

National Pollution Prevention Roundtable
Tribal P2 Workgroup Conference Call
Date: Tuesday, March 16, 2010
Time: 2 pm EDT, 1 pm CDT, Noon MDT, 11am PDT, 10am AKST
Call in Number: 888-296-6500; Passcode 547845

Title: Solar Energy

1) Introductions - 24 participants from around the country

2) Guest Speakers

Brandy Toft, Air Quality Specialist, Leech Lake Band of Objjwe: air@lldrm.org

Brandy introduced the Leech Lake's Solar Furnace project (http://tribalp2.org/nppr/minutes/2010-03/Toft_presentation.pptx).

In addition to the information found in the presentation, here are some points Brandy made:

- Once the tribe was awarded a grant from the Sustainable Skylines Program, they decided to focus on solar heat because it is less technical and less expensive than other technologies.
- For the pilot project, they installed solar panels on 4 tribal member-owned houses and 4 housing authority houses. By using solar panels on the 4 housing authority houses, Brandy hoped to interest the housing authority in implementing them in new houses going forward. She said that her plan worked: the housing authority wants to install them in 60 new houses to be built. In addition, approximately 20 owners of existing homes are interested in retrofitting their houses with solar panels.
- The agency used to install the pilot panels, [RREAL](#), was recently certified by the SRCC, which allows them to receive federal tax credits for solar installations.
- The homes with the solar panels installed have seen a 30% decrease in their heating costs.

Greg Kaufman, Environmental Specialist, Pueblo of Jemez: gkaufman@jemezpuablo-drp.org

Greg presented us with the Jemez Pueblo's renewable energy projects (http://tribalp2.org/nppr/minutes/2010-03/Jemez_Solar_Project_Montana_P2.ppt)

In addition to the information found in the presentation, here are some points Greg made:

- When the project is up and running, it will generate 4MW of solar energy which could power 650-700 homes. This amount could power the majority of the homes in the pueblo, but this would not help pay for the capital outlay for the equipment. So they will sell the power on the wholesale energy market. There is a powerline which runs over the area where the panels will be installed, which will facilitate tying into the grid.
- The income generated from selling the solar energy will also help with infrastructure projects on the pueblo, such as updating their waste treatment facility and creating cleaner drinking water.
- The 30-acre site where the solar panels will go enjoys 310 days of sunshine a year, and they will be able to generate some power on cloudy days.
- Two tax credits are critical in making this project possible – they reduce the cost by 2/3. A bank loan will finance the other 1/3.

- Greg states that in order to take on a project of this magnitude it is necessary to hire a good finance company to help get the financing in order.

Lance Whitwell, Tribal Energy Manager, Native Village of Venetie: lancewhitwell@yahoo.com

Lance spoke about the challenges of reducing reliance on diesel fuel in the remote villages of Venetie and Arctic Village (http://tribalp2.org/nppr/minutes/2010-03/AREC_presentation.ppt).

In addition to the information found in the presentation, here are some points Lance made:

- There are no roads into the two villages – everything is flown in.
- Power lines are not feasible due to the villages being surrounded by a wildlife refuge.
- The villages operate on a subsistence economy: they rely heavily on hunting caribou
- Diesel generators are used to power the two electric utilities – which are separate in each village
- A study done showed that for 2 months in the summer, the solar energy generated totally offsets electricity requirements – this information enabled the tribe to obtain a DOE Tribal Energy Program grant.
- The grant was used to evaluate the existing small system.
- They considered investing in a storage system, but decided not to because the cost of shipping batteries out of the area is as costly as getting them in.
- They reviewed other sustainable energy options:
 - Geothermal – lack of roads
 - Wind – fears that wind turbines would affect the migration patterns of the caribou
 - Hydro – the extreme cold
- Lance updated the prices on the slide which displayed local fuel prices:
 - Electricity is now \$0.75 KW hour
 - Gas is now \$8.50/gallon
 - Fuel oil is now \$6.75/gallon and can only be used for commercial heating – residents burn wood for heat
 - Propane is now \$295/100lbs.
- The fixed arrays installed on the washeteria building generated an 80% cost savings.
- They also used a grant to purchase tracking arrays, which were modified by the manufacturer to rotate 360 degrees rather than the traditional 180. This allowed them to maximize the amount of solar energy generated during the 24 hours of sunshine during the summer. They also created a website where they could track the energy generation. This site (which is no longer active) was used by the local schoolkids as part of their curriculum.
- They found that the biggest users of electricity in the summer were private freezers. An idea to use solar energy to power a community freezer was not implemented due to lack of available funding.
- They are currently in a middle space where the amount of solar power generated makes the diesel generators run less efficiently, but there is not enough consistent solar power generated to turn the generators completely off.
- Other projects being worked on in the area include:
 - The local housing authority is starting to build solar panels into their plans for individual homes.
 - Used oil is now used to heat the snow removal facility at the airport
 - Biomass projects are being considered
 - Lance is working on an electric ATV