from most state and federal laws regulating power generation.[117] This includes exemptions from federal regulations relating to rate setting, issuance of securities by utilities, change in control of utilities and interstate electric transactions by public utility holding companies.

To obtain Qualifying Facility status, a small power project may not produce thermal energy in excess of 5% of the facilities' total output or only produce electric power.[118] Although there are no applicable efficiency or operating requirements, small power producers are limited in size to less than 80 megawatts at the same site.[119] Facilities are considered to be located "at the same site" if they are within one mile of another facility.[120]

In addition, a small power producer must employ primarily alternative fuel or waste inputs. "Primarily" means the fuel or fuels used for the generation of electric energy. It does not include (i) the minimum amounts of the fuel required for ignition, start-up, testing, flames stabilization and control uses, and (ii) the minimum amount of the fuel required to alleviate or prevent unanticipated equipment outages, and emergencies, directly affecting the public health, safety or welfare, which would result from electric power outages.[121]

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[113] *Id*.
[114] *Id.*
[115] *Id.*
[116] 16 U.S.C. §824 (a)(3) (2000).
[117] 16 U.S.C. §2601 *et. seq.*, 18 C.F.R. §292.601 (2005).
[118] 18 C.F.R. §§292.203(a), 292.204(a)-(b) and 292.206 (2005).
[119] 18 C.F.R. §292.204(a)(1) (2005).
[120] 18 C.F.R. §292.204(a)(2)(i) (2005).
[121] Conventional fossil fuels include oil, natural gas, and coal. 18 C.F.R. §292.204(b)(2) (2005).

Recent changes in federal statutes, including the repeal of the Public Utility Holding Company Act, and proposed changes in regulations administered by the Federal Energy Regulatory Commission are changing the legal environment for many power producers, but small wind projects will continue to enjoy a relatively simple process for development and operation.

C. Tax incentives and peace-of-mind are perks to outside companies doing business on Indian lands.

Two magic words sum up one of the more attractive features for outside investors doing business on Indian lands: tax incentive. "By building plants on reservations and hiring Native Americans, companies get tax breaks."[122]

Also, due to the relative safety of renewable energy, wind power companies do not have to be concerned about potential exposure to large fines, damages and penalties following oil spills or releases of hazardous substances or materials, and spending millions to clean them up. Investing in wind turbines means avoiding public relations disasters and hefty fines for air or water pollution due to the inherent risks of fossil fuel power plant operation.

These fines can be painful. Some of the most recent penalties include the following:

- Mobil Exploration and Producing U.S. Inc. paid $5.5 million for 83 oil spills on Navajo lands in Utah.[123]
- Mobil spent another $327,000 on sanitation facilities on Navajo land.[124]
- In New Mexico, Elm Ridge Resources was fined $40,000 for oil spill violations near the San Juan River.[125]

VI. Disadvantages of Wind Power

A. Wind power as an insignificant yet expensive political tool.

Many critics of wind power dismiss it as insignificant. "[D]espite its wide current public appeal and its admitted virtues, wind power is an inevitably insignificant and environmentally flawed source of energy and a financial and political diversion from an intelligent solution to energy issues."[126] One eye-catching statistic is commonly cited: Despite the explosion of wind power facilities, wind power contributes less than 1% of U.S. power requirements.[127]

Naysayers also discount it as a cynical tool employed by politicians to demonstrate their green side. "Renewable energy…is a showy way for politicians to prove that they are doing

[122] *See* Greene, *Power Plants*.
[123] *See Policy Debate*.
[124] *See id.*
[125] *See id.*
[126] *See* D. Langenkamp, Wind Power and Reality, OGEL, Vol 3 - issue 2, (June 2005) available at http://www.gasandoil.com/ogel (last visited Sept. 10, 2005). [hereinafter "Langenkamp, *Wind Power and Reality*"]
[127] http://www.doe.gov.

something."[128] Or as one opponent sneered: "Tinkering at the edges of the problem by supporting a technology like wind, which is unpredictable, intermittent and dependent on machines whose output is derisory, is a dangerous distraction and a piece of 'green' window dressing designed to allow the government to avoid the problem."[129]

Critics also point to the relative high cost of wind turbines as opposed to fossil-fired plants. Wind energy is capital-intensive, a fact that opponents often feast on.[130] For instance, one critic poses the following argument against wind power:

> A 1.5mw GE turbine costs approximately $1.5 million to purchase and install. Of that sum at least 1$ [sic] constitutes the turbine cost. At this cost the 160,000 turbines needed for 10% of U.S. power would cost about $240 billion. At the current costs, coal fired ($500,000 per mw) plants aggregating that amount would be sufficient to generate almost six times as much power, albeit with energy source costs.[131]

Other expenses include transmission lines, which can run $100,000 per mile. There are also annual leasing fees to farmers, which range from $2000 - $3000 per year for every turbine on their land.[132]

B. Accurately estimating power output in wind turbines is difficult.

Opponents of wind power also say that the reliability of wind turbines is questionable since the unpredictability of wind makes it impossible to make realistic power production estimates.[133] For instance, the New Mexico Wind Energy Center, which is located 150 miles east of Albuquerque and sells power to the state's largest utility, has a maximum output of 206 megawatts.[134] Most of the year, however, the wind is not blowing enough for the wind farm to produce the potential maximum of 206 megawatts. When the wind blows slower, the plant will produce as little as 25 megawatts, which constitutes 1/8th of its capacity.[135] As a general rule, wind facilities can expect to produce power at an average rate of approximately 30% of their rated capacity.

A turbine cannot produce power when the wind does not blow consistently at an adequate speed. Conversely, a turbine will also have to shut down when winds gust at too high a speed.[136]

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[128] Quote of scientist James Lovelock, Financial Times, June 24, 2004, at 9.
[129] *The Case Against Windfarms*, Country Guardian, http://www.countryguardian.net/case (last visited Sept. 10, 2005).
[130] American Wind Energy Association, *Wind Energy Fact Sheets*, http://www.awea.org/pubs/factsheets.html (last visited Sept. 15, 2005).
[131] *See* Langenkamp, *Wind Power and Reality*, at 4.
[132] *See* Armstrong, *Blow Hard*.
[133] *See* Langenkamp, *Wind Power and Reality*, at 4. *See also* Wald, *Wind Power*.
[134] *See id.*
[135] *See* Wald, *Wind Power*.
[136] *See* Langenkamp, *Wind Power and Reality*, at 4.

Further, as wind turbines have become more sophisticated, efficient and high tech, they have become more vulnerable to the problems that accompany such new and developing technologies. For instance, the newness of some designs currently being installed makes it difficult to establish reliable expectations for their economic lifespan.[137]

C. Discriminatory transmission system limits.

Another significant drawback to wind power projects is the limits resulting from inadequate transmission capacity and an unclear or discriminatory regulatory framework. As explained by one author:

> The nation's power markets are governed by a patchwork of rules and conditions for access to, and use of, the transmission network. Some charge heavy, unfair penalties against new market entrants or technologies with different operating characteristics. The result: artificially high costs and inefficient markets.[138]

To curb this practice and make the networks more accessible to new market entrants such as wind power generators, the Federal Energy Regulatory Commission is promoting various reforms.[139] In short, the rules for interconnecting wind energy generators to the transmission grid are being reshaped to adhere to the unique operating characteristics of wind energy generators. Wind energy interconnections are exempted from certain requirements of interconnection rules.[140] Nevertheless, developers insist that the problem persists and is a major hindrance to the growth of wind power.[141]

VII. Rosebud Power Project a Sign of Things to Come in Wind Power

A. Rosebud Power Project in South Dakota could be model for future wind power plans.

Despite the obstacles discussed above, the drive towards wind power steadily continues as ambitious tribes and enterprising outside investors eagerly seek new opportunities. For motivation, the tribes need look no further than the entrepreneurship and perseverance of both the Southern Utes in southwestern, Colorado (discussed above at § I.B.) and the Rosebud Sioux Tribe of South Dakota.

The Rosebud Sioux Tribe recently became the first American tribe to create sustainable income through the sale of its own wind generated power. On May 1, 2003, the tribe recorded

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[137] *Id.* at 4 – 11.
[138] *See* Swisher, *Wind Power Outlook 2005*.
[139] *See* 111 FERC ¶ 61,353 (FERC Docket No. RM05-4-000), Interconnection for Wind Energy (Issued June 2, 2005), which states: "The Federal Energy Regulatory Commission () is amending its regulations to require public utilities to append to their standard large generator interconnection procedures and large generator interconnection agreements in their open access transmission tariffs () standard procedures and technical requirements for the interconnection of large wind generation." *Id.* at Summary
[140] *See id.*
[141] *See* Swisher, *Wind Power Outlook 2005*.

its first sales of electricity generated by wind power.[142] The power was generated by the 750 kW Alex "Little Soldier" Lunderman turbine, which generates power for local uses, and the excess is sold to a utility.[143]

The development of the turbine was made possible by a mixture of the elements providing an example of how wind investment on Indian lands attractive. The turbine was funded with so-called "Green Tag"[144] sales, government grants from the U.S. Department of Energy and a loan from the U.S. Rural Utility Service.[145] A planned second phase of this project will consist of a 10MW windfarm, which will be the first large scale tribal-owned and operated windfarm in the U.S.[146]

The Rosebud Power Project is one of many promising new wind power systems in Indian country. For instance, last year, the Navajo Nation installed 63 renewable energy systems, including wind turbines, at remote homes throughout the reservation.[147] Earlier in 2004, organizations representing Indian tribes met with representatives of over 150 cities to promote tribal-owned energy projects. The tribes proposed a collaborative intertribal wind project for 3,000 megawatts of wind power to be built on 24 reservations across the Great Plains by 2010.[148]

VIII. Conclusion

Today, when proponents speak of the benefits of wind power, they are not merely spinning their wheels (or their turbines). Nowhere is this more apparent than for wind power projects on Indian lands. The increasing freedom afforded to tribal councils for project approval and the responsibility granted to them with regard to some regulatory tasks makes operating on Indian lands an attractive alternative to the comparable project review and approval processes with federal, state and local agencies in projects elsewhere. Incentives continue to arise for tribes to develop wind power projects on their lands and for outside investors to collaborate. Even if the federal government can't maintain its tax credits forever, it appears that state governments are willing to continue offering incentives.

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[142] David Melmer, *Wind brings income to Rosebud Tribe, Wind power sets a new pace for economic development*, Indian Country Today (May 20, 2003), http://www.nativeenergy.com/news.IC_2.htm (last visited Sept. 10, 2005). [hereinafter "Melmer, *Wind Brings*."] *See also Rosebud Sioux: First Tribe in the Nation to Sell Wind Power*, NAWIG News (Winter 2003), at 1 [hereinafter *Rosebud Sioux*].

[143] *See id.*

[144] Green tags work as follows: "When electricity from a renewable energy producer is used or sold into the power markets as simply electricity, without taking any environmental credit for the source of that power, the environmental attributes of that renewable energy can be sold or traded separately as a commodity, called green tags. Green tags (also known as green energy certificates and tradable renewable certificates) provide an additional revenue stream to the project and can be sold to companies and consumers anywhere in the country." United States Department of Energy, Energy Efficiency and Renewable Energy, *A Guide to Tribal Energy Development*, (April 8, 2005), http://www.eere.energy.gov/tribalenergy/guide/green_tags.html (last visited Oct. 11, 2005).

[145] *See* Melmer, *Wind Brings*. *See also Rosebud Sioux*.

[146] *See* http://www.nativeenergy.com/wind-farms.html (last visited Sept. 10, 2005).

[147] U.S. Department of Energy, Energy Efficiency and Renewable Energy, *Navajo Utility Installs 63 Solar and Wind Power Sources*, (June 9, 2004), http://www.eere.energy.gov/news (last visited Sept. 10, 2005).

[148] U.S. Department of Energy, Energy Efficiency and Renewable Energy, *Indian Tribes and Cities Teaming Up to Deploy Renewable Energy*, (March 10, 2004) http://www.eere.energy.gov/news (last visited Sept. 20, 2005).

As explained by one author, investments in wind power projects will continue to grow for the simple reason that outside investors and tribal members share the same aspirations: "material well-being."[149]

[149] *See* Suagee, *Renewable Energy in Indian Country*.