



Forest County Potawatomi Community

Installation of Solar Photovoltaic Systems

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Forest County Potawatomi Community

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“Let us share our natural resources for the good of our People. Let us work for clean air and water and pray for the courage to stand up to those who would abuse our Mother Earth. So be it.”

- Bemwetek (Elder James Thunder)

Excerpt from 2007 Class I Air Redesignation Public Hearing Prayer

Community's Commitment to Environmental Protection

- Tradition and history teach a strong commitment to protecting and preserving the natural environment
- Like other indigenous peoples, refer to Earth and “Our Grandmother” or “Mother Earth,” and perceive of it as a living thing
- Significant efforts to prevent environmental harm
 - Crandon Mine Opposition
 - Class I Air Redesignation

Community's Focus on Energy

- Resolution of Crandon Mine and Class I issues freed up time and resources to move beyond project opposition to take affirmative steps to improve the environment
- Participation in (former) Governor's Climate Change Task Force
- Elders communicating that things are out of balance

Project Greenfire

- Established goal of energy independence using only renewable carbon-neutral or carbon-free resources
- Adopted “Environmental Mission Statement” to help implement and institutionalize goal
- Comprehensive Energy Audit
 - Established baseline of energy consumption / carbon footprint
 - Identified “List of 100” facilities improvements
- RECs purchased to completely offset electricity use and serve as bridge to energy independence
- Four day work week for Tribal Government Employees

Energy Efficiency Projects

- Lighting Retrofit at Potawatomi Bingo Casino Parking Structure
 - 1,760 55W LED Lights



Energy Efficiency Projects (cont.)

- Energy Efficient Retrofit of Wundar Hall
 - Involved updates to building envelope, HVAC system, plumbing system, and electrical infrastructure



Energy Efficiency Projects (cont.)

- Investigation of Energy Efficiency Measures for Potawatomi Carter Casino Hotel (PCCH) and adjacent C-Store
 - 11 recommended ECMs at PCCH that would achieve a 34.6% reduction in energy use with a 5.11 year payback after state utility incentives
 - 4 recommended ECMs at Carter C-Store that would achieve a 27.4% reduction in energy use with a 3.89 year payback (after state utility incentives)



Renewable Energy Projects

- Resource assessments for potential projects
- Obtained \$2.6M of competitive funding through the Department of Energy's Community Renewable Energy Deployment program
- Started Small

Renewable Energy Projects (cont.)

- **Small Rooftop Solar Installation (35 kW) on Milwaukee Administration Building**



Renewable Energy Projects (cont.)

- Milwaukee Biodigester and Biogas Facility





Community Solar Project

- Overview
 - Install at least 737.5 kW of Solar PV at multiple facilities
 - Total project cost of approximately \$2.8M
 - Creation of one or more project LLCs
 - Tribe to contribute the grant funds and third party tax investors to fund, as cost share, the remaining project costs
 - No capital construction costs to Tribe
 - Tribe receives full credit for contribution
 - PPA under which the Tribe pays for the solar produced at a rate that equals 80% of 2013 electric rates
 - After tax investors recoup their net capital contribution, the investors, at the Tribe's option, must transfer their remaining ownership interest in project to the Tribe

Project Goals

- Promote energy independence.
- Reduce reliance on electricity generated by fossil fuels.
- Provide a model for other Tribes to deploy community-scale renewable energy projects.
 - Demonstration that community-scale solar facilities are feasible for Tribes in northern climates.
 - Provide a model for Tribes to integrate grants (e.g., HUD block grants, USDA REAP grants, etc.) with private financing/tax equity to make renewable energy projects more cost-effective.
- Diversify portfolio of renewable generation.

Specific Objectives

- Install at least 737.5kW of solar generation capacity at Tribally-owned buildings in Milwaukee and Forest Counties.
- Increase the Tribe's renewable generation capacity with equipment that has low operations and maintenance requirements and costs.
- Provide a good match between the renewable solar resource and the time of use of Tribal facilities.
- Be economically feasible by allowing for a payback of capital costs based on energy savings achieved over time.

Initial Challenges

- Siting
 - NEPA/Section 106
 - Matching Space to Loads and Rates
 - Contemplating Future Expansion
- Third Party Roles

Tasks

- **Activity #1: LLC Formation**
- **Activity #2: Power Purchase Agreements**
- **Activity #3: Lease/Access Agreement**
- **Activity #4: Final System Design**
- **Activity #5: Interconnection Application**
- **Activity #6: Structural Review**
- **Activity #7: Bid Out/Hire Vendors**
- **Activity #8: Order/Secure Materials**
- **Activity #9: Obtain Permits**
- **Activity #10: Install Racking**
- **Activity #11: Install Solar Modules**
- **Activity #12: Install Inverters**
- **Activity #13: Connect Inverters to Electric Distribution System**
- **Activity #14: Test/Inspect/Commission**
- **Activity #15: Verification of Reduction in Fuel Use**

Questions?

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FOREST COUNTY
POTAWATOMI
Keeper of the Fire

Thank you!