WIND ENERGY IN INDIAN COUNTRY: A STUDY OF THE CHALLENGES AND OPPORTUNITIES FACING SOUTH DAKOTA TRIBES

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The development of wind power in Indian country presents a unique opportunity for Indian tribes to advance economic and social interests while adhering to traditional values and mores. Challenges exist, however, for turning wind-rich lands into viable wind energy production sites. This comment focuses on these challenges and highlights the legal issues surrounding such an undertaking as more tribes become interested in pursuing such an opportunity.

I. INTRODUCTION

The proliferation of wind energy as a viable alternative to fossil based fuels used in the production of electricity is well documented.[1] While media reports on the influx of wind power farms often shed a positive light on the use of wind for generating electricity, few reports have squarely addressed the challenges faced by states, municipalities, and investors in implementing such projects. Even fewer reports have recognized the difficulties Indian tribes face when attempting to develop wind power facilitates in Indian country. This article outlines the special challenges and potential benefits Indian tribes may experience when attempting to navigate the bureaucratic and economic obstacles that exist when implementing such a project.

The Owl Feather War Bonnet wind energy project being pursued by the Rosebud Sioux Tribe provides an opportunity to analyze the legal obstacles that may need to be overcome when a tribe develops an operational wind power

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1. *See, e.g.*, ROBERT Y. REDLINGER ET AL., WIND ENERGY IN THE 21ST CENTURY: ECONOMICS, POLICY, TECHNOLOGY, AND THE CHANGING ELECTRICITY INDUSTRY 1 (2002); Martin J. Pasqualetti et al., *The Wind in One's Sails: A Philosophy*, *in* WIND POWER IN VIEW: ENERGY LANDSCAPES IN A CROWDED WORLD 59 (2002); PAUL GIPE, WIND ENERGY COMES OF AGE (1995); Ronald H. Rosenberg, *Diversifying America's Energy Future: The Future of Renewable Wind Power*, 26 VA. ENVTL. L.J. 505, 522-24 (2008) (identifying the benefits of wind power as including the elimination of fuel costs in generating electricity, the emission of zero pollutants into the atmosphere, the lack of water for cooling purposes, and the elimination of hazardous materials from fuel use and production).

facility in Indian country.[2] Such an analysis begins by identifying the opportunities that wind power production provides for tribes. Next, an outline of the challenges associated with the implementation of such a project is presented. This includes an examination of the economic realities surrounding wind power production, as well as the identification of some particular challenges that exist for Indian tribes. This article concludes with a summary of the measures tribes can take when attempting to bring a successful wind power production facility into Indian country.

II. OPPORTUNITIES

A. DEVELOPMENT OF WIND POWER AS AN ECONOMIC CATALYST IN INDIAN COUNTRY

Indian country has the potential to produce a significant portion of the electricity consumed in the United States.[3] An expressed goal of the Rosebud Sioux Tribe in developing the Owl Feather War Bonnet facility is to produce an economic stimulus for the Tribe through the export of electricity to meet the country's rising demand.[4] This economic boost to the Tribe would come not only from the sale of the electricity produced or the fee generated from the leasing of the land to an outside investor, but also from the construction and maintenance of the facilities.[5]

The size of the wind farm has a large impact on the amount of revenue generated.[6] The Owl Feather War Bonnet Wind Farm will be a 30 Megawatt (MW) facility.[7] This facility will produce enough electricity to power 7,500 homes without creating any appreciable carbon dioxide emissions.[8] These facts, in concert, create the impetus for attempting to overcome the significant

2. The Owl Feather War Bonnet wind energy project has been a collaboration between the Rosebud Sioux Tribe of South Dakota, Distributed Generation Systems, Inc. (DISGEN), the Department of Energy (DOE), and Intertribal Council on Utility Policy (COUP), among other private and governmental organizations. *See* Ken Haukaas, *Owl Feather War Bonnet Wind Farm: The Rosebud Sioux Tribe* 2-5 (2007), http://apps1.eere.energy.gov/tribalenergy/pdfs/rosebud03final.pdf [hereinafter Haukaas, Wind Farm].

3. Mark Shahinian, *The Tax Man Cometh Not: How the Non-Transferability of Tax Credits Harms Indian Tribes*, 32 AM. INDIAN L. REV. 267, 269 (2007) ("Wind power from tribal lands could provide 22% of installed U.S. electric power generation capacity.").

4. Haukaas, Wind Farm, *supra* note 2, at 8 ("The objectives of the project are to develop a self-sustainable business on the reservation to foster jobs primarily and to create maximum economic development benefits to the [Rosebud Sioux Tribe] and its members without the [T]ribe assuming any economic risk.").

5. *Id*. at 16 (stating there would be between "20-40 temporary jobs [created] during the construction" phase of the project with an impact of approximately "$3-4 million"). This economic boost has also been recognized as having an extremely beneficial impact on a community with per capita income under $8,000 per year. *Id*.

6. Wind power revenues are often generated by charging per kilowatt hour (kWh). The greater the capacity of a wind production facility the more revenues will be produced. Wind power facilities can range from producing less than 1 megawatt (MW) to over 1,000 MWs annually.

7. *See* Haukaas, Wind Farm, *supra* note 2, at 6.

8. *See* Mustafa P. Ostrander, *Wind Power: A Lawyer's Guide to Representing Landowners*, 16 BUS. L. TODAY 24 (2007).

challenges that exist when undertaking such an endeavor.[9]

B. TRIBAL OPPORTUNITIES

A unique characteristic of Indian country in the Great Plains is the presence of a "phenomenal wind resource."[10] This resource, combined with millions of acres of unobstructed land,[11] creates an ideal environment for harnessing the wind's power.[12] Tribal entities have identified this resource as a potential solution to a fluctuating revenue stream and have made it a priority to pursue wind power facilities in hopes of alleviating some of the adverse affects associated with their current economic situation.

The Owl Feather War Bonnet Project is representative of the push tribes are making to implement wind power facilities in Indian country and illustrates some of the tensions that exist in bringing such a project to fruition. The Owl Feather War Bonnet Project is located on the Rosebud Sioux Tribe's trust lands near St. Francis, South Dakota, and is unique in several respects.[13] First, it will be the first large scale wind power facility in the Midwest to be located exclusively in Indian country.[14] Additionally, it is in an ideal location because: it is located in an area with a low population density;[15] it is projected to have a minimal impact on wildlife;[16] and the particular site identified has little to no cultural significance to the members of the Rosebud Sioux Tribe.[17] The same characteristics that make this site ideal, however, also result in difficulty transmitting the power produced. Because this site near St. Francis, South Dakota, is sparsely populated and geographically isolated, the power produced there must be transmitted great distances to larger population concentrations that can use the electricity.[18] Consequently, high transmission expenses are part of the reality of locating a wind power facility in this area.[19]

9. *See infra* Part III.

10. Native American Interview: Robert Gough, Intertribal Council on Utility Policy (COUP) (2004), http://www.windpoweringamerica.gov/filter_detail.asp?itemid=764.

11. Ronald H. Rosenberg, *Diversifying America's Energy Future: The Future of Renewable Wind Power*, 26 VA. ENVTL. L.J. 505, 519 (2008). "Tribal land encompasses ninety-six million acres, much of which possesses excellent wind resources[.]" *Id.* at 520.

12. Gough, *supra* note 10. "The Northern Great Plains reservations have more than 200 gigawatts of clean wind energy potential." *Id.*

13. *See* Haukaas, Wind Farm, *supra* note 2, at 2. The Rosebud Sioux Tribe has approximately 26,000 members who reside on over one million acres of reservation land in South Central South Dakota. *Id.*

14. Interview with Ken Haukaas, Rosebud Sioux Tribe, in St. Francis, S.D. (Oct. 17, 2008).

15. Haukaas, Wind Farm, *supra* note 2, at 16.

16. *See id.* Attachment C at 20 (stating "some impacts to . . . avian and bat species [were] expected to occur" but measures could be taken to mitigate such occurrences).

17. *See id.* Attachment C at 24 (concluding "[n]o impacts to cultural resources are expected form [sic] the proposed action"). *See also id.* Attachment B at 1. The purpose of the cultural evaluation was to "gather information on the possible cultural or religious significance of the site." *Id.* This evaluation was conducted by interviewing tribal elders who were familiar with the planned site location in a "confidential and private" manner. *Id.*

18. *See* Haukaas, Wind Farm, *supra* note 2, at 3.

19. *Id.*

III. PRELIMINARY REQUIREMENTS

A. REQUIREMENTS NECESSARY FOR PROJECT IMPLEMENTATION

There are several preliminary steps that must be completed before construction on a wind facility can begin. These include conducting a wind assessment to determine whether the amount of wind in the area is sufficient, an ethnographic study to determine whether the site has any cultural significance, an ecological study to determine whether wildlife would suffer any adverse affects, and the courting of private investors to provide expertise and financial backing. These challenges require extensive time and study before any conclusions can be drawn. Consequently, the results of the studies that were conducted for the Owl Feather War Bonnet Project took many years to be completed, which itself further increased the costs of implementation.[20] In addition, the federal power grid poses an obstacle to the exportation of electricity from South Dakota.[21] Examining these three integral studies sheds light on some

20. Haukaas, Wind Farm, *supra* note 2, at 4. The initial cost for the project was approximately $37 million in April 2003. *Id*. At the time of filing his findings, Ken Haukaas estimated that the cost had grown to about $54 million. *Id*. This huge increase was the result of the weakening dollar and the jump in demand for wind power equipment. *Id*.

21. *See* Matthew L. Wald, *Wind Energy Bumps into Power Grid's Limits*, N.Y. TIMES, Aug. 27, 2008, at A1.

> The grid today, according to experts, is a system conceived of 100 years ago to let utilities prop each other up, reducing blackouts and sharing power in small regions. It resembles a network of streets, avenues and country roads.
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> The basic problem is that many transmission lines, and the connections between them, are simply too small for the amount of power companies would like to squeeze through them. The difficulty is most acute for long-distance transmission, but shows up at times even over distances of a few hundred miles.
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> . . . .
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> The power grid is balkanized, with about 200,000 miles of power lines divided among 500 owners. Big transmission upgrades often involve multiple companies, many state governments and numerous permits. Every addition to the grid provokes fights with property owners.
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> . . . .
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> Politicians in Washington have long known about the grid's limitations but have made scant headway in solving them. They are reluctant to trample the prerogatives of state governments, which have traditionally exercised authority over the grid and have little incentive to push improvements that would benefit neighboring states.

Id. Mr. Wald went on to state that, "[w]ind advocates say that just two of the windiest states, North Dakota and South Dakota, could in principle generate half the nation's electricity from turbines. But the way the national grid is configured, half the country would have to move to the Dakotas in order to use the power." *Id*. Even in the face of this obstacle, one author has proposed a solution.

> Building transmission lines to move wind power out of South Dakota to markets that can use it remains almost as large an impediment to developing the state's potential wind industry.
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> . . . .
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> WAPA [Western Area Power Administration] essentially oversees the grid that carries power produced in the Dakotas and Western states. MISO [Midwest Independent System Operator] has corresponding responsibility for a large part of the Midwest east of South Dakota. Their ability to reduce or eliminate the seam is complicated by the fact they use different criteria for figuring transmission charges.
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> "If WAPA joined MISO and adopted the MISO tariff structure, the pancake rate issue would go away," according to an SDEIA Wind Power Report released in 2007. "But WAPA customers

of the obstacles that are inherent in pursuing a project in Indian country. While these three studies do not represent an exhaustive list of those that may have to be completed, they do provide a basic representation of those necessary.

1. Required Site Studies

The first study often undertaken when pursuing a wind power facility is intended to identify the wind resource present at a particular site. This is the first crucial step in determining whether a wind project may be economically viable.[22] This starts with measuring the wind resource as soon as development becomes an option. Investors require that accurate data be accumulated before entertaining proposals for implementation. The more information a tribe has, or the longer they have been collecting wind data, the more likely it is that a developer will agree to undertake some of the costs of any additional studies that may be required.[23] Measuring this resource often requires an anemometer study at the site before such a determination can be made.[24] This is actually beneficial for the tribe as collecting wind data through anemometers is one of the smaller expenses involved.

The wind assessment at the Owl Feather War Bonnet site was conducted by placing anemometers on an existing radio tower at heights of thirty, forty, and sixty-five meters.[25] These anemometers, or devices used for measuring wind potential, were put in place in May 2001.[26] The data was collected by "utilizing an NRG 9300 Data Logger System."[27] The conclusion drawn from over five years of data collected was that the wind resource at this site was "excellent" and "support[ed] project financing."[28] The rating given to the site was a Class 5.[29] This designation identifies the site as having very high energy production potential.[30] As such, developing wind power in the area was economically viable based on the wind rose, wind shear, peak wind speeds, and turbulence

would see a rate increase because of the transmission-tariff change."

Peter Harriman, *Grid Deal Could Help Wind Power*, SIOUX FALLS ARGUS LEADER, Jan. 28, 2008, at 1A, *available at* http://www.wind-watch.org/news/2008/01/28/grid-deal-could-help-wind-power/. *See also* The South Dakota Energy Infrastructure Authority, *South Dakota Wind Power Report* (2007), *available at* http://www.sdeia.com/PDF/2007WindEnergyReport.pdf. The report spells out problems between WAPA and MISO including maps of how the wind energy must flow at this time. *Id*. Additionally, in 2008 a Senate Concurrent Resolution No. 5 "urged the Midwest Independent System Operator to reconsider its pricing methodology with respect to energy transmission charges." The resolution passed both houses unanimously. S. Res. 5, 2008 Leg. 83rd Sess. (SD 2008), *available at* http://legis.state.sd.us/sessions/2008/scr5.htm.

22. *See generally* Gough, *supra* note 10.

23. Interview with Ken Haukaas, Rosebud Sioux Tribe, in St. Francis, S.D. (Oct. 17, 2008).

24. Gough, *supra* note 10.

25. *See* Haukaas, Wind Farm, *supra* note 2, at 6. The anemometers are still collecting and reporting data as they remain in operation. *Id*. Attachment A at 5. The existing tower is used for communications purposes and is over 200 feet tall. *Id*.

26. Haukaas, Wind Farm, *supra* note 2, at 6.

27. *Id*.

28. *Id*.

29. *Id*. Attachment A at 2.

30. *Id*. Attachment A at 2-4.

intensity.[31]

The next study that is often conducted is an ethnographic study. An ethnographic study, which identifies the customs and beliefs of a people, is crucial when conducting an assessment of a wind site in Indian country given the potential for a designated location to have some cultural significance.[32] The ethnographic study conducted at the Owl Feather War Bonnet site determined that the land had some cultural significance.[33] This significance, however, was not to such an extent as to justify tabling the project as unworkable.[34] Instead, special precautions were taken to ensure that measures were in place to protect any artifacts that may be discovered. [35] Having added these precautions, "[n]o impacts to cultural resources [were] expected form [sic] the proposed action."[36]

The ecological study administered attempted to determine the total effect this project may have on the indigenous wildlife in the area. A project of this size unavoidably displaces a certain amount of flora and fauna, so the goal became to mitigate the impacts at the project site.[37] One aspect of particular cultural importance was the displacement or killing of birds of prey.[38] While some avian mortality must be expected from the constant churning of large blades, there does not appear to be a consensus among scholars about the rate of such deaths.[39] Consequently, tribes must be aware that it is a probability that some birds will die. To what extent, however, cannot be certain.[40]

An additional area of special interest at the Owl Feather War Bonnet site was the relocation and replanting of native plants after they were disturbed.[41] This was to be done by using native grass seed to replace the existing vegetation

31. *Id*. Attachment A at 17.

32. *Id*. Attachment C at 24. *See* MARVIN HARRIS & ORNA JOHNSON, CULTURAL ANTHROPOLOGY 4 (5th ed. 2000) ("Ethnography literally means 'a portrait of a people.' An ethnography is a written description of a particular culture—the customs, beliefs, and behavior—based on information collected through fieldwork.").

33. Haukaas, Wind Farm, *supra* note 2, Attachment C at 24.

34. *Id*. Attachment C.

35. *Id*. Attachment C. These precautions included the addition of two cultural resource specialists. *Id*. Attachment C. These specialists administered the study and recommended that further testing be conducted on the grounds where the building would occur and also that a cultural resource specialist be at the site throughout the construction phase to be cognizant of any artifacts that may be unearthed. *Id*. Attachment C. The cultural resource specialists interviewed seventeen tribal members and one non-tribal member who were familiar with the location at issue. *Id*. Attachment C. These interviews yielded information about the use of this area for religious ceremonies many years earlier. *Id*. Attachment C.

36. *Id*. Attachment C.

37. *Id*. Attachment C at 21-23.

38. Martin J. Pasqualetti et al., *Living with Wind Power in a Hostile Landscape*, *in* WIND POWER IN VIEW: ENERGY LANDSCAPES IN A CROWDED WORLD 153, 161 (2002).

39. *See* Roy Fuller, *Wind Energy Development on BLM Lands*, 24 J. LAND RESOURCES & ENVTL. L. 613, 621 (2004) (citing AMERICAN WIND ENERGY ASS'N, Wind Energy Fact Sheet 1-4 (2001)).

40. The United States Geological Society has decided to conduct a study on breeding song birds in the Owl Feather War Bonnet area. Interview with Ken Haukaas, Rosebud Sioux Tribe, in St. Francis, S.D. (Feb. 10, 2009). This study will focus on whether the bird population is detrimentally affected by the wind farm. *Id*.

41. Haukaas, Wind Farm, *supra* note 2, Attachment C at 21-23.

in areas that were affected during construction.[42] This would also be accomplished by minimizing vehicle use to limit the effects on the habitats, and identifying and taking appropriate precautions to protect any threatened or endangered species in the area.[43]

2. Procuring Private Investors

Inviting private investors to participate in the Owl War Bonnet Wind Project was part of the reality of undertaking such a project.[44] Private investors were needed for two primary reasons. First, they provided the Tribe with the necessary capital, which was substantial, and second, they provided expertise in the construction and design of the project, with both the physical structure as well as the financial structure. This design, however, was naturally received by the Tribe with some resistance as it was seen as providing too much control and authority to the private investors and not enough to the Tribe.[45] This reality was not ideal from a tribal perspective as the tribal council, and members, often "fear of another developer coming to the Tribe and taking it for a ride."[46] Consequently, finding a private sector partner became necessary to bring the project to fruition but also resulted in some hesitance from the tribal council.[47]

This situation could be summarized by stating that some tribes may lack the experience and expertise needed to build a wind power facility. From the outset, tribes and investors need to have a mutual understanding of the unique issues present, most notably, the tribal independence that is potentially curbed through influence from a non-tribal investor working to maximize their own interest in the project. This dichotomy between the two entities can create a more complicated dual ownership structure that must be identified and addressed by the parties involved from the project's inception.

The development group that emerged for the Rosebud Sioux Tribe was Distributed Generation Systems, Inc. (DISGEN). This company specializes in wind energy development and has worked extensively with tribes in the Northern Plains.[48] DISGEN invested early in the project's development and has offered guidance as the project has taken shape.[49] This involvement, however,

42. *Id*. Attachment C at 21.

43. *Id*. Attachment C. The United States Fish and Wildlife Service provided information on the potential species that could be adversely affected by the project. *Id*. Attachment C at 22. Of special interest were the endangered American burying beetle, the threatened bald eagle, and the western prairie fringed orchid. *Id*. Attachment C.

44. Haukaas, Wind Farm, *supra* note 2, at 2-4.

45. *Id*. at 4-5.

46. *Id*. at 4.

47. *Id*.

48. DISGEN - Distributed Generation Systems, Inc., http://www.disgenonline.com/aboutus.html (last visited Feb. 25, 2009).

49. DISGEN eventually sought to turn the project over to an investor or an investment group to take ownership for the proscribed ten year period. Interview with Ken Haukaas, Rosebud Sioux Tribe, in St. Francis, S.D. (Feb. 10, 2009). DISGEN's interest was in realizing a development fee from the project, not as a long term investor. *Id*.

created a situation that required the parties to work together to find an appropriate ownership structure between the investor and the tribe that reflected their joint, and at times, conflicting interests. A most important aspect of this ownership structure was how investors and the Tribe could mutually benefit economically from their partnership in the project.

The original plan called for a private investor to receive the profits from the sale of the electricity for the first ten years after construction was complete.[50] The Tribe would then take ownership as early as the eleventh year.[51] This ownership structure was the result of the Production Tax Credit (PTC) utilized for the term of a private owner's ownership period.[52] This model of ownership, called a flip model, is the result of restrictions imposed on the parties involved through the necessity of accessing the PTCs.[53] A flip model allows the private investors to take advantage of the PTCs for a period of ten years—the length of time the PTCs are available.[54] Taking advantage of these tax incentives is of paramount importance in developing wind power facilities and, consequently, ownership agreements must be structured to trigger them.[55]

3. Production Tax Credits

Without the Production Tax Credit, wind power would not be economically viable in the United States.[56] PTCs provide a 1.5 cent tax credit for each kilowatt-hour (kWh) of wind generated electricity for ten years after a facility has been built.[57] Tax credits have created an economic incentive for investors to look to wind power as an alternative energy source.[58] Tax credits are necessary due to the current economic realities of producing wind power: namely, fossil fuel based electricity is currently less expensive to produce.[59] The surplus of

50. Haukaas, Wind Farm, *supra* note 2, at 4.

51. *Id*.

52. *See infra* part III.3.

53. Interview with Ken Haukaas, Rosebud Sioux Tribe, in St. Francis, S.D. (Oct. 17, 2008). The flip model allows an outside investor to take advantage of the PTCs while also giving the tribe the benefits of long-term ownership. *Id.* Drawbacks to such an arrangement exist as tribes are not the owners of the project for the ten year period. *Id.* This situation is a cause of some concern to some tribal members. *Id*. Additionally, the flip model is still untested as few, if any, projects have reached the ten year milestone when ownership would transition. Shahinian, *supra* note 3,at 279-80. The uncertainties surrounding these types of arrangements have justifiably been met with some skepticism on the part of the tribes. *Id.* at 280.

54. *See generally* Shahinian, *supra* note 3, at 273-80.

55. *See infra* part III.A.3.

56. Shahinian, *supra* note 3, at 273. PTCs are not the only tax credits impacting wind power projects. *Id*. They are, however, the most important. *Id*. ("These tax credits, especially the PTC, make or break a wind project. The PTC gives owners of wind farms a 1.9 [cent] tax credit for each kilowatt-hour (kWh) the wind farm generates."). Since the publication of this article, the tax credit has been decreased to 1.5 cents per kilowatt-hour. 26 U.S.C.S. § 45 (2009).

57. 26 U.S.C.S. § 45 (2009).

58. *Id*.

59. The interrelationship between wind power and coal power cannot be ignored. Currently, the price of coal makes it a more cost effective source of electricity. This is only the case, however, as "[f]ossil fuel extraction costs are heavily subsidized by the taxpayers[.]" Gough, *supra* note 10. This is exacerbated by the fact that the price of pollution and other externalities are not quantified or associated

coal and the low price it commands have made for an extremely competitive market in the wind power industry.[60] As a result, producing electricity from wind energy is presently more expensive than burning coal.[61] Hence the PTC offers wind energy investors a platform to compete with the less expensive, but polluting, coal powered plants.

The problem with the current tax structure is that Indian tribes cannot benefit from the PTCs offered by the federal government.[62] Tribes are not tax paying entities so they are not allowed to receive any tax credits, like the PTCs.[63] This has seriously limited the ability of tribes to gain outside investors for wind energy projects as the PTCs can provide as much as $1.6 million in federal support to a 30 MW wind farm.[64] This large amount of yearly revenue not available to tribal entities must be overcome to make a project economically feasible, thus, the flip arrangement.

This situation is counterintuitive as it is reasonable to presume that a non-tax paying entity would be better off not paying taxes than by simply receiving a credit on taxes that were paid. This, however, is not the economic reality of the situation.[65] Instead, the tax credits that are realized are actually greater than the taxes that would otherwise be paid.[66] These tax credits are also a huge incentive

with conventional power plants. *Id*. Consequently, it is difficult to accurately determine the exact price disparity between the prices of the two types of power. *Id*. (identifying water consumption, national security interests, insurance liability caps, and public health concerns as costs not included when considering the price of electricity production from fossil based fuels). *See* Shahinian, *supra* note 3, at 269-70 (stating other forms of power are increasingly difficult as "coal-fired generation is a liability in the age of global warming; natural gas prices are high and unpredictable; nuclear power still poses storage problems; and there are few rivers in the U.S. left undammed for hydroelectricity").

60. Haukaas, Wind Farm, *supra* note 2, at 4. Compounding this problem is that current "energy subsidies create an unfair market advantage for conventional energy technologies." Benjamin K. Sovacool & Christopher Cooper, *State Efforts to Promote Renewable Energy: Tripping the Horse with the Cart?*, 8 SUSTAINABLE DEV. L. & POL'Y 5, 5 (2007).

61. Haukaas, Wind Farm, *supra* note 2, at 4. This economic evaluation does not take into account the externalities than can be quantified from the burning of coal. Gough, *supra* note 10. Unfortunately, such external costs are not part of an individual investor's bottom line, and are therefore, often ignored. Sovacool & Cooper, *supra* note 60, at 5. "[R]enewable energy generation is subject to a free rider problem. Since everyone benefits from the environmental advantages of renewable energy, private companies that invest millions of dollars in researching and developing clean energy technologies are often unable to recover the full profit of their investments." *Id*.

62. 26 U.S.C.S. § 45(d)(1) (2009). The PTCs have been extended for three years under the recently signed stimulus package. Kate Galbraith, *Obama Signs Stimulus Packed with Clean Energy Provisions*, N.Y. TIMES, Feb. 17, 2009, http://greeninc.blogs.nytimes.com/2009/02/17/obama-signs-stimulus-packed-with-clean-energy-provisions/. Exactly how this may affect tribes is yet to be seen.

63. Michael L. Connolly, *Commercial Scale Wind Industry on the Campo Indian Reservation*, 23 NAT. RESOURCES & ENV'T 25 (2008). This becomes even more problematic when viewed in the context that it has been suggested that over fifty percent of a wind project's profitability comes from federal tax incentives. *Id*. at 26 ("Tribal governments, as with all governments, are not tax-paying entities and therefore are unable to use incentives based on tax credits or accelerated depreciation.").

64. Ronald H. Rosenberg, *Diversifying America's Energy Future: The Future of Renewable Wind Power*, 26 VA. ENVTL. L.J. 505, 532-33 (2008). *See* Haukaas, Wind Farm, *supra* note 2, at 4; Telephone Interview with Ken Haukaas, Rosebud Sioux Tribe (Feb. 10, 2009). Mr. Haukaas notes that this $1.6 million estimate is conservative as the actual figure could be closer to $2 million. *Id*.

65. Telephone Interview with Ken Haukaas, Rosebud Sioux Tribe (May 14, 2008).

66. Shahinian, *supra* note 3, at 275-77 (stating that "[t]ax credits for renewable energy are substantial" and noting that one study determined that PTCs amounted to "17% of a wind project's

to private investors in that they provide flexibility in how they are used and can be manipulated to apply to other operations.[67] One study found that these tax credits can add as much as 17% to a wind project's profitability.[68] This addition to a wind project's bottom line could often be the difference between being profitable when the margins it operates on are so small. Hence, PTCs are necessary to ensure investors are able to continue developing wind power projects as PTCs can be the difference in sustaining a profitable enterprise that is economically viable.

4. Securing a Buyer for Electricity Consumption

The Rosebud Sioux Tribe identified its excellent wind resource relatively quickly and easily. Finding a suitable buyer for the electricity that could be produced at the site, however, was more difficult.[69] The nearest city with high electricity demands is almost one thousand miles from St. Francis, South Dakota.[70] This created a situation where no obvious buyer could be readily identified from the onset of the project. Additionally, the costs associated with sending electricity such a great distance are high.[71] As a result, the Rosebud Sioux Tribe decided to approach the nearest potential buyers.[72] These groups included the "Nebraska Public Power District . . . Basin Electric, WAPA [Western Area Power Association], Lincoln Electric System, Xcel Energy, and Omaha Public Power District."[73] Because the power produced at the Owl Feather War Bonnet facility would be sold to lower demand markets, the expected price per kilowatt hour would be lower.[74] This factor changed the dynamics of the economics behind the project and resulted in even narrower margins to work with, which in turn made attracting more investors to the project more difficult.

Further reducing potential profits for electricity in rural areas like St. Francis are the wheeling costs that must be paid when transferring electricity. Wheeling costs are the fees that must be paid to other utility companies for sending electricity over their transmission lines.[75] These costs are part of the reality for all types of electricity generated great distances from the cities where it will be consumed. What is unique about wind power is that unlike conventional types of power, it must be located in specific places where the

bottom line").

67. *Id*.

68. *Id*. at 277 (citing Andrew D. Mills, Wind Energy in Indian Country: Turning to Wind for the Seventh Generation 46 (2006) (unpublished M.S. thesis, Univ. of Cal. at Berkeley) (on file with author)).

69. Telephone Interview with Ken Haukaas, Rosebud Sioux Tribe (May 14, 2008).

70. *See* Haukaas, Wind Farm, *supra* note 2, at 3.

71. *Id*. This fact does not even take into account the wheeling costs associated with such an undertaking. *Id*.

72. *Id*.

73. *Id*.

74. *Id.*

75. Telephone Interview with Ken Haukaas, Rosebud Sioux Tribe (May 14, 2008).

resource is constantly strong.[76] These areas are often, as is the case in the Northern Plains, not near great population densities. This geographical reality is something that wind power facilities must be able to account for and overcome if they are going to successfully compete with fossil based electricity.

5. Practical Challenges in Operating a Business in Indian Country

A relatively unsettled issue when working with tribes is what laws apply in Indian Country should a dispute arise.[77] The principles of sovereign immunity can complicate legal issues that may arise should private investors and a tribe disagree on some aspect of a wind facility's construction or operation.[78] This issue includes what court will ultimately have jurisdiction to resolve a dispute. Three courts potentially have jurisdiction as either tribal, federal, or state courts may hear a case. This is important as both tribes and private investors should have some idea of which court may hear any future matter that may arise.[79] Private investors must be prepared for these unique issues that arise from conducting business in Indian country.[80]

V. CONCLUSION

Producing electricity through harnessing the wind's power is consistent with traditional native values.[81] Native cultural values teach that "wind is an essential part of the environment and that humankind is part of, not separate from, this environment."[82] As a result, some have come to see this wind resource as "a gift" of nature, much like the buffalo were in past centuries.[83] Recognizing the cultural acceptance of wind power production is important in building support at a local level. This general acceptance, however, does not

76. The closer a wind project is located to existing electric transmission lines the less expensive it is to build the infrastructure to carry the power. Wendie L. Kellington, *Siting Wind Energy Facilities in the United States and Key Local Land Use Issues*, SN005 ALI-ABA CLE 795, 800 (2007).

77. *See generally* Edward Rubacha, *Construction Contracts with Indian Tribes or on Tribal Lands*, 26 CONSTR. LAW 12 (2006).

78. *Id*. at 12.

79. *Id*. at 14-15.

80. *Id*. at 12-13 (identifying tribal sovereignty as a particularly important issue when contracting with tribes, but certainly not the only issue). *See* Mark A. Jarboe, *Fundamental Legal Principles Affecting Business Transactions in Indian Country*, 17 HAMLINE L. REV. 417 (1994) (stating that tribes have "attributes of both a governmental and a business entity."). An additional challenge that is concomitant with jurisdictional issues is the securing of easements. Todd Miller, *Easements on Tribal Sovereignty*, 26 AM. INDIAN L. REV. 105 (2001) ("Because of the unique legal status of tribes, the laws that apply to these easements are different in some respects from common property law. There is a complex statutory and regulatory scheme that pertains to obtaining an easement across Indian lands."). This challenge often augments disputes as easements are necessary for transmission lines to transport the power produced. *See* Andrew S. Montgomery, *Tribal Sovereignty and Congressional Dominion: Rights-of-Way for Gas Pipelines on Indian Reservations*, 38 STAN. L. REV. 195 (1985).

81. Victoria Sutton, *Wind and Wisdom*, 1 ENVTL. & ENERGY L. & POL'Y J. 345, 346 (2007).

82. *Id.*

83. Felicity Barringer, *Indian Tribes See Profit in Harnessing the Wind for Power*, N.Y. TIMES, Oct. 10, 2008, at A17.

mitigate some of the harms that must be taken into consideration by the tribes.[84] These harms include not only adverse affects on wildlife and flora, but also any detrimental impacts on the aesthetics of otherwise undeveloped land.[85]

Wind power remains a great opportunity for tribes to establish their presence in the growing energy markets across the country. The extent of this opportunity, and the results from a working project, however, remain elusive. It may be too early in the development of these projects to conclude that wind power is a "path to economic salvation" in Indian country.[86] Too many questions remain, and empirical evidence is needed before tribes can pursue such projects with the expectation of a high rate of return on their investment.

It is important to note that wind power is not a panacea. Instead, it is one of many alternatives to the most predominant methods of producing electricity today that involve significant carbon output. Wind power does have its drawbacks in that it requires expansive open lands, changes the aesthetic features of the land, creates noise, and impacts wildlife.[87] These drawbacks, however, are minimized when a wind power facility is located in Indian country, with near limitless open spaces and low population densities to be adversely affected by any changes to the facade of the land.

The Rosebud Sioux Tribe has managed to position itself as a pioneer in the field of wind power development. This position comes with the possibility of great rewards and a satisfactory return on their investment that could permanently change the Tribe's economic situation. To this end, the Rosebud Sioux Tribe has found a potential source of income consistent with cultural values and mores than can be sustained for generations.

84. Sutton, *supra* note 81, at 367.

85. Gregory M. Adams, *Bringing Green Power to the Public Lands: The Bureau of Land Management's Authority and Discretion to Regulate Wind-Energy Developments*, 21 J. ENVTL. L. & LITIG. 445, 450 (2006). Additional impacts can include landscape degradation and unwanted noise. *Id.* at 451.

86. Haukaas, Wind Farm, *supra* note 2, at 5.

87. *See* Roy Fuller, *Wind Energy Development on BLM Lands*, 24 J. LAND RESOURCES & ENVTL. L. 613, 617-22 (2004). Mr. Fuller states that "wind energy has come to be a paradox, simultaneously viewed as environmentally benign and harmful." *Id.* at 617 (citing Martin J. Pasqualetti et al., *Living with Wind Power in a Hostile Landscape, in* WIND POWER IN VIEW: ENERGY LANDSCAPES IN A CROWDED WORLD 154 (2002)).