

2014 Tribal Renewable Energy Webinar Series

Questions and Answers

“Renewable Energy Project Refinement” Webinar May 28, 2014

Speakers: Travis Lowder, Rod Phillip, Nathan Karman and Ken Duncan

Attendees: 35

Travis Lowder: NREL Financial Analyst

- Q: For the CDE (Community Development Entity) how does a tribe shop for investors and is it typical to hire a consultant to find investors?
- A: Project leads should include a budget to hire a consultant to find investors if they have no leads or examples that could be applied to their project. Budget line item depends on the project scale, the complexity and the consultant chosen. Often this is part of the discovery process and it is integrated with project management.
- Q: If a tribe issues bonds for financing, and tribes have to purchase the treasury bonds through the state energy office, will all state energy offices offer this?
- A: This is available on a state by state basis. Bonds are allocated by population. To research bonds but begin inquiries at the State Energy Office level, or other state agency. Some states have depleted their pool but in other there is a large availability.
- Q: With an ESCo, and what is a typical payback range or number of years before the tribe would see the benefits after paying back the ESCo that financed the installation?
- A: This depends on the size of the project and the amount of savings generated by the energy upgrade. It is not uncommon to have 15 year contracts. There are over 90 ESCo companies that can assess your energy saving potential, offer savings and payback plans. Some examples of firms that do ESCOs, although not endorsed by DOE or NREL are Ameresco, McKinstry, Chevron Siemens, Honeywell, Tetra Tech, Johnson Controls, and Trane.

Roderick (Rod) Phillip: Chairman of Puvurnaq Power Company; Vice-Chair of the Chaninik Wind Group. For interesting details on the Chaninik Wind Group see this article:

http://apps1.eere.energy.gov/tribalenergy/projects_detail.cfm/project_id=137

- Q: How long did it take Chaninik Wind Group to build the turbines, from start to finish?
- A: Construction started in June of 2010 and the job was completed in March of 2012.
- Q: How many partners did you work with to make the project work?
- A: We worked with many:
- Intelligent Energy Systems (IES)
 - AEA Renewabel Energy Fund
 - U.S. DOE Tribal Energy Program (Guided the SEP process)
 - Calista Corporation
 - Denali commission
 - Denali Training Fund
 - NREL
 - Alaska Legislature
 - Senator Lyman Hoffman
 - Representative Bob Herron
 - CSWG Community Members and Utilities
- A: How long did it take the operations and management (O&M) trainees to become competent to keep the O&M rolling smoothly?



- A: The O&M was on-the-job training, including training during the installation process. Other tribes trained the trainer. The O&M has been ongoing and so has the technical skills uptake.
- Q: How many employees do you have for the wind turbines, and how much of their time is shifted to help neighboring tribes maintain their wind turbines?
- A: A small number of employees are needed, about two to three full time employees, depending on the season. Chaninik shares their technicians with area wind farms, and this type of community collaboration appeals to Indian values.
- Q: What size turbines did Chaninik install and how many?
- A: Each turbine supplies 90 kilowatts x 5 Windmatic S-17 wind turbines produces 450 kilowatts. Additional equipment required was...
- Wind-diesel control integration upgrades
 - Heat recovery boiler for community heating
 - ETS (electric thermal stoves) devices in 21–30 homes
 - A smart metering system
- Q: Did you have to wait 4 years to begin generating power or were you able to start with one turbine running?
- A: Chaninik Wind Group was able to begin generating power after the first turbine was finished, within a year. With every turbine installed they were able to start generating energy.
- Q: You mentioned the turbines supply the entire village with wind to heat energy for powering the thermal stoves. How many tribal members are in the village?
- A: The Chaninik Wind Group ("the Group") was formed by the United Tribal Governments of Kongiganak, Kwigilliingok, Tuntutuliak, and Kipnuk, Alaska. The Group also includes local utility managers and energy consultants. The Group represents more than 2,000 tribal members in the lower Kuskokwim region of southwest Alaska. The Group was formed in 2005 because tribal leaders realized that only by working together could they survive the impacts of increasing fuel costs and begin to harness the renewable energy resources available in the region.
- Q: What technology did you use for the electric to heat conversion?
- A: Chaninik uses cutting edge smart-grid technology and residential electric thermal storage to reduce the community's dependence on diesel-powered generators.

Nathan Karman: Legal Department-case study; FCPC Renewable Generation & LLC Digester of Forest County Potawatomi Community

- Q: What tax credit investor did you find, and how did you find them?
- A: The Community did not locate a tax investor to utilize tax credits. Instead, the Community formed a state-chartered limited liability company, a taxable entity, to take advantage of the then-existing Section 1603 grant program (Recovery Act). That grant was an essential component of the project finance, and it is unfortunate that the program is no longer available for future projects of the Community or other tribes.
- Q: You created a taxable entity to take advantage of the tax benefits, and how many?
- A: Just one entity: FCPC Renewable Generation, LLC. Only that entity was necessary for the Section 1603 program. Although the Section 1603 route did strand some depreciation, the simplicity and guarantee of the Section 1603 option calculations demonstrated it would outweigh the lost depreciation.
- Q: In coordinating feedstock sources, how difficult was it to partner with the sources?
- A: Although waste generators, waste haulers, and waste brokers were excited about the project (for environmental and/or costs reasons) during the construction phase (or earlier), they were unlikely to commit to deliver feedstock to the facility at that time. Instead, they needed to see the facility prove itself as a viable disposal alternative. Although the facility has now done that, and tens of thousands of gallons of material is delivered daily, partnering with sources and securing the right feedstock remains an ongoing issue for a merchant project of this size. It requires a dedicated staff and a solid understanding of how the relevant waste streams perform and interact in the facility. It also requires working with partners (whether at the generator or broker/hauler level) you can trust.
- Q: You are operating a two megawatt anaerobic digester. Is it possible to expand the plant?



A: It was developed to be scalable, and technically there is room to expand. There are no present plans to expand, however the project team is closely evaluating potential options to recover and beneficially reuse possible excess bio-gas.

Ken Duncan: Project Manager of the newly established energy office within the San Carlos Apache Telecommunications Utility, Inc. (SCATUI)

Q: With your strong solar resource, how much do you plan on expanding after the casino project?

A: Looking at 10 to 50 Megawatt sites but this has been a preliminary action.

Q: With the creation of your own energy office, can you set it up to take advantage of tax incentives?

A: They are looking at this and how they can monetize tax benefits.

Q: How many solar firms did you qualify before you started the construction?

A: Probably 4-5 serious firms.

Links to Helpful Resources

There are many resources available to help Tribes decide which renewable resource is best for them. These include:

- [Chaninik Wind Group](#) case study offers details of this successful Alaska project.
- Lessons Learned in Siting Small Wind:
http://apps2.eere.energy.gov/wind/windexchange/filter_detail.asp?itemid=3896
- The NREL Wind Assessment Page: [Wind Resource Assessment Tool](#)
- The DOE Office of Indian Energy offers [education and training](#) on project development and financing and renewable energy fundamentals and an [Energy Resource Library](#).
- Tribal-specific renewable energy curriculum developed by the DOE Office of Indian Energy can be accessed any time on the [National Training Education Resource website](#).
- Basic information on the [types of renewable energy](#), as well as [tools and resources](#) for assessing renewable energy potential, are available on the NREL website.
- [Energy 101](#) videos developed by the DOE Office of Energy Efficiency and Renewable Energy provide short, basic overviews of the various types of renewable energy.
- The DOE Office of Indian Energy and Tribal Energy Program offer up to 40 hours of in-depth [technical assistance](#) for federally recognized Indian Tribes, tribal energy resource development organizations, and other organized tribal groups and communities to advance tribal renewable energy and energy efficiency projects.

Answers are provided by the National Renewable Energy Laboratory. If you have additional questions, email indianenergy@hq.doe.gov. The Tribal Renewable Energy Webinar Series is sponsored by the DOE Office of Indian Energy, Tribal Energy Program, and Western Area Power Administration.

