

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



Deploying Clean Energy
on the Winnebago
Reservation

Winnebago Tribe Of Nebraska



- Located in northeast Nebraska near the tri-state area of Nebraska, Iowa, and South Dakota.
- The Winnebago Tribe of Nebraska has approximately 5,000 enrolled members.
- The reservation is 116,000 acres.
- Allotted reservation - there are 30,000 acres that is controlled by the Tribe.

Winnebago Tribe Of Nebraska



- The Treaty of 1865 relocated from Wisconsin are to the current reservation.
- There are nine members of the Tribal Council that serve a staggered three terms.
- Officers serve a one year term.
- IHS Facility
- Tribal College
- Educare
- Ho-Chunk Community Development Corporation
- CDFI

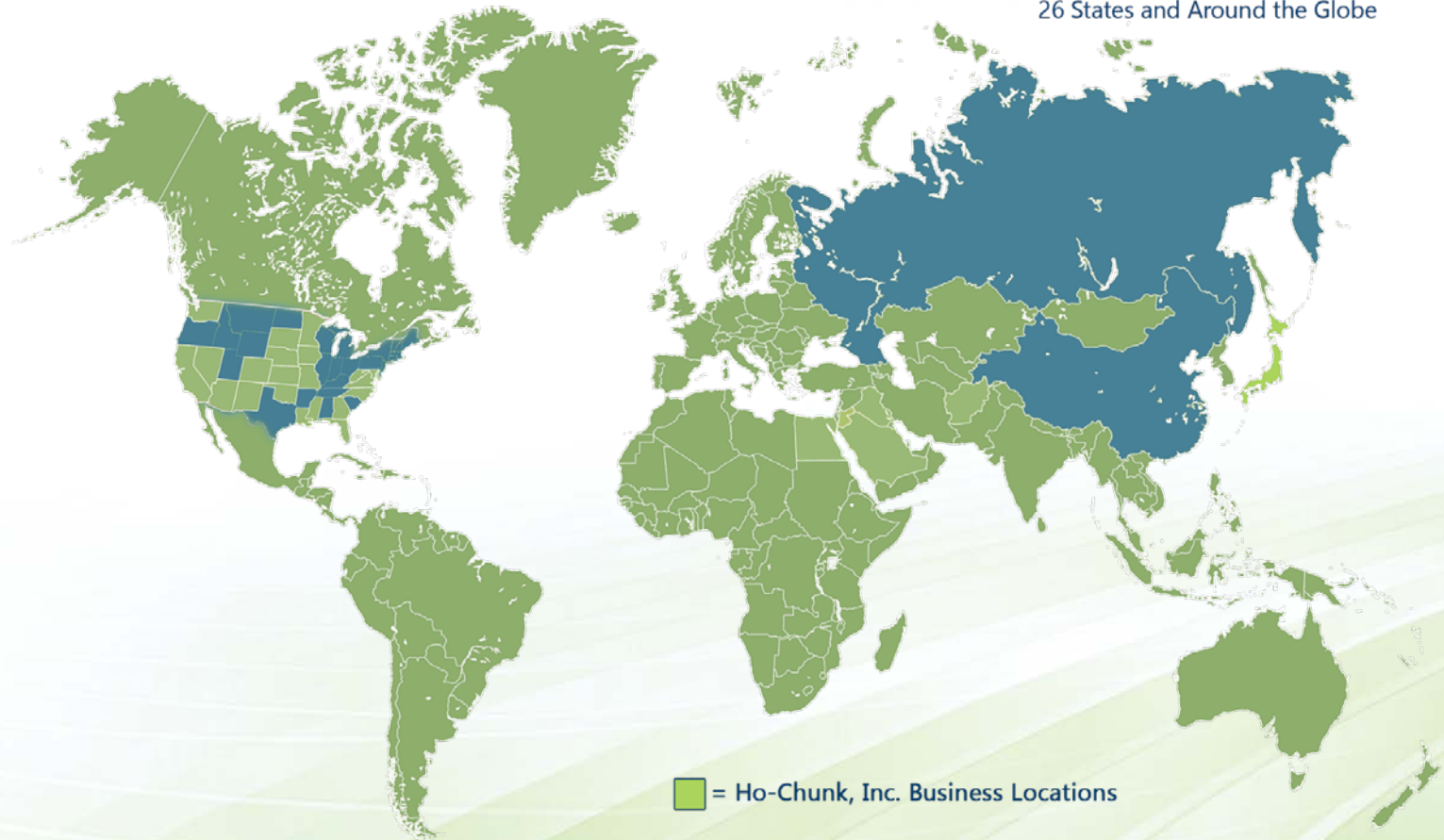


Ho-Chunk, Inc.

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.

GLOBAL OPERATIONS

26 States and Around the Globe



Ho-Chunk, Inc.



- The board of directors consist of five members with two of them being council members.
- Ho-Chunk, Inc. has a focus on economic development.
- Early businesses were common tribal economic ventures such as tobacco and gas.
- Later was expanded to hotels and interest in modular home company.
- There has been major growth with 8a contracting.

Ho-Chunk, Inc.



- With growth, there was an increased need for community and social programs from Ho-Chunk, Inc.
- Housing initiatives, education initiatives, financial literacy.
- Leadership – Renewable Energy

**“In Order to do one thing you
have to do everything.”**

– Lance Morgan, Ho-Chunk, Inc. President and CEO

Lessons Learned



Started with wind investments

- Didn't qualify for tax credits.
- Grants helped offset the cost.
- Commercial scale sold for ~2.9 cents KW, brought back at ~10 cents KW.
- High maintenance costs

Shift to solar investments

- Started with small projects.
- Grants helped offset the cost.
- Focus on offsetting cost on retail power.
- Low maintenance costs.

Lessons Learned



Planning and Engagement

- Bad News: Tribal communities are not always the best planners
- Good News: We are getting better!
- Key is more and better communication with all stakeholders
- Use technology and social media
- Don't forget old school use of flyers and newsletters
- Always, always, always include the Tribal Council.

Ho-Chunk Village



<http://hochunkinc.com/village-tour.php>





Project Highlights

Ho-Chunk, Inc. is helping create one of the largest renewable energy infrastructures in the state of Nebraska in the Winnebago community.

HIGHLIGHTS

- 1,000 solar panels installed at 14 sites across the Winnebago Community.
- 300kw solar power generation, reducing energy bills by about \$40,000 annually.
- These projects will offset 25% to 75% of total energy usage at these sites.



Funding

In 2017, Ho-Chunk, Inc. and the Winnebago Tribe made an investment of over \$700,000 in renewable energy with the support of U.S. Department of Energy grants. We received two of only 13 national awards from DOE.

\$700,000

BREAKDOWN

\$395,000 in grants from the Office of Indian Energy at the Department of Energy

\$395,000 in matching funds from Tribal sources, including Ho-Chunk, Inc.

Project Initiatives



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.

Project Sites



Renewable energy project sites include:

- Solar panels
 - Tribal Pow Wow Grounds
 - Ho-Chunk Renaissance building
 - Tribal Planning building
 - Winnebago Senior Housing
 - Live Work building
 - Woodland Trails building
 - Rock River Manufacturing
 - Rock River Distribution
 - Heritage Foods
 - Walthill Foods
 - Pony Express
 - Titan Motors and Storage
- Little Priest Tribal Collage wind turbine replacement.

Live Work Building



- 25 kW limit
- Specially designed roof structure
- Fair access
- Includes small thermal solar
- \$75,000 total cost



Woodland Trails



- Use low angle trays similar to the Ho-Chunk, Inc. corporate office
- Ballasted roof with stone/block exchange
- High cost power
- Oriented on south side
- \$64,537 system
- 25 kW

Rock River Manufacturing



- Similar system to Live/Work
- 25 kW
- Build off wiring already in place
- Will save about \$4,000 per year
- Difficult roof access
- Lightweight system
- \$67,382 total cost

Walthill Foods



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

Pony Express & Titan



- Our first large ground mount system
- 25 kW x 2
- Easily Expandable, excellent cost point
- \$218,156 for 100 kW is \$2.18 watt
- Visibility from highway entering town

Rock River Distribution



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

Heritage Foods



Pow-Wow Grounds



- Veteran's Building will receive roof mounted solar panels
- 7 kW

Renaissance Building



- Winnebago Language building will receive roof mounted solar panels
- 21 kW



Project Overview



Senior Center

14 KW Roof mounted solar panels



Senior Housing

8.5 KW Roof mounted solar panels



Tribal Planning Building

7 kW roof mounted solar panels

Little Priest Tribal College

Replace two wind turbines, 5kW

Project Status



Location	AC kW	DC kW	Status	Electrical Status	Est. Online Date
Live Work	25	29	Planning ongoing	Completed	December
HoChunk REN	20	21	Installed	Completed	November
Woodland Trail	25	27	Installed	Completed	November
Rock River	25	29	On order	Ongoing	December
Walthill Foods	25	29	Installed	Completed	November
Pony/Titan	110	116	Installed	Ongoing	December
Distribution	18	20	Installed	Ongoing	November
Elder Housing	8.5	8.5	Ongoing	Ongoing	November
LPTC	5	5	Ordered	Ongoing	November
Senior Center	12	14	Installed	Completed	November
Pow Wow	6	7	Installed, warranty	Completed	November
Tribal Planning	6	7	Installed	Completed	November
	285	312			

Future Plans



- ✓ Continue clean energy projects in Ho-Chunk Village.
- ✓ Develop clean energy strategies in the development of Ho-Chunk Village 2.0
- ✓ Explore outside partnership efforts (investors, tax credit leveraging, etc.)

Contact Information



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