U.S. Department of Energy: Office of Indian Energy

Deploying Clean Energy on the Winnebago Reservation
Background

- Ho-Chunk, Inc. is the award-winning economic development corporation owned by the Winnebago Tribe of Nebraska.
- Established in 1994 in Winnebago, Nebraska with one employee, Ho-Chunk, Inc. has grown to over 1,000 employees with operations in 24 states and 10 foreign countries.
- The Winnebago Tribe of Nebraska struggled for many years with low income, high, unemployment and a lack of affordable housing.
- Through the creation of new job opportunities at Ho-Chunk, Inc., there came the need for additional housing on the reservation.
Background

• The Ho-Chunk Village concept was developed to fulfill that void.
  • 110 housing units (single family, multi family, commercial, parks)

• The integration of clean energy production into HCI Village was a natural match which began many years ago w/ USDA support for the installation of Wind Turbines in 2008 and continue to this day with the community scale solar deployment.

• Partnership among: Winnebago Tribe of Nebraska, Ho-Chunk, Inc., Ho-Chunk Capital, and Ho-Chunk Community Development Corporation
Ho-Chunk, Inc.

GLOBAL OPERATIONS
26 States and Around the Globe

= Ho-Chunk, Inc. Business Locations
Ho-Chunk Village

http://hochunkinc.com/village-tour.php
Project Overview

• Under this newly funded project, Ho-Chunk, Inc. will install community scale solar systems on the Winnebago Reservation and specifically for the Live Work Building and add passive solar thermal efficiency measures.

• The project is comprised of two initiatives:
  1. To install 282 kilowatts on the reservation: 282 kW of solar installations and one 5 kW of wind installations that will reduce the associated retail electrical consumption of those site by approximately 27% (annual saving of $42,000!)
  2. To install solar 25 kW renewables and passive solar thermal measures at the Ho-Chunk Village Live Work Building, a commercial mixed-use building.
Live Work Solar

- Specially designed roof structure
- 25kW limit
- Fair access
- Includes small thermal solar
- $75,000 Total cost
Woodland Trails

- Will use low angle trays like on corporate
- Ballasted roof with stone/block exchange
- High cost power
- Oriented on south side
- $64,537 system
- 25kW size
Project Overview

Rock River

- Similar System to Live/Work, 25kW
- Will build off wiring already in place
- Will save about $4000/year
- Difficult roof access
- Lightweight system
- $67,382 cost
Walthill Foods

- 25 kW system
- High cost of power
- Easy standing seam roof
- System cost $63,796
- No durable equipment in grant if sold
Project Overview

Pony/Titan

- Our first large ground mount system
- 25kW x 2 for Pony and Titan. Balance sold to BCPPD
- Easily expandable, excellent cost point
- $218,156 for 100kW is $2.18 watt
- Visibility from N entry highway a plus
Distribution

- Expansion to max capacity of available space
- Originally designed to expand
- 25kW stays net metering, NPPD will buy 45kW as buy/sell arrangement
- Long feed line to RR was creating loss
- $46,455 to add 20kW to fill space
Project Overview

Senior Housing Units
- 10 senior housing units in the Ho-Chunk Village will receive roof mounted solar panels
- 8.5 kW

Ho-Chunk Renaissance Building
- Winnebago Language building will receive roof mounted solar panels
- 21 kW

Senior Center
- Senior Center will receive roof mounted solar panels
- 14 kW

Pow-Wow Grounds
- Veteran’s Building will receive roof mounted solar panels
- 7 kW

Tribal Planning Building
- Tribal Planning building will receive roof mounted solar panels
- 7 kW

Little Priest Tribal College
- Replace two wind turbines
- 5 kW
# Project Status

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<th>AC kW</th>
<th>DC kW</th>
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Project Status

Senior Housing Units
Project Status

Live Work Building
Project Status

Heritage Foods

[Image of solar panels on a roof]
Project Status

Pow-Wow Grounds
Project Status

Ho-Chunk Renaissance Building
Project Status

Woodland Trails Building
Future Plans

- Continue integration of clean energy production into HCI Village
- Deploy clean energy strategies into the development of HCI Village 2.0
- Explore outside partnership efforts (investors, tax credit leveraging, etc.)
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