interviews

Native Americans find capturing the wind a daunting struggle

Lunes, 15 agosto 2011

Dan McCue

It was an uncommonly chilly late summer night and the singer Neil Young had paused between songs to tune his guitar to a different key.

The break onstage at the open-air concert gave Young a chance to ruminate on a television commercial being used to advertise the services of an investment firm.

“Have you ever seen that commercial where the wagon train stops at the top of the ridge and the land spreads out far and wide before the family in the lead wagon?” Young said.

“‘Land!’ the father says,” Young continued. “The impression they try to give you is that all these resources were out there simply for the taking.

“Funny how they never mention the Indians that already lived there,” he said, launching into his next song.

Twenty years after that night at the Jones Beach Theater on Long Island, N.Y., Young’s words can just as well apply to the current, ongoing conversation in America about the future of renewable energy.

Native American land – a total five percent of the land area of the United States – contains an estimated 10 percent of the nation’s energy resources, and yet almost all of the renewable sources of power on these lands are under-utilized, tribes and government officials agree.

It’s not for lack of motivation on the part of many of the 565 federally recognized tribes. Nor is it for lack of attention from the U.S. Department of Energy, which has run a Tribal Energy Program since the early 1990s.

The challenges are a bit more deep-seated than that, having to do with factors ranging from the impoverished nature of most Native American communities, their tax-exempt status, the nature of incentive programs intended to foster economic development, the energy market, and perhaps most stubbornly, the logistics of moving power from the high plains to the nation’s far more densely populated Midwest and East Coast.

“We’re dirt poor, but resource rich and the potential is really great,” said Ken Haukaas, a grandfather and member of the Rosebud Sioux tribe in South Dakota.

“We want to understand how to make the most of our resources, but unfortunately, time and again, the economics just don’t seem to work for us,” he said.

For more than a decade, Haukaas has been an outspoken advocate for harnessing the wind that blows generously over his tribe’s 900,000-plus acres.

“The tribes of the northern plains really have a lot of untapped power,” he said.

But to date – and in spite of completing much of the preliminary work for two utility-sized projects – the Rosebud Sioux have succeeded only in erecting one, 750 KW Nicon Meg turbine, which supplies power to the casino the tribe operates on the southern end of its land.

Called Akicita Cikala by the tribe, a name that means “Little Soldier”, the turbine has proven fitful at best since it was commissioned in 2003.

“It operates on and off, and tends to overheat,” Haukaas said. “We try to deal with it as best we can.”

Such is the tough reality of renewable energy on tribal lands in the American west.

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DOE tries to kick start an energy sector

Among those trying to do something about the situation is Lizana K. Pierce, project manager for the Tribal Energy Program at the US Dept. of Energy's field office in Golden, Colo.

The program was authorized by the US Congress in 1992, became a stand-alone line item in the federal budget in 2002, and was reauthorized in 2005.

Its stated purpose is to "promote tribal energy sufficiency, economic development and employment on tribal lands through the use of renewable energy and energy efficiency technologies."

Although appropriations ebb and flow year to year, Pierce expressed pride in the fact that the program has provided $36.7 million to 160 tribal projects over the past nine years.

That includes the latest round of funding, announced in July, which consisted of $2.17 million devoted to feasibility studies, $2.14 million for strategic planning, energy organization and workforce development, and $2 million for the installation of energy efficiency upgrades for tribal buildings.

"Given that the DOE tribal energy effort is a relatively small program, averaging $5 million or $6 million a year, our main focus has been on feasibility studies – collecting wind data, for instance – and we've also provided some planning grants," Pierce said.

"Unlike other DOE initiatives related to renewable energy or energy efficiency, we're not looking at the R&D side of the technology, but rather at the deployment of existing commercial technologies on Indian land, if the tribes choose to develop those resources," she continued.

"The other thing we focus on is helping tribes build their human capacity – meaning workforce development geared toward the demands of the renewable energy sector – and the development of organizational structures to oversee the development and operation of the facility," she said.

Over the past 12 years, Pierce said she's seen situations evolve from initial conversations about training and education and awareness of renewable energy technologies to tribes actually founding energy committees and even utilities.

"Our goal, from the beginning, has been to try to get them down the path of project development," Pierce said.

"Establishing these entities is a critical part of sustaining these projects down the road," she said. "Once they have an organizational structure in place, they can seek out federal funds for which they might qualify, like some USDA grants, or they might enter into a joint venture with a non-tribal entity to capitalize their project and capture tax incentives and those kinds of things."

Pierce added: "Trying to get financing, especially for large scale projects, can be very difficult, and with the economy in its current shape, the prospects have gotten even more daunting – there isn't financing out there and there aren't as many potential partners out there with an appetite to take on these challenges.

"So it is very difficult for tribes, especially if they want to maintain an ownership interest in the project when all is said and done," she said.

Aside from the obvious, tangible needs the program's funding is intended to address, it also helps tribes wishing to develop their renewable resources and keep control of information about those resources.

Because most tribes are cash poor, they don't have the money to pay for the myriad of studies that must be performed before a major energy project is undertaken; and because they are tax exempt, they don't qualify for tax breaks and other incentives ordinarily used to spur such development.

As a result, the tribes seek to take on partners – commercial entities, developers, etc. -- that don't have those constraints.

The problem is, in the absence of DOE grants, the resulting work product – studies of the energy resources, land use, potential historical and environmental impacts – tend to be paid for and therefore belong to the non-tribal partner. So if for one reason or another the tribe and developer don't wind up moving forward with a given project, the studies leave with the company.

It was little surprise then that one of the first things tribes told Pierce and her colleagues with the energy program is that they needed grants that would allow them to own the data on their resources if they were ever going to have any hope of moving forward with a renewable energy or energy efficiency initiative.

Shovel ready wind project stalls

Inspired by the DOE's Tribal Energy program, the Rosebud Sioux applied for and received a half million dollar grant to install a wind turbine at the reservation.

Haukaas said at the time wind energy was "new to everybody" in the region, and in order to advance the project, the DOE suggested the tribe partner with Dale Osborn, president of DisGen, a Lakewood, Colo.-based company also known as Distributed Generation Systems Inc.

By that time Osborn had been in the renewable energy industry for 24 years, including a stint, in the late 1980s and

early 1990s, during which he was president of US WindPower, then one of the world's largest wind energy companies.

At US WindPower, Osborn and his team developed the variable speed drive General Electric continues to use in its equipment today.

After leaving US WindPower, Osborn founded DisGen and he and his company went on to develop wind projects n the south of Spain, Canada and the US states of Texas, California and Minnesota.

Osborn described it as more or less natural that the DOE reached out to him as it was looking for someone to work with the tribes, and it didn't hurt that he was also well-known to decision-makers at the National Renewable Energy Laboratory.

"In 2000, the DOE asked me to take a look at the potential of tribal wind deployment in North and South Dakota, so I spent several months there, visiting all of the reservations, talking to tribal leaders, and in the course of that, I identified a total of about 2000 MW of potential wind power I thought could be developed on tribal trust lands."

Since then Osborn has worked with 25 to 30 tribes, including the Cheyenne, Kaw, Mandan, Hidatsa, and Arikara tribes, in addition to the Rosebud Sioux.

Osborn said when he first gets involved with a tribe, the first thing he and his staff do is write grants requests for them that are then submitted to the DOE.

"We write the grants at no cost to the tribe, and then, if they win the grant, we become the contractor for the technical aspects of the project," he said.

In addition, because most of the tribes in North and South Dakota are extremely poor and most federal grants require a project cost share of 20 percent to 30 percent from the applicant, DisGen provides that money.

Shortly after the commissioning of the Little Soldier on the Rosebud Sioux reservation, Osborn began to talk to members of the tribe about the development of a far more ambitious, 30 MW facility. They soon gave it a name: the Owl Feather War Bonnet Wind Farm.

"By that point I had visited the reservation a number of times, and had identified a site that seemed ideal for such a project," Osborn said. "It was a high, flat space, with relatively few trees, and it had a utility line, belonging to the Nebraska Public Power District, running right through it."

As it had for the Little Soldier, the Rosebud Sioux applied for a DOE grant and with Osborn's assistance, secured $586,000 to pay for preliminary wind and environmental impact studies to be performed by DisGen and a transmission and interconnection study conducted by NPPD.

By February 2008, the environmental assessment was complete and the utility had determined there would be no problem connecting the 30 MW wind farm to its transmission system.

Seven months later, the tribe and Osborn entered into a land use and lease agreement that set aside 680 acres for the project.

"Even before then, however, we were looking for a power purchase agreement anywhere that we could find one," Haukaas said.

Oftentimes the single biggest factor that stymies a renewable energy project on tribal lands is the tribe's inability to secure a power purchase agreement (PPA) with an existing utility. The agreements establish the rate at which power will be purchased and the period for which those rates will apply.

With a PPA in place, the odds of engaging potential nontribal partners and actually financing project increases exponentially, Pierce said.

Another big obstacle is transmission constraints on the existing grid.

At the time that the Rosebud Sioux began considering the 30 MW wind farm, most of their studies were based on the idea of tying the facility into the 115 KV Nebraska Public Power District line that ran through a portion of South Dakota before dropping down into the state of Nebraska.

The line was created by the district in the 1970s to ensure that it had energy coming in at the top end of its system to re-enforce its grid structure.

Haukaas said the tribe approached the utility in the mid- to late-2000s, and was told that it would put out a request for proposals (RFP) for a green power purchase.

However, when it did the RFP, "basically they said they would not look at any wind power from outside the boundaries of Nebraska," Haukaas said.

Mark C. Becker, a spokesman for the utility described the last statement as false.

According to Becker, in 2007, the NPPD issued an RFP for up to 100 megawatts of wind power, and DisGen, representing the Rosebud Sioux, submitted a proposal that was accepted by the utility's management, subject to reaching a power purchase agreement.

“The developer was unable to sign a PPA with terms that had been submitted through the original RFP,” he said.

Becker said the utility then requested DisGen and the Rosebud Sioux enter the next round of the RFP process, which was held in 2009.

“They did, but were no longer price competitive,” he said, adding “NPPD makes every effort on its wind power to purchase the energy through a PPA at the lowest possible price so that our customers do not face any major rate increase.”

Without a power purchase agreement “with a price that made the economics work out,” the shovel –ready project has stalled, Haukaas said.

For his part, Osborn described the Nebraska utility as “very gracious – with the exception of the contract terms”.

“The way I’ve described their demand was – well, first, they are a power buyer, they don’t own the project – and utilities have a hard time separating the two,” Osborn said. “So the scenario spelled out in the contract they wanted us to agree to was that we would build the wind farm, with whomever we were working with on the financial arrangements, and then if we chose to sell it later, they would have final approval of the transaction.

“In other words, they could say yes or no, and as per the contract, they wouldn’t have to explain why or even have a reason,” he said.

“Our contacts in the legal industry told us, ‘We don’t have anybody in the finance industry that would take that deal,’ because they have to have the flexibility to sell that asset which they, not NPPD own,” Osborn continued. “The way most people get around that is they form a limited liability company and the agreement is between the utility and the LLC and they just sell the limited liability company.

“At the time, I was thinking that way, and the deal being proposed wasn’t what the financial markets wanted, so I just couldn’t get financing,” he said.

Regardless of the account, Haukaas made clear the memory still stings.

“What really gets to us is they charge the local co-op here, [the Cherry-Todd Electric Co-Operative], a wheeling fee (or tariff) of between $14,000 a month and $25,000 a month, for using its transmission line to transfer power to the local consumer,” Haukaas said. “We have had a 30 percent increase in our electric rates over the last four years, and part of it definitely stems from that fee.

“That transmission line, by the way, is on a right of way they got on a perpetual basis from tribal land owners for a one-time payment of $17,000,” he said.

“They won’t buy our power, yet they charge the local utility a tariff fee that gets passed on to us, the local consumers,” Haukaas continued. “It’s kind of unfair, but… ”

With that there was a long pause.

“… it is what it is,” he said.

Asked about the utility’s green power portfolio, Becker said the utility owns both a wind farm – the Ainsworth Wind Farm – and a hydro-electric plant located in North Platte, Nebraska. It also has power purchase agreements with three other wind farms and gets power from two additional hydro plants in Nebraska, and an unspecified number of hydro plants owned by the Western Area Power Administration.

“There are three, 2.4 KW wind turbines connected to our system on the Winnebago reservation in Nebraska,” Becker said. “This would fall under our net metering policy, but the units have not generated more electricity than they use.”

In the wake of its failure to secure a deal with NPPD, the Rosebud tribe is considering other options, but outside forces, including the turmoil in the broader economy and the current price of natural gas, is making it difficult for the tribe to find another buyer.

“Maybe we’ll build an independent line that will tie in with the Western Area Power Administration line to the north of the reservation,” Haukaas said hopefully.

But that option carries with it a hefty price tag – the construction of a 15 mile long transmission line that is likely to cost between $250,000 and $300,000 a mile.

Another possibility – from the tribe’s perspective, exclusive of its relationship with Osborn -- is building a second wind farm closer to those power lines.

“Even before we signed our lease agreement with Dale Osborn, I urged the tribal council to take a look at developing a wind farm at the northern end of the reservation and tying into the WAPA line,” Haukaas said.

“The utility had done a study, detailing how much capacity they had left on their line – they said 250 MW -- and I was pushing for us to do an RFP and get DisGen or another developer to work with us, but it’s very hard getting people to agree on many aspects of this – especially if they don’t know much about renewable energy,” he continued.

Another intriguing possibility that the Rosebud tribe is watching closely is a proposed transmission line project called the Green Power Express that’s being promulgated by the ITC Holdings Corp., of Novi Michigan.

Described on the company web site as an “energy superhighway,” the Green Power Express, which is still very much in the conceptual stage, is a proposed network of 765 kilovolt transmission facilities that the ITC says will efficiently move up to 12,000 MW of renewable energy from wind-rich areas on the northern Great Plains to major Midwest load centers.

The total cost of the project is an estimated $10 to $12 billion.

“If it comes to fruition, it’s definitely something I’d like to see built out in our direction, and if can only come so close, then I’d like to see WAPA build out a connection to them,” Haukaas said.

“The tribes of the northern plain have a lot of wind, but nowhere near to load to sell that power too. And that's the major problem,” he said. “Once you start talking about moving the power from here to there, there are multiple fees that have to be incurred and the economics don’t work out from our end.”

Federal energy policy under the microscope

For his part, Osborn believes the answer lies with the federal government.

“The big thing is that there is an executive order signed by the President of the United States that requires all federal agencies to get 10 percent of their energy from renewable sources, and this is typically measured in the form of their purchasing a renewable energy certificate (REC),” he explained.

“Now, the key here is if a renewable energy project is built on federal land – that would be tribal trust land, forest service land, agricultural land, etc., that project qualifies for two RECs, as opposed to projects built on non-federal lands, which qualify for only one REC,” Osborn continued. “So the project has legitimate value to sell RECs to federal entities.”

The biggest federal entity in the area is Offutt Air Force Base in Omaha, Nebraska. Having struck out with NPPD, Osborn and the Rosebud Sioux thought it would be a good candidate buyer of their energy.

“But it really hasn’t gone very far,” Osborn said.

The reason?

“The utilities in Nebraska somehow believe the state legislature has said that wind projects need to be within the state’s borders, despite the fact that the legislature, for its part, has made it clear this is not the case,” Osborn said.

“So, technically speaking, when NPPD says that statement was not in the RFP that are correct, but when they spoke to me about why we didn’t win the RFP, a.) they didn’t mention price, and b.) they said because the legislature wanted them to rely on wind power generated in Nebraska,” he continued.

“So there is nothing written anywhere that says that, but that statement has been made by NPPD and Omaha Public Power District officials in other forums, and it makes sense on a certain level because if you a re a regulator or a utility, you’d want to encourage the economic development that goes along with developing a wind farm to occur in your territory. I understand it.

But Rosebud is sort of a special circumstance, in that they are, through Cherry-Todd, paying this bunch of money every month for the wheeling,” Osborn said. “So the way the tribe looks at it is, they are on our sovereign land, we’re paying them all this money for wheeling, and they are not allowing us to compete.”

“All the tribe wants, and all I want, is to have the opportunity to compete and in the last solicitation by NDDP, the tribe did not have the opportunity to compete, and we just think that’s wrong,” he said.

Other unique challenges

Although clearly frustrated by the way things currently stand with the utility, Osborn acknowledged that working with tribes on renewable energy projects is rife with unique challenges.

“The first thing is you’ve got tribal government, and it’s complicated – much more complicated than anywhere else – because you’ve got all these dynamics at play between the tribal districts and the individual council members and these things take up a lot of time,” Osborn said. “I think as far as Owl Feather War Bonnet is concerned, I’m probably working with my fourth or fifth council.

“So as far as the tribal politics is concerned, we really, really, really don’t want to be part of that, but it is a difficult part of the process,” he said.

“The second challenge, in my opinion, is that from the federal government perspective, the deck is absolutely stacked against the tribes,” he added.

According to Osborn, while tribes are supposed to be sovereign entities, in reality, “their” land is actually controlled by the US Dept. of Interior and its Bureau of Indian Affairs.

He went on to describe the tribes’ relationship with the BIA as “tense at best,” and yet to get projects like the Owl Feather War Bonnet wind farm done, the agency has to be involved essentially from day one.

“Now, what I am going to say next is said from the perspective of my being a free enterprise guy, but in my opinion, the rules and regulations created by the US Dept. of Interior exist solely for the benefit of the Dept. of Interior and

don't do a damn thing for the tribes," Osborn said.

"In my opinion, the US Dept. of Interior is the single biggest barrier to tribal success," he said with emphasis.

As an example, Osborn pointed to his and the tribe's experience when they filed their lease agreement for the Owl Father Wind Bonnet wind farm with the Bureau of Indian Affairs.

"When we work in the private sector, typically we'll sit down with a large land owner, come to an agreement on terms of land use, and then send it to their attorney for review… a process that might take three to four weeks," he said.

In the case, of the Owl Feather War Bonnet wind farm, Osborn said it took the Bureau of Indian Affairs one full calendar year to make a comment, and then Osborn and his team spent another six months teaching the Bureau how to value the land so that they could determine whether our royalty was adequate or not.

Once that was done, the Bureau told the tribe that they needed to send the document to the solicitor in the US state of Minnesota, "and we were told that he had a nine-month backlog of documents he needed to review," Osborn said.

"So this was all bureaucratic BS for want of a better word," he said. "Again, it's all these rules and regulations that have been written for the self-preservation of the BIA. It doesn't have a damn thing to do with helping the tribe. Nothing.

"If I had my way and was a lawmaker in Washington, looking to cut the budget, I'd red-line the entire agency, because they do not serve the tribes – and that is supposed to be their purpose," he said.

"This is a segment of our society that is fundamentally left out, all together, and if this was any other political group… Latinos, African-Americans – you pick it – this would not be tolerated. This would not be tolerated in the United States," Osborn said.

At the same time, Osborn acknowledges that Congress has offered to give the nation's Native-American tribes autonomy when it comes to managing energy relationships.

"But when they do that, they are supposed to forego the security of the federal government if something goes wrong with the deal," Osborn said.

"Now, tribes, for the most part, are not particularly sophisticated in these kinds of transactions, so they are very nervous about stepping away from the security blanket of the BIA, so it's a very complicated situation and its hard to work through all of this," he said.

"If we can break down the barrier and get this first project done it will open – perhaps not the floodgates – but maybe the spillway, and that will allow us or somebody else to do more projects on tribal lands in the Dakotas – and God knows they need it," Osborn said.

"In the end the goal here is not to make a lot of money, the goal is to create some economic opportunity for people on these reservations. It's frustrating, but it is a goal worth pursuing until I'm dead. That's the promise I've made," he said.

Education of the tribe never ends

Aside from politics, one of the largely unappreciated challenges when it comes to developing renewable resources on tribal lands is the turnover on tribal councils. When the Rosebud Sioux installed their first turbine, council members were elected to two-year terms; today members of the tribe's decision-making body are elected to three-year terms.

"What that means is that since 2003, it's been an almost constant education process, and that's hard when people come in and this is all new to them," Haukaas said.

He added, as result of these changes over the years he's become something of an authority on simplifying the subject, offering as an example, his analogy of an electric line being like a water line.

"I tell them, just like a water line, you can only put so much in there," he said. "With a water line, when you go beyond that point, the line will burst; with a transmission line, if you overload it, it will overheat and then melt."

The tribe eventually did put out an RFP for a potential second wind farm project in 2007. Among those who responded were Midwest Energy, of Kansas, Pinnacle Wind, of Michigan, and Citizens Energy Corp., of Boston, a firm chaired by Joseph Kennedy II, former congressman and son of the late US Sen. Robert Kennedy.

"We told them that we, the tribe, weren't going to put up a dime, but we'd put up the land, and that if they would bear the costs of pre-development, we'd happily work with them on it," Haukaas said.

Ultimately, Citizens won the RFP. In December 2008, the firm put up two test towers to gather data and compare their findings to those of the tribe. It also hired a contractor to take a fresh look at the capacity left on the WAPA line.

According to Haukaas, the contractor found the available capacity was closer to 190 MW, so the tribe designed its project – now called the North Antelope Highland Project – to accommodate 190 MW.

"At this point we've got about 80 percent of the preliminary analysis for the project completed; we're looking to do the cultural studies this fall," he said.

Haukaas said the tribe's earlier experience planning the yet-to-be-built 30 MW plant taught it many lessons about wind farm development, the permitting process, financing, land ownership issues, and who makes money from renewable energy and why.

"That last piece, in and of itself, is complicated, and we still don't know how it will all shake out," Haukaas said.

Officially, the tribe won't own either of the wind farms it has been developing, and will instead act as a passive land owner of the sites.

For the North Antelope Highlands project, charging the eventual owners a development fee of about $100,000 per megawatt.

The tribe, which is bringing land and access to the wind to the table, as well as assisting the developer with land issues and permitting, etc., will receive 33 percent of the fee; Citizens, which is bringing its development expertise to the project, will get 66 percent.

As per its agreement with Osborn, the tribe won't share in a development fee for the Owl Feather War Bonnet wind farm, but they will receive a percentage share of the revenue stream from both projects.

"That part of the financial picture, at least, is pretty cut and dried," Haukaas said. "We'll have access to the meters, and once we sign a power purchase agreement, we'll get copies of all the checks, so we'll know how much money the wind farms are actually getting."

These kinds of arrangements are "really, the only way we can make these work at present," Haukaas said. "As long as production tax credits are being spent, we can't own them outright because we are tax exempt."

Traditional tax-based incentives not available to tribes

Asked how the tribe's tax-exempt status serves as a barrier to what they want to do, Haukaas explained that to be tax-exempt means they don't qualify for the federal production tax credit, "and that's the driver of wind farm development in the United States right now".

"Without the production tax credit, it'll be pretty hard to build a wind farm – as it is, it's hard anyway, given the fragility of the economy," he said.

If things go as hoped on the North Antelope Highlands project, the tribe could clear $6.2 million before a shovel hits the ground.

However, even if the tribe were to build a wind farm directly next to WAPA's power lines, it doesn't matter a wit unless the utility agrees to buy the tribe's power. As it stands now, the two parties are far apart in terms of negotiating a power purchase agreement.

One reason is the utility has a standing policy to have power purchase agreements that last no longer than five years and the tribe wants one that's at least 20 years in duration. The tribe is also looking for a rate of $45 a megawatt hour.

"Our position on the longer power purchase agreement is that we need that in order to make potential investors comfortable," Haukaas said. "Among the first questions they ask are 'What is the contract?' 'What kind of timeframe do you have?'

"If you turn around and can say, we've got a 20-year commitment, then they'll probably jump right in," he said. "But once you start talking about short-term deals, deals of five years, how do you make that work?" he said. "Ten years is getting closer, but 20 is the sweet spot."

"Frankly, at this point, if we could get a 12-year commitment from WAPA, we'd be tickled pink," he added. "But it's all up to them."

Tribal Energy Program much appreciated

Haukaas credits the DOE energy tribal program with getting the ball rolling on the Rosebud reservation.

"The DOE encouraged it all," he said. "They came and spoke with us and said, 'Go out. Seek wind. For the tribe.' They were the ones who encouraged a wind farm developer, Dale Osborn, to come up and work us, and Dale in turn, encouraged many different tribes to begin looking at their wind resources."

"They've also provided us with a $1.5 million grant and other support, and I really respect them for that," Haukaas said.

But if he has nothing but praise for the DOE, he expressed less happiness with other branches and departments of the federal government.

"There are a lot of issues here," Haukaas began.

According to federal statistics, unemployment in Native American communities is about double the current 9.2 percent unemployment rate for the rest of the US, about one-third of those who self-identify themselves as Native Americans live in poverty, and roughly 40 percent live in overcrowded, dilapidated houses.

"Our per capita income is less than $8,000 a year. We're poor here, and we're at the very end of the supply chain, so

the cost we pay for just about everything is much higher than it is for most Americans," Haukaas said.

"We have people here who have to decide whether they are going to feed their families or keep their houses warm in the winter, and it is especially troubling, because it's not an isolated case here or there – a lot of people are living like that," he said. "It's really, really bad."

Haukaas continued to describe what he characterized as the "forlorn world of the reservation," a world where overcrowding, alcohol abuse, spousal and sexual abuse, and suicide is common place.

"We have no shortage of social issues, and it's because of the economy," he said.

"And our houses, although they've gotten markedly better over the past 20 years, there are still many, many people who live in older houses that leak ferociously," he said. "That's why to me, I equate renewable energy with hope. Hope for the future. Hope that our children and grandchildren can have something decent.

"Our resources are the one way we can endure this, and I understand that you have to take one step at a time, but what we need to sustain this hope is a power purchase agreement, and no one in the federal government has been willing to assist us in getting that to happen," he said. "I think the DOE has done its part, now other agencies need to step up to the plate."

Haukaas is particularly put out with the US Dept. of Interior, which he believes has an obligation to foster the Native American economy that it has not fulfilled, but he also thinks there's enough blame due official Washington to go around.

"On the one hand you have President Obama saying, 'We're helping them out," and they are, to a degree, but it doesn't do any good to do all of these feasibility studies and find out that we've got all these enormous resources, but then leaving us with no place to take it," he said. "There's a disconnect somewhere.

"If the full weight of the federal government, all of these agencies, came out and said, 'We want to buy tribal wind,' maybe we could get something done. But until that really happens, our projects won't happen."

"We'd like to start construction in 2012. We'd like to think that. But right now, Owl Feather War Bonnet is basically at a standstill," Haukaas said. "We need the feds on our side, otherwise this is just going to continue to be an uphill climb and a real serious struggle."

Returning to the subject later, Haukaas was even more worked up.

"I'll tell you this, until the federal government gets involved, it just ain't going to happen," he said, venting his frustration. "We've got lots of wind here in North and South Dakota, Nebraska and Wyoming; all we need is for the door to be open. Buy our power. Help us past this step, and we'll build more wind farms and help you to meet the nation's stated clean-energy goals.

"In my mind, it seems like a simple equation," he said with resignation. "Why is it so darned hard? I don't understand."

Wind farm poised for development

One tribe that may be about to beat the odds is the Navajo Nation, whose reservation is in the US state of Arizona.

Late last month it announced that plans for a $200 million wind farm are moving forward thanks to its being able to sell power to the Salt River Project, one of Arizona's largest utilities.

The wind farm would be built about 80 miles west of Flagstaff, Arizona, on land the Navajo Nation jointly owns with the Arizona State Land Department. It is notable that it is not located on the Navajo Reservation, which stretches from northeastern Arizona and into New Mexico and Utah.

The Navajo Tribal Utility Authority would jointly finance and be the majority owner of the wind farm in partnership with Edison Mission Energy, a subsidiary of Edison International in California.

The project is expected to be completed by 2013. When it goes online, the wind farm is expected to have a capacity of 85 MW, which is enough electricity to meet the power demand of about 21,250 homes in the area.

The Navajo Nation, which occupies the largest Native American reservation in the US, has seen several proposals for wind farms in the past three years, but none has yet come to fruition.

The SRP deal would make the proposed Boquillas Wind Project much more likely to be developed.

Dan Brickley, manager of resource acquisition and analysis for the utility, confirmed that talks with the tribe and Edison are ongoing and indicated that he feels confident the project will proceed and that the utility will get a competitive price for electricity.

Although he declined to disclose the price per kilowatt hour that's currently on the table, he didn't dismiss reports that suggest SRP will likely sign a 25-year agreement for the power.

On that subject, Brickley said SRP has a number of long-term power purchase agreements and, "is comfortable with this form of agreement".

Once operational, the Boquillas project would use existing power transmission lines in the area that deliver power

from Colorado River dams to the Phoenix area. The Land Department would get lease payments for the wind turbines placed on its land.

When all is said and done, Brickley said, the Navajo power will be used by SRP's retail customers.

"Having something like what SRP has done with a power-purchase agreement is really when a project is in its advanced stages," said Terry Battiest, a renewable-energy specialist for the tribal utility authority, in an interview with the *Arizona Republic*.

"There are a number of developers attempting to develop in different locations on the reservation," Battiest said.

"I think they are viable, and we are working on a small number of projects, but they are very much in the development state," he said.

Among the possible sites for other wind farms on Navajo lands is near Gray Mountain, north of Flagstaff.

Three years ago, Citizens Energy Corp., the same firm that is working with the Rosebud Sioux proposed investing in that project, but Battiest said the company is no longer involved.

Other projects have been proposed on the reservation near Cameron and Kayenta, Arizona.

That's not to say the Navajo haven't faced their own challenges in developing their wind resources.

Last year, Sempra Generation pulled out of the development of a 500 MW wind farm at Gray Mountain after three years of work and $2 million spent on exploratory surveys, saying it just could no longer deal with intra-tribal politics that prevented the signing of a lease on the site and was thus slowing the project down.

According to published reports, however, the company is willing to re-engage in the project if the lease situation is cleared up.

It should also be noted that wind is only one aspect of what the Navajo are doing in the realm of renewable energy.

Just last month, the Navajo Tribal Utility Authority moved into a 20,000-square-foot, $9.1 million building that us the first LEED gold-certified building on the reservation.

Funded by a grant from the DOE and private investors through a new market tax incentive program, the new utility headquarters will get 30 percent of its electricity from two 40-by-60-foot tracking solar collectors. Additional solar panels on the roof of the building will heat water for the building's radiant heating system.

While Haukaas said he takes heart in the success story of others, he said even when tribal projects do come to fruition, the revenues they generate sometimes simply evaporate, winding up in state coffers rather than tribal bank accounts.

"For instance, the state of South Dakota intends to tax the trust property that the wind farm will be located on, and as the state code stands now, they would get more money from this project, on an annual basis, than we would – and they did nothing to support our efforts," he said.

"Right now, the state of California gets more revenue on an annual basis a 160 MW wind farm developed by the Campo band of Indians there than the Campo do," he added.

The 25-turbine wind farm was completed in 2005 and is located on the Campo Indian Reservation, about 60 miles east of San Diego, Calif. It is currently the only tribal wind farm that's in operation in the country.

Already, Chicago-based Invenergy is planning to spend $300 million to build as many as 100 new windmills on the reservation, with San Diego Gas & Electric Co. already committed to buying enough power for 104,000 homes when the facility is at peak production.

Plenty of resources, plenty of need

Of course prior to getting involved with things like wind turbines and solar panels, some tribes cast their lot with the oil and gas industry and energy has long been seen as a necessary element in their future economic development.

In 1994, 10 tribes in the Northern Plains formed the Intertribal Council on Utility Policy to provide a forum for the discussion of energy- and utility-related from regulatory and economic perspectives. In additional to the Rosebud Sioux, participating tribes include the Cheyenne River, Flandreau Santee, Lower Brule, Mandan, Hidatsa, Arikara, Omaha, Sisseton, Spirit Lake, Pine Ridge and Standing rock Sioux tribes.

The council provides policy analysis and recommendations, as well as workshops on climate change research, energy efficiency, energy planning, and renewable energy with a heavy emphasis on wind energy development.

The body believes that total tribe wind generation potential in the US is about 535 billion kWh per year.

It also places a considerable emphasis on economic development, pointing out the home page of its web site that up to 90 cents of every dollar the tribes spend on energy leaves their communities immediately.

Among the council's stated goals is to convert energy challenges into solid opportunities.

Toward that end, the Rosebud Sioux along with Sinte Gleska University have signed a memorandum of understanding with a local technical college, Mitchell Vocational Tech in Mitchell, South Dakota, to train its members to work as wind farm technicians.

“They are training our folks prior to these things going into the ground,” Haukaas said.

Pierce said she’s also frequently been told that renewable energy in particular is viewed as a key to the tribal self-sufficiency.

“You know, right now, a lot of tribes – and here I’m thinking especially of those in Alaska – are landlocked, isolated and don’t have any connectivity at all,” Pierce said.

“In Alaska there are about 220 tribes whose economies are predominately diesel based, and that diesel fuel has to be shipped in, so the price of the energy they rely on is unbelievably high,” she said. “Hopefully, in the long run, this program will provide for local, indigenous use of resources and, potentially, local jobs, if they choose to develop these resources.”

In the lower 48 of the 50 United States, Native American reservations are vast tracts of land held in trust by the federal government for the tribes that live on them.

Alaska, meanwhile, has an entirely different history when it comes to its indigenous peoples. The Alaska Native Settlement Claims Act separated the state’s tribes out from those living in the contiguous US and confers an entirely different ownership status on the land on which they live.

According to the National Renewable Energy Laboratory, Native American lands in the lower 48 states have the potential to provide two-times the amount of solar power currently generated in the US, while the wind resources on Native American lands alone could increase total US output by more than a third.

“It boggles the mind,” Pierce said.

At the same time, the typical Native American household spends over 40 percent of their household income on electricity.

“So there’s a huge need and a huge amount of resources,” Pierce said. “But until there’s a way to structure these deals, especially for very large projects in the hundreds of megawatts range, it’s going to be very difficult to bring those two realities together.”

While every tribe obviously has access to some potential to develop solar power, the most promising regions for such development on tribal lands is in the American Southwest and California. As already noted, the northern Great Plains of the US have a huge potential for wind power development, as do the Aleutian Island, a string of 300 small volcanic islands extending 1,200 miles westward from the Alaskan Peninsula.

“Of course, tapping those resources, depends on a lot of factors, including economics, technology and the ability to sell the power back to the grid that you don’t need locally,” Pierce said.

Looking beyond wind, to geothermal, solar in Sioux country

Pierce said given the cost of energy, and the desire among strong tribes for energy sovereignty and self-sufficiently, she expects interest in renewable energy among tribes and their leaders will only grow over time.

“Where I do feel uncertainty is in the area of financing and the availability of grants and other funding in the years ahead; I mean, that’s going to be a global issue,” she said. “How do you finance development? How to you finance the transmission of energy from where its generated to where it is needed?”

While those questions sort themselves out, Pierce she’ll continue to reach out to tribes and spread the word about renewable energy and energy efficiency.

“The thing about the work that we do is its really like you’re planting seeds all over the place – you inevitably leave advocates behind wherever you go,” she said. “We call them the ‘energy champions’ of the tribe and they tend to have a lasting impact.

“You know, Indian country is really a small place, and people tend to stay either with their own tribe or with another. So once they know about renewables, that knowledge stays within the community. It becomes a part of what that community is, and hopefully represents a path forward,” Pierce said.

Despite his frustration over the delayed wind farms, Haukaas said he’s a firm believer in the potential of renewable energy and would like to eventually get the tribe off the grid.

“The way I see the future is, we begin to get a revenue stream going from the wind farms, and then we build a distributed, photovoltaic-based power generation system within the reservation,” he said.

“We do have some water power that comes through here already, but I’d also like to see solar panels on everybody’s roof and maybe some small wind turbines here and there, as needed,” he continued.

The Rosebud Sioux have also begun looking into how to tap the reservation’s geothermal potential, having learned that maps developed by the Geothermal Laboratory at Southern Methodist University in Dallas suggest the tribe is sitting right on top of a hot spot of the Earth.

Next month the tribe will dig two wells down to 3,500 feet as a precursor – hopefully – to pulling hot water from the aquifer to heat their homes.

“We are looking at all of our resources,” Haukaas said. “We have to find a way to be self-sustainable here, on the reservation because, in my view, the global market… well… we’ve seen how uncertain it is, haven’t we?”

“Not that I’m a doomsday person, but I think we should always try to sustain ourselves with what we’ve got here. It’s the same way I feel about wind,” he said. “You see, I’d really like to see this money helping our people.”

[PHoto inset: Courtesy of Media123]

For additional information:

US Dept. of Energy Tribal Energy Program

Rosebud Sioux Tribe

DisGen

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+ Añadir un comentario

xgTcUNXBceIhSA AFAICT you've coeverd all the bases with this answer!