The Tribal Energy Program: Wind Power and Human Development within Native American Communities

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Abstract

In the mid-1900s the U.S. Government facilitated unfettered energy-company access to Native American lands for the extraction of natural resources such as uranium and coal. Outcomes were generally characterized by minimal financial tribal benefit, while often creating high levels of environmental degradation and exposure to toxic health risks. Since 1975, the federal government's official relationship with Native Nations shifted to one of "self-determination," which allowed tribes to assert greater sovereignty. Consistent with this policy, the DOE's Tribal Energy Program, in 2002, began providing grants to tribes pursuant of sustainable-energy projects with the goal of advancing human capacity in Native American communities. The theory of developmental justice known as the Capabilities Approach provides an ethical framework for assessing meaningful opportunities created by a federal wind power program to foster human and economic development within impoverished populations. Using the Capabilities perspective, this study views the pluralistic goals of Tribal Energy Program as well-conceived to correct past energy-sector injustices within reservations by empowering tribes to develop wind projects of their own conception; however, multiple barriers to implementation are preventing the successful development of these installations. Based on these findings, addressing extant barriers to development at the federal level is recommended through the channeling of available resources toward the development of small-scale projects.

Introduction

Since the middle of the 19th century, many Native American tribes have endured persistent poverty as a result of political, social, economic, and physical isolation. Colonialism, social and religious subjugation, discrimination, and paternalistic federal policies have combined to create communities containing limited options for economic development. Among the few available alternatives for creating revenue, some tribal lands contain valuable natural resources such as coal and uranium. Beginning in the 1950s, reservation lands became places where private-sector energy companies could acquire inexpensive access to natural resources, the extraction of which often left Native Nations dealing with long-term health risks, unmitigated environmental degradation, and little in the way of economic benefit.

Established in 1992, the Department of Energy's Tribal Energy Program (TEP) began providing tribes with energy-efficiency/renewable-energy grants in 2002, with the stated goals of empowering tribal leaders; enhancing human capacity through education and training; improving local economies and environment; and making a difference in the quality of life for Native Americans.[1] The Tribal Energy Program offers a new strategy for the pursuit of energy development within tribal lands, while attempting to ensure that environmental justice is maintained. The program is conceived as a departure from the exploitative energy policies of recent decades, offering the potential for job- and revenue-creation within a tribally-controlled energy installation. Additionally, TEP is designed to facilitate greater participation on the part of Native Nations to shape wind energy projects that suit their respective needs. This study presents a discussion of what American Indian communities are able to achieve within a policy

[1] U.S. Department of Energy, Energy Efficiency & Renewable Energy, Tribal Energy Program, http://apps1.eere.energy.gov/tribalenergy/about.cfm

intended to foster empowerment while reducing federal paternalism. Focusing specifically on wind energy projects, this investigation examines the ability of a federal energy program to effectively foster human and economic development through an expansion of capabilities within impoverished populations.

Improved policies of environmental and social justice, however, do not offset the pervasive difficulties encountered during efforts to successfully implement tribal wind projects. Economic, political, and cultural challenges combine to hamper installations. More importantly, past policies resulting in geographic isolation, and federal regulations regarding development within trust lands (as is the case with reservations) create additional layers of obstruction unique to tribal lands. Even in the rare instance of the successful development of a large-scale wind farm on tribal land, the greater portion of the financial benefit is realized by a private entity working within the reservation borders, with tribal compensation coming in the form of land-lease payments.

Native American Sovereignty and Development: The Policy Context

For most of the past two centuries, beginning with the relocation and displacement of tribes via the Relocation Act of 1830[2] and the treaty era of the mid-1800s, federal policies have operated as significant obstacles to the advancement of opportunities for American Indians living on reservation lands. In 1887, the Allotment Act[3] was adopted allowing for the partitioning of Indian lands into individual plots which were then divided up among individual tribal members. Through this process, any land that was determined to be "surplus" was made available for

[2] R.S. Sec. 2114 derived from act May 28, 1830, ch. 148, Secs. 7, 8, 4 Stat. 412; http://uscode.house.gov/search/criteria.shtml

[3] Act February 8, 1877, ch. 119, 24 Stat. 288; http://uscode.house.gov/search/criteria.shtml

purchase to non-tribal Americans. The stated purpose of this act was to help "civilize" Native Americans by making them landowners and farmers, but it also had the effect of creating a checkerboard pattern of landownership within reservations, with both native and non-native individuals owning land within reservation boundaries. Allotment parcels (40-160 acres) were held in trust by the federal government for 25 years, at which point the landowner could sell off their land to other tribal or non-tribal buyers. It is estimated that the Allotment Act resulted in the transfer of between 90 million and 138 million acres of tribal land into non-tribal ownership, often with land of lesser economic value belonging to the tribes (Cornell, Kalt, & Begay Jr., 2008).

In the years to come, the Allotment Act became seen as a source of poverty creation within reservations and it was discontinued with the passing of the Indian Reorganization Act of 1934[4] (Pub. L. No. 73-383). The 1934 act established a relationship between Native Americans and the federal government in which the tribes are under the jurisdiction of the Department of the Interior – specifically, the Bureau of Indian Affairs (BIA), making the tribes reliant upon the BIA for most of their federal funding and programs.

The 1950s and '60s termination policies were implemented with the intention of ending the "U.S. Government's treaty-based and trust responsibilities to Indian communities" with the expectation that Native American individuals "assume all responsibilities of full citizen" by essentially eradicating tribal societies and expecting tribal members to assimilate into the mainstream society.[5] Termination policies were not popular with either Native Americans or the states. Tribes no longer had access to federal funds and were forced to deal with an entirely new

[4] Act of June 18, 1934, subchapter V, Sec. 461; http://uscode.house.gov/search/criteria.shtml
[5] House Concurrent Resolution of August 1, 1953 , [H. Con. Res. 108] 67 Stat. B122; http://digital.library.okstate.edu/kappler/index.htm

set of laws, while states were burdened with oversight of tribal members within their borders. Viewed not only as having worsened economic conditions but also as threatening the cultural traditions of Indian communities, termination policies were targeted by the civil rights movements of the 1960s and 1970s.

President Nixon officially ended termination policies in 1970 and, in 1975, enacted the Indian Self Determination and Educational Assistance Act.[6] The self-determination act was intended to promote the exertion of the sovereign powers of tribal governments and move away from the more paternalistic nature of the federal government's role in Indian affairs, while still maintaining its trustee capacity over tribal lands. Acting in a "government-to-government" capacity, the U.S. government would provide assistance to tribes on an as-needed basis. The goals of self-determination policies were to promote human and economic development through self-governance and increase tribal inclusion in the political process. Self-determination remains the federal government's official position today regarding Native Nation policy-making.

In one of the first tangible examples of the move toward expanded tribal sovereignty, the Northern Cheyenne and Crow Tribes of Montana both successfully terminated existing coal contracts with non-tribal energy companies in the early 1970s. Since the creation of the 1938 Indian Mineral Leasing Act,[7] tribes could only lease mineral development rights to outside interests and not develop these resources themselves. The Bureau of Indian Affairs had determined that tribes would be unable to effectively pursue industrial development while simultaneously preserving their traditional way of life. As a result, the BIA made contractual agreements in the late-1960s through the early-1970s that opened up tens of thousands of acres

[6] Public Law 93-638, Sec. 2, Jan 4, 1975, 88 Stat. 2203; http://uscode.house.gov/search/criteria.shtml
[7] Act of May 11, 1938, ch. 198, Sec. 1, 52 Stat. 347; http://uscode.house.gov/search/criteria.shtml

of tribal lands to coal development by energy companies, often with modest revenue returns for the tribes (Allison, 2012). In 1972, a large coal company bypassed the BIA and approached the Northern Cheyenne directly with a lucrative offer to develop coal mines on their reservation. The tribe, nevertheless, decided that concerns over environmental conservation and, more importantly, issues of social integrity and cultural norms made it necessary to not pursue the venture due to lack of tribal control over the project. Without tribal oversight regarding the size and timeline of the project, the Northern Cheyenne believed the revenue created did not compensate for the potential social and ecological disturbances brought on by an influx of non-tribal business interests.

A similar situation played out in 1973 for the neighboring Crow Tribe, which began to internally debate the impacts of coal mining within their reservation borders. Although the Crow Tribe had supporters and opponents of coal mining within their membership, both sides of the argument agreed that without sovereignty over the operation, mining projects were no longer worth establishing with outside parties. With the enactment of the National Environmental Policy Act (NEPA) in 1970,[8] both tribes now had a legal position from which they could petition for the cancellation of their existing coal-mining contracts, since the BIA had failed to conduct (or report) the potential environmental impacts of the mining operations. The petitions were successful, and the Department of the Interior suspended all mining operations requiring any future energy-negotiations take place directly with the tribes (Allison, 2012).

The government-to-government relationship established in the 1970s between the United States and Native American Tribes was reaffirmed through the 1980s and 1990s by Presidents Reagan and Clinton, and in 1998 President Clinton issued and executive order requiring all

[8] Public Law 91-190, 42 USC 4321-4347, Jan. 1, 1973; http://ceq.hss.doe.gov/nepa/regs/nepa/nepaeqia.htm

federal agencies "have an effective process" for ensuring meaningful participation on regulatory policies that "significantly or uniquely affect Indian communities" (Cornell, Kalt & Begay Jr., 2008). These themes of recognition, participation, and justice were also advanced through the environmental justice (EJ) movement of the 1990s, and continue today as the EJ movement evolves.

Environmental Justice and Native Nations Poverty

In 1991, the first National People of Color Environmental Leadership Summit was held in Washington, D.C., where African, Latino, Asian, and Native Americans came together to discuss environmental, political, and cultural issues. Participants at the conference established a list of 17 guiding principles deemed crucial ". . . to ensure environmental justice; to provide economic alternatives which would contribute to the development of environmentally safe livelihoods; and, to secure our political, economic, and cultural liberation that has been denied for over 500 years of colonization and oppression . . . ." The principles outlined policies predicated on mutual respect: the fundamental right to political, economic, cultural, and environmental self-determination, and equal participation at every level of decision-making. In addition, principle #11 states that "EJ must recognize a special and legal natural relationship of Native Peoples to the U.S. government through treaties, agreements, compacts and covenants affirming sovereignty and self-determination."[9] Subsequently, in 1994, President Clinton issued Executive Order #12898 which required each federal agency to make achieving environmental justice part of their mission by addressing disproportionately high and adverse human health or

[9] *Principles of Environmental Justice*. Retrieved November 15, 2012 from http://www.ejrc.cau.edu/princej.html.

environmental effects of programs, policies, and activities on minority and low-income populations.[10]

Native American communities are frequent recipients of an inequitable distribution of the negative impacts from environmental hazards. For example, in the 1950s and 1960s, it was a common practice for oil refining companies and their subcontracted partners to dispose of petroleum byproducts within disposal pits on privately-owned, non-federal trust lands located within tribal reservations (Zaferatos, 2010). Similarly, American Indians are frequently the recipients of the disproportionate negative impacts of the nuclear cycle. During the cold war the Navaho reservation in northern Arizona was the site of a uranium mining operation. Commercial mining companies operating within the reservation typically did not pay their Native American employees at a rate equal to the national average, safety standards were not enforced as stringently as in the private sector, contaminated tailings piles were abandoned across the reservation, and radioactive water was discharged into surface- and well-water supplies (Schlosberg, 2007).

Discrimination in wages and the degradation of American Indian lands via irresponsible business practices, along with the storage of environmental toxins, can perpetuate the poverty cycle within reservations. For most non-gaming tribes, functioning economies simply do not exist within the majority of the 300 reservations or Alaska-Native communities; and even many gaming tribes express a desire to diversify their revenue streams, as they are aware that the gaming industry is susceptible to the ups and downs of the national economy (Miller, 2008). The lack of viable economies is exacerbated by tribal members spending much of their discretionary

[10] Executive Order 12898 of February 11, 1994, Federal Actions to Address Environmental justice in Minority Populations and Low-Income Populations; http://www.archives.gov/federal-register/executive-orders/pdf/12898.pdf

dollars outside of the reservation. As a result, tribes are sometimes forced to view economic "opportunities" in alarming ways.

The hard realities of few economic options are on display in a case study of the Skull Valley band of the Goshute Indian Tribe in northwest Utah. Noriko Ishiyama (2003) relates the circumstances that, in the late 1990s, prompted the tribe to intentionally pursue the opportunity to temporarily house highly-radioactive waste within their reservation borders. Tribal leaders described this undesirable option as their only meaningful avenue for revenue creation. The choice faced by the tribe is one of selecting between the lesser of two evils: increased health risk and unabated poverty. The value of such an "opportunity to choose" is debatable, as this type of choice is not typically evaluated by other American communities.

Throughout the second half of the twentieth century, commercial energy interests – from petroleum to coal to uranium – saw reservations as places ripe for exploitation and maximized profits. Subsequently, tribes were regularly faced with choices that gave them little or no control over a natural resource available on their own lands in consideration of modest compensation. For Native Nations, participation in energy-sector production activities has historically resulted in more harm than benefit.

Moving Beyond Developmental Justice

Although environmental justice issues are frequently reported regarding the inequitable distribution of environmental hazards, the EJ movement also emphasizes considerations beyond simply the disproportionate exposure to environmental risks. Public and political participation in the decision-making process is a central component of this wider definition that addresses aspects of both social and environmental justice. In the 2007 publication, *Defining*

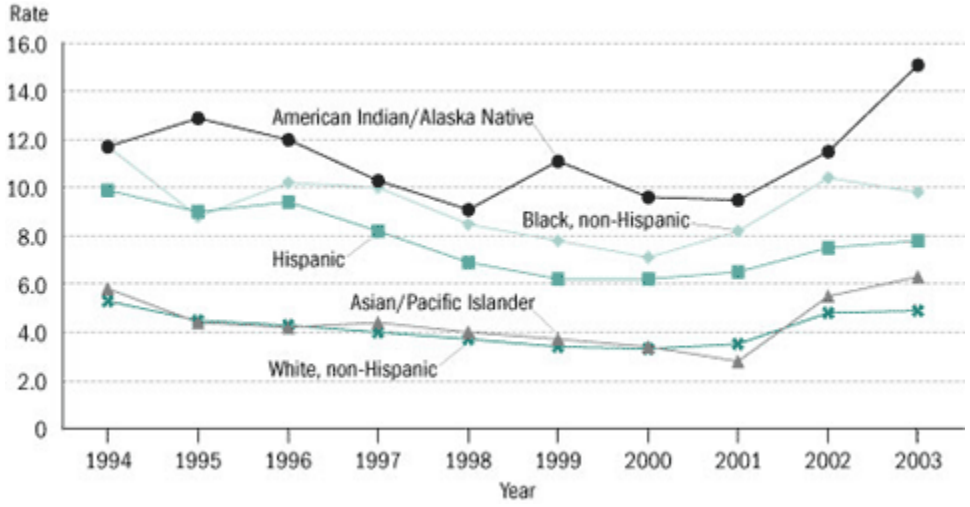
Environmental Justice, professor/author David Schlosberg describes the importance of political participation as allowing for the removal of systemic obstacles that prevent the development of a population. Schlosberg's definition of environmental justice also incorporates the need for access to environmental "goods" and not just an examination of the distribution of the "bads." Conditions that allow for individuals and communities to prosper through increased participation in the decision-making process, better employment opportunities, and improvements in education and training have become common themes within today's environmental justice movement. Schlosberg suggests that environmental justice must be pluralistic, and that the equitable distribution of environmental goods and bads is not possible without correcting the larger, contextual social-justice issues of recognition (acknowledgment of cultural and racial differences), land use, and political participation.

This argument for a larger definition of environmental justice is echoed by University of Michigan professor and author, Bunyan Bryant (1995), who suggests that the use of the word "justice" allows for the EJ movement to distinguish itself apart from simply an "environmental" movement, through the conflation of environmental, social, and political-recognition issues into one broad perspective extending beyond concerns of exposure to pollutants. For scholars like Schlosberg and Bryant, environmental justice incorporates a variety of interconnected concerns that must all be addressed in order to create the capabilities necessary for a community to prosper.

In spite of improved policy strategies, extreme poverty remains a common characteristic within many Native American reservations (Cornell, Kalt & Begay Jr., 2008). Challenges such as repressive federal policies, geographical isolation, and the occupation of lands that frequently do not contain agricultural value have been persistent barriers to the development of Native

American populations residing within reservations. Data compiled by the National Center for Education Statistics display unemployment levels for American Indians/Alaska Natives that were consistently the highest rate experienced by any ethnic group between 1994 and 2003. In 2003, the unemployment rate for American Indians/Alaska Natives was three times the rate experienced by whites (Graph 1). The same data source also provides poverty statistics per age group for survey-year 2003. American Indians/Alaska Natives consistently experience poverty rates across all age groups that are at or near the highest percentages for any ethnic group (Graph 2).[11]

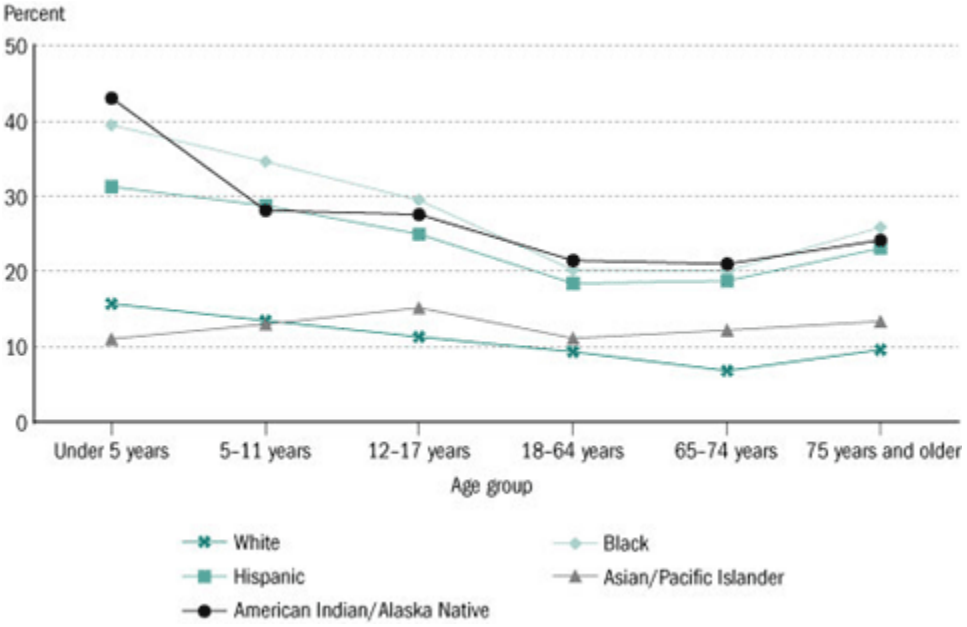
Graph 1: Unemployment rates for persons ages 16 and over, by race/ethnicity: 1994 to 2003



SOURCE: U.S. Department of Commerce, Census Bureau, March Current Population Survey (CPS), 1994 to 2003

[11] Retrieved November 27, 2012 from http://nces.ed.gov/pubs2005/nativetrends/index.asp

Graph 2: Percentage of individuals living in poverty, by age group and race/ethnicity: 2003



NOTE: To define poverty, the U.S. Census Bureau utilizes a set of money income thresholds that vary by family size and composition. A family, along with each individual in it, is considered poor if the family's total income is less than that family's threshold. The poverty thresholds do not vary geographically and are updated annually for inflation using the Consumer Price Index. The official poverty definition counts money income before taxes and does not include capital gains and noncash benefits (such as public housing, Medicaid, and food stamps). Race groups include persons of Hispanic origin.
SOURCE: U.S. Department of Commerce, Census Bureau, American Community Survey, unpublished data, 2003

According to year-2000 U.S. Census statistics pertaining specifically to reservations, the average income for Indians living on reservations was less than $8,000/year, making on-reservation Native Americans the poorest identifiable group in the U.S. The 2000 census also reported the unemployment rate for non-gaming tribes living on reservations at 23% (21% for gaming tribes), this compared poorly with a national unemployment rate at the time of six percent.

Although economic progress has been made in recent decades, the starting point for Native Americans living on reservations is historically so disadvantaged that these communities still lag far behind the rest of the country. According to research conducted in 2008-2009, the Human Development Index (HDI) – a composite analysis combining measures of income,

education, and health – Native Americans living in South Dakota are "more than half a century behind" the rest of country in the index's three developmental categories (Lewis & Burd-Sharps, 2010).

The advancement of renewable energy sources has been a key component of President Barack Obama's energy policy since his first-term election in 2008 as a means for promoting economic expansion while reducing security concerns over the dependence on foreign oil. The Obama Administration's provision of federal funds for the development of green energy includes the promotion of renewable energy projects within Native Nations.[12] While reservations lands often lack in agricultural viability, these same lands may represent a substantial resource for green-energy development. According to one energy consultant's estimate, wind power generated within tribal lands across the Great Plains could generate energy sufficient to power 50 million homes (Scofield, 2012).

As tribes attempt to diversify and expand their economic opportunities, the Tribal Energy Program represents a federal program established to provide services and financial assistance in the partnering spirit of the self-determination policies designed to promote human development within reservations. The mission-statement goals of the program acknowledge the need to move energy policies with Native Nations in pluralistic directions centered on issues of cultural and political recognition, environmental justice, and economic expansion. Nevertheless, to date, there is little available literature suggesting the strong potential for success in opting to initiate wind power installations within tribal lands.

[12] The White House, President Barack Obama: *Energy Climate Change and Our Environment*, http://www.whitehouse.gov/energy

Barriers to Wind Energy Development

American Indian cultures tend to have strong connections to their native lands and deep appreciation for the environment. Therefore, the prospect of creating greater self-sufficiency and economic opportunities through a renewable-energy source such as wind power has resulted in the growing popularity of feasibility studies for sustainable-energy endeavors on Native American reservations (Alvarez, 2011). Studies on Native American wind installations, however, indicate successful development of these projects to be replete with obstacles. Along with the intrinsic problems of weak reservation economies and poor infrastructure, the existing literature identifies additional commercial, cultural, and complicated property-rights' issues which impede development of tribal wind energy projects.

A lack of sufficient tribal funding means that a tribe must find a private energy company with which to partner in order to complete an installation, but identifying a commercial developer willing to collaborate with a tribe is difficult due to numerous complications associated with working within tribal lands. First, the fiduciary role of the federal government requires any activity impacting tribal lands must meet federal approval. This creates the potential for significant bureaucratic delays to a project (Alvarez, 2011). Second, if a willing business partner is identified, problems relating to a sufficient lack of tribal funds arise when the commercial partner, forced to carry the majority of the financial burden, ends up owning the analytical results generated by any preliminary studies. This arrangement usually makes tribes uncomfortable. If the project falls apart, the tribe is left with nothing and must start again from scratch if they wish to continue with their development plans (McCue, 2011). This can lead to

additional challenges for the commercial/tribal partnerships in arriving at an agreed-upon means of settling any potential legal disputes that arise during their collaboration (Meisen, 2009). Lastly, the tax-exempt status of Native Nations means they do not qualify for federal production tax credits that are typically available for renewable-energy development projects, and although grants are available through the Tribal Energy Program, the amount distributed to tribes annually is considered "modest" when compared to the costs associated with the advancement of wind energy installations (Fonseca, 2010).

Compounding the complications of developing within trust lands are political and logistical obstacles (Cornell, Kalt, & Begay Jr., 2008). Within tribal councils, leadership positions can have high rates of turnover, resulting in a lack of continuity in the familiarity of an ongoing project. Furthermore, as it is not uncommon for Native American communities to seek consensus among all their members on important projects, it is therefore vital to a project's success that tribal leaders remain "champions" of a project throughout its development timeline (Meisen, 2009). Insufficient road networks within reservations may require initial construction before wind turbines are ever installed (Meisen, 2009). Even if an installation is fully deployed, securing a workable power purchase agreement (PPA) from a regional electricity carrier can be difficult due to the remote locations of many reservations, and a lack of vested interest on the part of an electricity carrier that has no ownership stake in the project.

Given the expansive list of barriers to implementation, this research employs the pluralistic perspective of environmental justice for assessing the potential of the Tribal Energy Program's wind-energy considerations to create developmental opportunities of economy, empowerment, training, and improvement in the quality of life within tribal communities. While existing policy studies describe the lack of successful deployments of TEP-funded wind projects,

this narrow focus on outputs does not represent the only important assessment of the conception of the program's mission and its ability to achieve those goals. The TEP goals are not simply positioned upon the promotion of economic prosperity; they also include elements of human development and overall well-being, not just the creation of improved economic outcomes. Evaluating these qualitative goals requires an analytical technique that extends beyond an accounting of quantitative outputs. To incorporate these considerations, this comparative case study is informed by the Capabilities Approach (Sen, 1999) to human development, a philosophical theory of development that looks beyond narrow measures of development (such as GDP) to identify systemic limitations acting as obstacles to higher levels of individual and community functioning.

Human Development and Public Policy

Research shows that Native American communities often incur disproportionate environmental risks; however, discussions of the distribution of meaningful developmental opportunities to those same populations are rare. Academic reports have frequently—with good reason—focused on what has been *done to* Native American communities. Through the combined perspective of developmental justice and policy analysis, this study attempts to broaden that conversation by including a discussion of what American Indian communities are *able to do* (within the context of TEP-supported wind energy projects), and determine if a federal energy program can effectively promote human and economic development within impoverished communities by providing a meaningful opportunity for communities to flourish at a threshold that is aspirationable without being utopian (Nussbaum, 2011).

Prior to the 1980s, a nation's developmental progress was commonly evaluated solely via the measurement of its GDP. This approach typically falls short in assessing the state of development within Native American communities, as indigenous populations are frequently the poorest ethnicities in a given country (Miller, 2008). In *Development as Freedom* (1999), Nobel-Prize winning economist, Amartya Sen, states that the narrow lens through which economic development assumes an associated improvement in individual choices does not sufficiently encompass the human freedoms and opportunities necessary for true human development. Working with ethics and law professor, Martha Nussbaum, Sen proposed the philosophical theory of justice known as the Capabilities Approach as an alternative means of measuring a broader definition of human development. Human beings, for Sen and Nussbaum, are the most valuable assets within a given country and, through the promotion of individual freedoms, improvements are made to the quality of life rather than the merely to the economy, which is just a component of life. The Capabilities Approach emphasizes the importance of determining what each person is able to do, and states that fundamental freedoms are the key elements to human development, the denial of which results in the circumstances consistent with systemic poverty (Nussbaum, 2011). Since the Capabilities Approach to human development concentrates on elements of well-being that are often under-developed in poorer nations: economic opportunities, participation in the decision-making process, social and cultural recognition, income, and adequate health services – it has become a popular method for evaluating progress in ways not captured by GDP reporting. The Human Development Index, which incorporates several of the concepts put forth by Sen and Nussbaum as a means of creating a single metric for measuring human development, is now a United-Nations sanctioned measurement considered valuable for assessing the well-being of large populations (Lewis &

Burd-Sharps, 2010). With its attention to a wide range of issues beyond revenue outputs, as well as its accepted application for evaluating poorer nations, the Capabilities Approach provides a useful model for analyzing the freedoms and opportunities available for fostering well-being within Native Nations in America.

While both Sen and Nussbaum advocate the securing of fundamental freedoms, the two scholars diverge on application of the freedoms. Martha Nussbaum's version specifically advocates for components of the Capabilities Approach she refers to as "combined capabilities," a term used to describe the combination of both an internal capability and the external opportunity to actually exercise that capability. In addition, Nussbaum believes that these combined capabilities can be distilled down into a list of ten Central Capabilities that Nussbaum says are essential for living a life worthy of human dignity, and that political powers should provide these capabilities at least at a "minimum threshold level" (Nussbaum, 2011). Included in Nussbaum's ten Central Capabilities are (#7) Affiliation and (#10) Control Over One's Environment. The Affiliation capability stresses the importance of dignified, equitable treatment for all, as freedom from discrimination promotes a stronger sense of self-respect and self-worth. Effective affiliation prohibits discrimination in any form: racial, ethnic, religious, national origin, sexual orientation, etc. Control Over One's Environment addresses issues of political and material equality. Politically, this capability calls for the assurance of effective participation and association within the decision-making process over issues that directly impact each person's life. Materially, control over one's environment also requires all individuals have the right to hold and own property on an equal basis with others. For tribes pursuing the development of wind power, the Affiliation capability and Control Over-One's-Environment capability should be satisfied, regardless of project outcome, as the tribes experience diminished paternalism and

greater levels of self-determination and empowerment as a result of their participation in the TEP wind program.

Nussbaum's assertion that capabilities be provided at a minimum threshold means, in essence, that official policies should allow for meaningful opportunities of participation. The choice of whether or not to actually participate resides with the individual. This approach establishes a greater level of assurance that the freedoms provided to individuals will persist into perpetuity (Nussbaum, 2011). Sen's position calls for the capabilities to arise through a more organic method involving discourse and reason that ultimately results in a community-based approach to insuring the necessary freedoms allowing individuals and communities to flourish (Schlosberg, 2010). Sen's approach does not require an institutionalized set of rules. Within Sen's model, the federal government would partner with the tribes to evaluate and address the obstacles encountered by tribes participating in the TEP wind program.

Capabilities within TEP

In assessing the capabilities associated with the TEP wind energy program, this research is informed by the philosophies of human and economic development as described by Sen and Nussbaum, incorporating elements of both approaches that are deemed applicable, with particular emphasis placed on the community-based model as applied to populations living within specific communities (reservations). Getches and Pellow (2002) describe environmental justice as being "embedded" in communities, suggesting that if the wrongs to be addressed exist at the community level, then an analysis of justice at the community level is the requisite perspective. Nevertheless, Martha Nussbaum's specificity toward central freedoms and whether such freedoms are provided at a sufficient minimum level also proves instructive to this

investigation. Analysis using the Capabilities Approach presents this research with a means of evaluating the specific opportunities and freedoms extant in a TEP-supported wind energy project, as viewed through the pluralistic framework of environmental justice. The investigation of the capabilities fostered by the Tribal Energy Program allows for evaluation beyond the policy-analysis perspective's more traditional assessment of the program's successes and failures. Much in the same way that the Capabilities Approach views economic develpoment as a subset of the overall quality of life, the potential for any policy or program to succeed is predicated on the preexistance of the conditions necessary for effective and efficient policy implementation

The Capabilities Approach and the policy-analysis perspective both function to identify limitations to policy success, but the Capabilities Approach looks deeper into issues such as poverty, discrimination, and subjugation resulting in disadvantaged 'starting points,' making developmental progress more challenging. Less concerned with provisions of fundamental freedoms and capabilities (meaningful opportunities), the policy-analysis perspective instead takes a more technical approach to its analysis, focusing on the ability of a policy or program to achieve measurable outputs. Viewed from a policy-analysis standpoint – and assuming agreed-upon goals are established – injustices resulting from insufficiencies in the capabilities necessary for an individual and/or community to flourish are analogous to barriers to successful policy implementation. Pressman and Wildavsky (1984) suggest that within effective policy design, it is just as important to understand what *cannot* happen as it is to understand what *can* happen. This acknowledges that inherent disadvantages can influence the ability of a seemingly well-designed policy to attain its desired outputs. In this way, meaningful opportunities and successful policy implementation are inextricably connected. The preexistance of systemic

obstacles to individual and community flourishing, however, does not mean technical adjustments to effective policy implementation should be considered inconsequential. In *The Politics of Policy and Implementation*, Nakamura and Smallwood (1980) state that policy objectives which may extend beyond the reasonable means of the available resources are not necessarily "cynical or fruitless," as long as the necessary responses are implemented to correct the sources of constraint. Programs and policies disseminated from federal bureaucracies often involve multiple agencies. Therefore, a high level of importance must be placed on both the flow of information acquired through policy implementation, and the communication and cooperation among the relevant federal departments for a program to successfully evolve over time (Theodoulou & Kofinis, 2004).

Methodology

This research chose case studies for qualitative feedback from Native American communities by surveying tribes that participated in the TEP wind energy program. Tribes selected for input were chosen based on their reciept of a specific type of grant from TEP.

The Tribal Energy Program provides grants at three different discriptor levels: First Steps, Feasibility, and Development/Deployment. For the purposes of this investigation, only tribes that received Development/Deployment grants were selected, as these grants represent situations in which First-steps and Feasibility studies have already been completed. The receipt of a development/deployment grant means (presumably) that sufficient wind levels are readily available for development and the wind energy project is either in-process or has been completed. Since 2002, over thirty additional wind-based projects have been initiated which were not included in this research. Feasibility studies that reported insufficient wind levels,

projects still in the wind-assessment phase, or projects that were simply not pursued by the tribe(s), and therefore did not reach the development/deployment stage of funding, were omitted.

Based on these criteria, six tribes were identified as recipients of development/deployment grants for wind energy installations. In each instance, tribes were initially contacted via email, provided with the background information of this investigation, and asked to participate in this research by submitting qualitative feedback describing their experiences working torward their wind energy goals. In addition to the six tribes, similar requests for feedback were made to a private wind-energy developer that has partnered with multiple tribes on wind energy projects, and to a representative from the Tribal Energy Program- both of whom agreed to participate in this study. All contacts were informed that respondent identities – tribe and individual names – would remain confidential. Three tribes elected to not participate. The three participating tribes were each assigned a corresponding letter: Tribe A, Tribe B, and Tribe C, and reporting of their respective survey feedback is denoted using these 'tribe names.' Commercial Development Representative (CDR) and TEP Representative indicate the responses from these individuals.

All potential interviewees were given the option of responding via a telephone interview or through email correspondences, and all elected to respond using email. A brief list of 10-12 questions was then sent to the participants. The questions were open-ended, with the intention that respondents elaborate on all questions to whatever extent they deemed appropriate. General themes of the survey included requests to describe the current status of their project and the impact participation in a TEP-funded wind project has had on employment and training opportunities within the reservation. Respondents were also asked to describe what they believe to be the inherent obstacles to successful development, how the program could be improved, and

their overall impression of the Tribal Energy Program as a valuable service. These areas of inquiry are considered important by this study as they not only allowed for the reporting of specific outputs (e.g. jobs created), but also the opportunity to detail systemic limitations to project completion. The qualitative nature of the survey encouraged respondents to report a valuation of the opportunities presented in pursuit of TEP-supported wind power.

Each questionnaire ended by encouraging respondents to provide any additional information they felt important but possibly not discussed by the questions provided. Follow-up email communications were employed when additional clarification of a response was needed. Initial communications took place early in January 2013, with the last set of responses submitted in April 2013. Responses were then compared for similar themes – or departures – from the existing literature.

The following section summarizes the responses obtained from the participants. Individual questions are not provided verbatim, as the wording of the questions varied slightly depending on the participant (tribes, TEP Representative, CDR). Instead, the answers to the survey are grouped into larger categories which are representative of the broader themes of the questions.

Results – Survey Responses

Current Status of Project?

At the time of this inquiry, Tribe A reported two proposed projects (one 30mw wind farm and one 190mw wind farm) that are under construction but currently "at a standstill" due to economic constraints and lack of a Power Purchase Agreement (PPA). In 2004, Tribe B pursued an initial project goal of purchasing and installing a 660kw turbine that was subsequently

downgraded to two 50kw turbines due to financial challenges and environmental concerns on the part of the tribe. The two-turbine installation was completed in 2006. The original project scope was intended to generate savings sufficient for the tribe to establish a workforce training program. Ultimately, the implemented – and more modest – project was constructed as a supplemental means of reducing the power consumed at Tribe B's headquarter facility. Tribe B indicated that the two 50kw turbines are not in active operation as a result of the high annual costs of monitoring and maintaining the turbines. Tribe C is currently seeking a commercial partner to assist in the development of their wind energy project, therefore no specific details regarding the scope of the potential installation are available (*Project Status* documents available at the TEP website indicate a commercial partner opted out of a Memorandum of Understanding with the Tribe in 2010).[13]

Employment and Job Training Opportunities Created by Project?

Tribe A reported that the potential for a wind farm resulted in a Memorandum of Agreement between the tribe and two local colleges to establish a program which would train wind-power technicians, with the assumption that graduates of the program could be hired (preferably) locally or outside the reservation. Tribes B and C did not report any increase in training opportunities; however for Tribe C, it may be too soon in the deployment process for training events to come to fruition.

Training and technical assistance, according to the TEP Representative, have increasingly become the area of focus for the Tribal Energy Program. This is due in part to the relatively small level of funding provided by TEP when compared to the entire expense of delivering and

[13] http://apps1.eere.energy.gov/tribalenergy/projects.cfm

installing the high-priced hardware associated with a wind power project. This focus on training does not sit particularly well with the Commercial Development Representative who describes using grant funds on training conferences as ". . . administrative nonsense that does nothing to create economic and employment benefits."

None of the participating tribes reported any subsequent gains in employment within their communities.

Strategies Incumbent upon Tribes for Successful Development?

Consensus was reported in all responses to this area of inquiry. Each participant stated the importance of tribal leaders becoming as informed as possible on the complex economics associated with these projects. This includes a requisite understanding on the part of the tribe that a private commercial partner needs to make money on the associated project. The Commercial Development Representative noted that tribes must acknowledge that their control over land does not automatically equal project ownership. This position was reiterated by all three tribes. Tribe A emphasized the importance of tribal politics to not interfere with businesses working on the reservation, and suggested tribes consider waiving their governmental power to obstruct an investor from realizing a return on an investment made on tribal lands during the lifespan of an existing lease agreement. Tribe B also stressed the importance of cooperation with its commercial partner, and Tribe C articulated the need to establish a "low-risk" investment environment for a potential development partner. The TEP Representative generalized this issue by emphasizing tribes must be "knowledgeable and well-informed" before making any final decision on a project.

Major Obstacles to Implementation?

Along with the challenges incumbent upon the tribes, respondents noted multiple additional obstacles impeding the successful implementation of a wind power project on Native lands, most of which centered around common themes of insufficient information and economic resources. On this topic, all respondents reiterated the importance of maximizing the level of understanding on the part of tribal leaders regarding the economic costs and benefits associated with their project. Not surprisingly, Tribe C also highlighted the need to identify a viable commercial partner. Two respondents: Tribe A and the TEP Representative, noted the additional complication of a lack of access to Production Tax Credits (PTCs) due to the unusual property ownership status of lands held in federal trust. Tribe B, whose two turbines are not currently operating, expressed frustration at the expenses required to maintain the turbines. The Commercial Development Representative described the degrees of difficulty associated with installing a project on tribal lands as "multiples of developing on private lands," and indicated that failure on the federal government's behalf to expedite decisions and sufficiently advocate for potentially viable projects as the most significant – and unwarranted – barriers to successful deployment. As an example, the CDR noted an instance in which it took one year for the Bureau of Indian Affairs (BIA) to make comment on a commercial easement issue, a process which the CDR said would take place in under two months in the private sector. The CDR also believes that too many projects are granted funds, resulting in a dilution of available finances that could be applied to the most-viable projects.

Suggested Improvments?

In consideration of improving the TEP wind program, Tribe B would like to see the provision of additional financing made available which could be used for monitoring and maintaining turbines over the years.

Improving the program through gaining access to additional resources was a theme developed more thoroughly by the rest of the respondents. Due to the remote locations of their reservations, Tribes A and C identified obtaining a willing commercial partner and negotiating a Power Purchase Agreement (PPA) with a regional electricity carrier as significant hurdles to implementation. Subsequently, both tribes advocate for the pursuit of smaller, community-scale projects which could ultimately be used to replace grid power with locally produced power. Additionally for both tribes, this would lead to the potential for the tribes themselves to maintain ownership of their respective projects by forming a tribal utility capable of distributing power within the reservation and not having to pursue wind power projects solely through the alternative of leasing their land to a commercial developer.

Similarly, the Commercial Development Representative and TEP Representatives both indicated the program would benefit from increasing the available resources – financial and personnel – focused on project implementation and completion. Furthermore, both Representatives noted the need to streamline the process. In particular, the CDR sees a substantial need for greater communication and cooperation within government agencies, specifically the need for DOE and the BIA to act more swiftly on making necessary federal rulings and signing requisite agreements that allow a project to keep moving forward.

Does the TEP Wind Energy Program Provide a Useful Service?

Asked to summarize their overall impression of the program Tribe A stated the program provided a useful service, noting that the emphasis on sustainability is consistent with the tribe's environmental ethic; however, Tribe B described the program as having no real value. The responses of Tribe C and the Commercial Development Representative were qualified. Tribe C reserved judgment, as they await the outcome of their wind power aspirations (they did, however, report a positive experience working with TEP on other sustainable-energy projects). The CDR stated that the program would be useful if funds could be directed toward project completion. The TEP Representative pointed out the value of the program as it allows tribes the opportunity to evaluate their options, make informed decisions, and potentially own their own data.

Discussion

Assessing the respondent's feedback through the Capabilities Approach framework, one would expect to see reported improvements across a range of community concerns: The quality of life within reservations positively affected through the sense empowerment and respect attained by participating in the program; The realization of job and job-training opportunities, provided at a minimum-threshold level, applied in the development and/or deployment of the respondent's respective wind power installation; Project development proceeding along reasonable and predictable timelines. This type of feedback would indicate a program that is accomplishing at least a portion of its goals, even if improved economic outputs lagged behind other areas of progress. Conceptually, TEP's mission of fostering developmental justice through

informing and empowering tribal leaders, enhancing human capacity through education and training, improving the local environment and economy, and positively impacting the overall quality of life within tribal lands represents attention to a wide range of concerns beyond economic development. Achieving even a subset of these pluralistic goals during the process of participating in the program would indicate TEP is indeed establishing opportunities at a meaningful threshold, regardless of the current economic status of the wind installations. Actual responses, however, indicate that the technical components of effective policy implementation are unable to overcome systemic barriers to successful policy implementation, leaving the program's goals unattained.

Difficulties surmounting insufficient tribal economies, complications of trustee land ownership encountered by tribes working with a commercial partner, bureaucratic delays, and lack of tribal experience in dealing with the complexities contained within these ambitious projects all converge to impede the realization of TEP's wind program mission. These barriers represent a combination of logistical on-the-ground implementation difficulties, as well as the existence of systemic limitations long established within the special circumstances associated with tribal lands held in trust. In *A Theory of Justice* (1971, p. 7) moral and political philosopher, John Rawls, describes the significant challenge of overcoming institutional disadvantages as follows:

> Taken together as one scheme the major institutions define men's rights and duties and influence their life prospects, what they can expect to be and how well they hope to do it. The basic structure is the primary subject of justice because its effects are so profound and present from the start. The intuitive notion here is that this structure contains various social positions and that men born into different positions have different expectations of

> life determined, in part, by the political system as well as by economic and social circumstances. In this way the institutions of society favor certain starting points over others. These are especially deep inequalities.

Rawls' assertion that institutions "influence life prospects" suggests that the impoverished conditions and remote locations associated many reservations establishes severely disadvantaged starting points. Offsetting these institutional challenges will require more than just TEP's well-intentioned mission.

Regardless of the receipt of TEP grant funds, tribal communities typically lack the requisite finances to completely develop and deploy a wind-farm project entirely on their own. The TEP goal of "improving the local economy" is admirable but this requires the existing economy be sufficiently robust to withstand the costs associated with project development before any subsequent benefits can be realized. Tribes participating in this research reported virtually no appreciable gains in employment or economic development as a result of their respective wind-energy endeavors. Indeed, for the two responding tribes that have existing turbines, none were currently in operation. Past policies of isolationism and exploitation have made development and continued operation of tribal wind projects exceedingly unlikely without the assistance of a commercial developer, but even this arrangement is replete with obstacles.

The myriad challenges presented by the trustee relationship of tribal lands violate the capability advocating for property rights on an equal basis with others. Survey respondents stated that lands held in trust, and the corresponding complexities, are particularly problematic to implementation. The challenges of securing power distribution as a result of geographic isolation, the lack of tribal access to otherwise-available tax incentives, and bureaucratic delays associated with project development within tribal lands held in federal trust all combine to

incentivize commercial developers to *not* undertake partnerships/projects on tribal lands. The combination of these conditions would potentially require a commercial energy partner to shoulder the financial burden of developing a project for an indefinite period of time. This feedback mirrors existing literature delineating the difficulty in finding and maintaining a commercial developer willing to work within the unique parameters associated with tribal lands. This potential partnership is often under additional pressure, as the negative impacts of past instances of commercial-energy companies operating within tribal lands can engender mistrust on the part of a partnering tribe.

Nevertheless, a commercial partner remains vital to project development because of their expertise and, oftentimes, their financial resources. This is true even when a tribe is less geographically isolated, as in the case of the Campo Kumeyaay Tribe located in San Diego County.[14] The Campo Kumeyaay were not able to realize their desire to secure tribal ownership of their own wind energy project, despite the fact that the tribe is geographically situated close to a substantial population (customer) center in San Diego County. Developed in the early 2000s, the reservation contains a large wind farm (25 2mw turbines). However, the financial burden of the deploying project made it necessary for the Campo Band to operate as a lessor, leasing their land to a private developer which in turn sells power to San Diego Gas & Electric (Brady & Monani, 2012). In this arrangement, the development partner, although paying the tribe a fee to lease the land, realizes a substantially larger income of approximately $500,000/year in tax revenue created through its sale of power to SDGE (Sullivan, 2010).

Nussbaum (2011) notes that, at times, it is necessary for governments to concentrate additional resources into areas that have historically been neglected or treated unjustly resulting

[14] This tribe was contacted but did not elect to participate in this study.

in marginalized populations. Similarly, Amartya Sen states that implemented governmental programs should provide scenarios in which communities and individuals function in ways that result in "a self-help environment with adequate opportunities," and not be viewed as simply passive receivers of distributed benefits (Sen, 1991, p. 21). It may be argued that the sovereign, tax-exempt status of tribes bestows an inherent advantage to Native Nations, and that additional considerations on the part of the federal government are unnecessary. However, the shortage of viable tribal economies suggests that sovereignty alone is not enough to offset the challenges of isolation on lands that offer few marketable resources, a situation exemplified by the Skull Valley Goshute Tribe. The point here is not one of providing a "handout," rather for governments to create circumstances allowing for all communities to pursue meaningful opportunities. Indeed, the Tribal Energy Program does require tribes to thoroughly prepare grant proposals, and continued advocacy by tribal leaders is imperative to a project's chances for success.

Viewed through the narrower lens of the policy process, the fiduciary relationship between tribes and the federal government, in this instance, acts as a significant technical barrier to the effective and efficient implementation of the TEP wind program. Weimer and Vining (1999) state that the more numerous and varied the components that must be assembled and aligned, the greater the potential for implementation failures. Theodoulou and Kofinis (2004) describe the importance of the exchange of information among federal bureaucracies as having the power to either impede or promote successful policy implementation, depending on whether the agencies are interacting from a position of conflict or cooperation. Overcoming these variables would require an improved level of cooperation between all federal stakeholders (DOE, DOI/BIA, IRS, etc.). Furthermore, these federal limitations to successful policy deployment are

layered upon the historical disadvantages geographic and political isolation and paternalistic practices which have created institutional limitations to individual and community flourishing within Native Nations.

One possible means of addressing all of the problems preventing successful wind-project deployment would be to simply downgrade the stated goals of the Tribal Energy Program. In fact, based on the feedback provided by the TEP Representative, the program has already shifted its efforts away from data collection and more towards a focus on providing tribes with information to help tribal leaders make an informed decision regarding their potential projects. Taking this approach represents a move toward policy tokenism. Certainly, the attainment of program goals would become much simpler by providing personnel and financial resources aimed solely at assisting with the educational and decision-making processes surrounding wind energy projects, but the value of such guidance and training becomes questionable when the chances of actually using that knowledge and training in a meaningful way – given the existing obstacles – are so low. The provision of information and training resources is commendable but should still provide the opportunity to be employed at a minimum threshold. Pressman and Wildavsky (1984) describe such policies as political strategies in which "implementation" equals "interaction." Interaction alone, however, does not foster the creation of meaningful opportunities.

Under the Capabilities Approach, policies and programs must create circumstances through which individuals and communities have realistic opportunities to flourish. At the community level, Sen advances this concept by pointing out that what matters most is not the receipt of the quantity of goods but what those goods do for us. Sen (1999) uses the example of the Irish potato famines of the 1840s to illustrate this concept by stating that, despite massive

crop failures in Ireland, sufficient food stores existed throughout Britain but the food was unavailable to the Irish who were simply too poor to afford to purchase it. Goals centered predominantly on the distribution of information and training from a federal program would do nothing to remove the extant barriers to successful deployment currently encountered by the tribes. It's possible that job training could, regardless of the number of successful wind installations developed on tribal lands, lead to the provision of desirable job skills to Native Americans. This is a valuable outcome but would represent an emphasis away from community flourishing and more toward individual enhancement, as trainees may move away from the tribal community to pursue off-reservation employment opportunities.

In spite of the substantial list of obstacles to successful wind power development, the pluralistic goals of the Tribal Energy Program are well-aligned with Capabilities Approach values that emphasize participation, community functioning, and well-being. The potential to improve the local economy and associated employment prospects through the advancement of sustainable, wind power projects on tribal lands provides tribes the opportunity to undertake activities consistent with their cultural values. One respondent to this investigation described his tribe's participation in the program, and the possibility of realizing wind power within the reservation, by stating:

> It has been a wonderful experience to delve in this renewable energy approach for our tribe. As if it fits our way of life in days gone past, the understanding of the sacred cycle of life, the sacred hoop. It was my desire to conceptualize this thought in my/our work in renewable energy.

Participation in the program provides the potential for a tribe to weigh their options and make an informed decision for developing wind power within their reservation, all while deciding for

themselves whether the project meets their respective ethic regarding environmental and societal integrity. This is a significant improvement over historical energy policies that perpetuated ecological degradation on tribal lands while not resulting in commensurate economic benefits to Native Americans communities. Within the tenets of environmental justice, re-envisioned policy goals targeted at correcting these types of injustices represent the breaking down of institutional barriers to functioning consistent with Nussbaum's affiliation capability which recommends policies provide for 'dignified and equitable treatment.' The broad but appealing mission-statement goals itemized by TEP allow for the building of coalitions with general agreement on the policy objectives, but successfully accomplishing these goals has proved more complicated. The steps required for the successful application of any policy are improved through – in fact, require – participant feedback, and subsequent responses at the point of implementation. The shortage of successful wind energy projects within Native Nations is not the result of poorly conceived goals but rather the lack of necessary attention to the overlapping impediments to completion.

Recommendations

Multiple systemic limitations must be addressed before the TEP wind program can achieve its pluralistic goals. The themes repeated within the responses that "small projects are easier," the need for streamlined bureaucratic processes, and the requests for improved project advocacy throughout the process (until completed) suggest that, in terms of policy implementation, there is common ground worthy of further examination. Considering the extensive challenges to implementation, and based on the feedback provided by the survey respondents, this analysis suggests the promotion of community-scale wind projects on tribal lands through the removal of systemic obstacles within the federal government's control,

specifically: (1) by concentrating federal resources toward complete, small-scale project development; (2) addressing the protracted bureaucratic oversight of project timelines; and (3) providing tribes and their commercial partners access to production tax credits.

First, while little can be done to alter issues of geographic isolation, improved cooperation among the relevant federal departments could help facilitate advocacy for projects that have a reasonable chance at successful deployment. Focusing on projects that result in the formation of *tribal utilities* may be more attainable than facing the challenges associated with developing larger wind-power considerations on tribal lands. This could involve redirecting federal resources away from training programs and focusing first on project completion. Money spent on training of future wind technicians is of no value if the project is never actually developed.

Additionally, the federal government has the fiduciary responsibility of holding lands in trust on behalf of federally-recognized tribes, requiring the DOI/BIA's approval of any industrial development within tribal lands. This is a moral and legal obligation intended to provide tribal communities with reliable protection of treaty rights, lands, assets, and resources. These are important responsibilities but the application of these duties should not become a liability to potential community improvements as a result of undue bureaucratic delays. Bureaucratic processes that evolve at a comparable pace to private sector wind power installations would provide for improved predictability of project timelines, thereby increasing the willingness of commercial developers to partner with Native Nations.

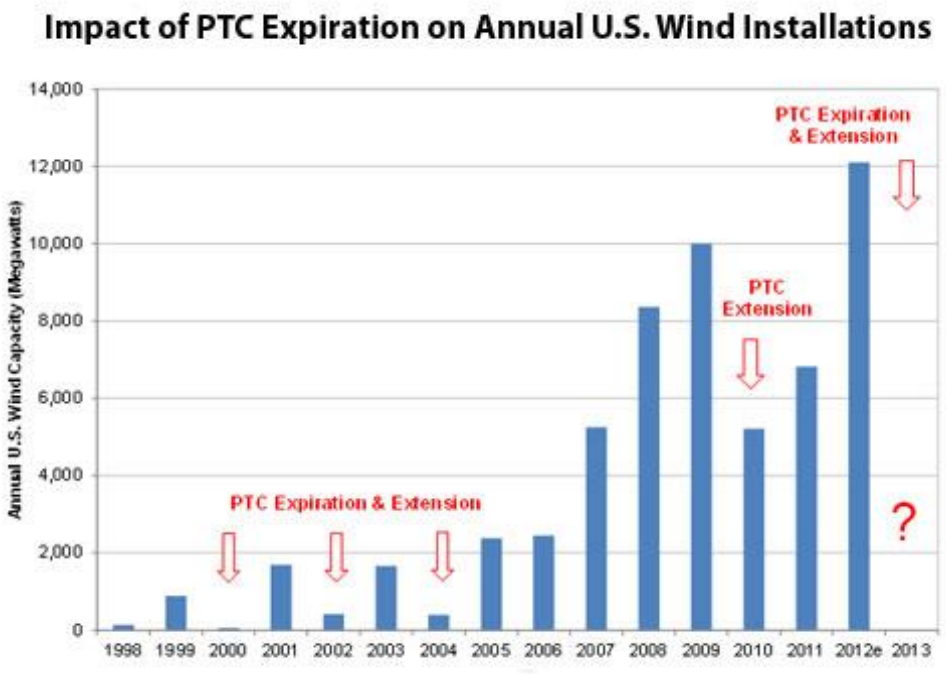
Finally, changes may already be coming to the federal tax credit access for tribes. In March of 2013, a report was released indicating a new ruling by the IRS deemed Native

American tribal governments are not tax-exempt entities for the purposes of tax subsidies. According to the report, the IRS ruling would allow tribes to receive renewable-energy subsidies in much the same way as large corporations by making tribes eligible to receive a tax credit which could then be transferred to a commercial partner (or investor) and still allow the tribe to maintain control over their renewable-energy project. If implemented, the tax credit would essentially act as a subsidy, allowing a commercial developer to generate and sell power at a rate competitive with the private sector. This arrangement would benefit the developer (lessee) of the power project until the expiration of the time horizon associated with the tax credit, at which time complete control of the operation could revert back to the tribe or, if preferred, the lessor/lessee relationship could continue (Marciano & Forsythe, 2013).

In the private sector, production tax credits are characterized by the receipt of a 2.2 cent per kilowatt hour of electricity produced by utility-scale turbines. For private companies, the renewable-energy tax credit has been available in an on-again, off-again manner since 1992 as a result of program extensions typically of only one-to-two years, punctuated with periods of program expiration in between (Graph 3). The fluctuation in the availability of the tax credit has led to large swings in the private-sector development of wind installations, dropping from 73-93 percent in years following an expiration of the tax-credit program.[15] The drop in private development during "expiration years" may provide a good indication as to the inclination of commercial developers to enter into a partnership on tribal lands where the credit is not available at all.

[15] Obtained from Union of Concerned Scientists website, *Clean Energy: Production Tax Credit for Renewable Energy,* http://www.ucsusa.org/clean_energy/smart-energy-solutions/increase-renewables/production-tax-credit-for.html

Graph 3:



Sources: Compiled by UCS based on data from DOE 2012, EIA 2012.

Conclusions

The TEP wind program's goals for environmental and economic improvement, empowerment through participation, and enhancement of the quality of life within tribal lands represent a program direction working toward the expansion of community capabilities within Native Nations. This new direction attempts to correct past injustices that created the disproportionate receipt of environmental and economic liabilities within reservations. The program's mission offers an opportunity for tribes to *act* as opposed to being *acted upon*, but a broad range of overlapping barriers impede the successful establishment of wind energy on tribal lands and prevent the program from attaining it goals. These challenges may be locally political, in the form of wavering advocacy on the part of tribal leaders, to financial, as tribes struggle to acquire commercial partners and negotiate contracts with regional electricity carriers. In

addition, the depressed state of tribal economies makes the continued operation of turbines problematic.

At the federal government level, paternalistic practices of the past century resulted in political and geographic isolation and complexities over property rights within reservations. Today, the effects of these policies continue to impact potential development on lands held in trust through bureaucratic delays and tax incentives not consistent with the private sector. Participants in this study expressed a desire to see an increased commitment toward the advocacy of smaller, localized projects by focusing federal resources throughout the development process, addressing interagency procedural delays, and creating access to tax credits. The recent IRS ruling regarding tribal status and renewable-energy tax credits may indeed represent the federal government reacting to the challenges experienced in the implementation of tribal wind-energy interests. Additional federal responses intended to facilitate project completion and expedite project timelines will be necessary for future developments to come to fruition. Improved agency advocacy and cooperation, along with a focus on small-scale projects could lead to the formation of a developmental template which could be successfully repeated throughout Native American communities, eventually leading to employment and economic gains upon which future expansion is possible. If successful at this level, future research on this topic could include cost-benefit analyses of quantitative outputs such as the number of jobs created, effects on individual income, units of energy produced, and cost savings created by the tribes to determine the effectiveness of the program to meet its goals.

The long list of obstacles to implementation indicates that the goals outlined by the Tribal Energy Program currently outpace the resources necessary for realizing the desired policy outcomes. Nevertheless, empowering tribes to participate in the decision-making process to

design and pursue their own wind-energy interests, is consistent with the tenets of the Capabilities Approach. The decision to participate, or not, rests with each tribe and is not forced upon them. Thus far, however, the constraints to implementation are preventing any inherent potential within tribal wind endeavors to successfully foster human and economic expansion. Benefits of income and job growth to tribal communities remain unachieved goals. This Capabilities Approach assessment of the meaningful opportunities created through the TEP wind energy program indicates a policy that is on-target conceptually but has substantial work to do in overcoming implementation challenges and historical disadvantages to effectively establish higher levels of community flourishing.

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