



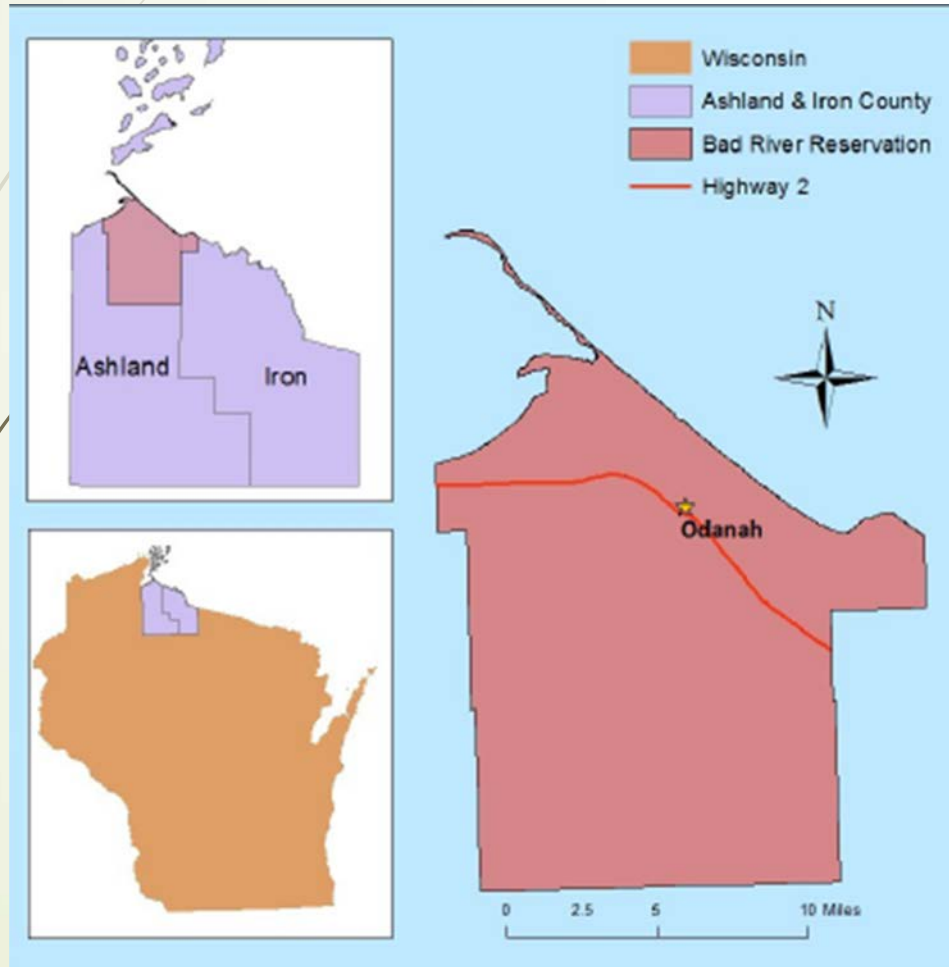
Ishkonige Nawadide Solar Project Update

December 17, 2020

Bad River Band of Lake Superior
Tribe of Chippewa Indians

Daniel Wiggins Jr, Project lead

Bad River Band of Lake Superior Tribe of Chippewa Indians



- Located on a 125,000+ acre reservation in Northern Wisconsin on the south shore of Lake Superior
- Territory ceded by the tribe to the U.S. government includes the upper one third of what is now the State of Wisconsin.
- Has over 7,000 members, the majority living off the reservation, about 2,000 live on/near the reservation.

Overview

- **Phase 1: Ishkonige Nawadide**
 - Objectives
 - Project Details
 - Planning & Development
 - Execution of Project
 - Challenges
 - Accomplishments
 - Next Steps
 - Partners
- Questions



Phase 1: Ishkonige Nawadide Solar Project



Ishkonige Nawadide Objectives



- ▶ The Bad River Tribe was awarded a USDOE Grant in 2019 for the Ishkonige Nawadide (It Catches Fire) Solar Microgrid Project.
 - ▶ 2 Million Dollar Project
 - ▶ 50% USDOE Contribution
- ▶ Focused on resiliency after the 2016 Flood and while experiencing lengthy electrical outages at crucial facilities, such as the Health & Wellness Center, the Tribe's community Clinic.
- ▶ Tribe is installing over 500 kW of solar with over 1000 kWh of battery storage at three tribal facilities located in the Odanah Community:
 - ▶ The Chief Blackbird Administration Building
 - ▶ Wastewater Treatment Plant (WWTP)
 - ▶ Health & Wellness Center (H&WC)
- ▶ Systems at the H&WC and the WWTP will offset the entire facility electrical loads and offer a level of resiliency if power goes out that can last projected days if not weeks.



Ishkonige Nawadide Details

- ▶ Chief Blackbird Administration Building
 - ▶ PV Size: 24kW DC
 - ▶ Battery Size: 22 kWh
- ▶ Health & Wellness Center
 - ▶ PV Size: 300 kW DC
 - ▶ Battery Size: 568 kWh (250 kW or discharge rate)
- ▶ Wastewater Treatment Plant
 - ▶ PV Size: 200 kW DC
 - ▶ Battery Size: 426 kWh (200 kW or discharge rate)
- ▶ All Systems operate on a DC Bus System
 - ▶ Everything (PV and batteries) is connected on the DC side.
 - ▶ Cloud Monitoring System

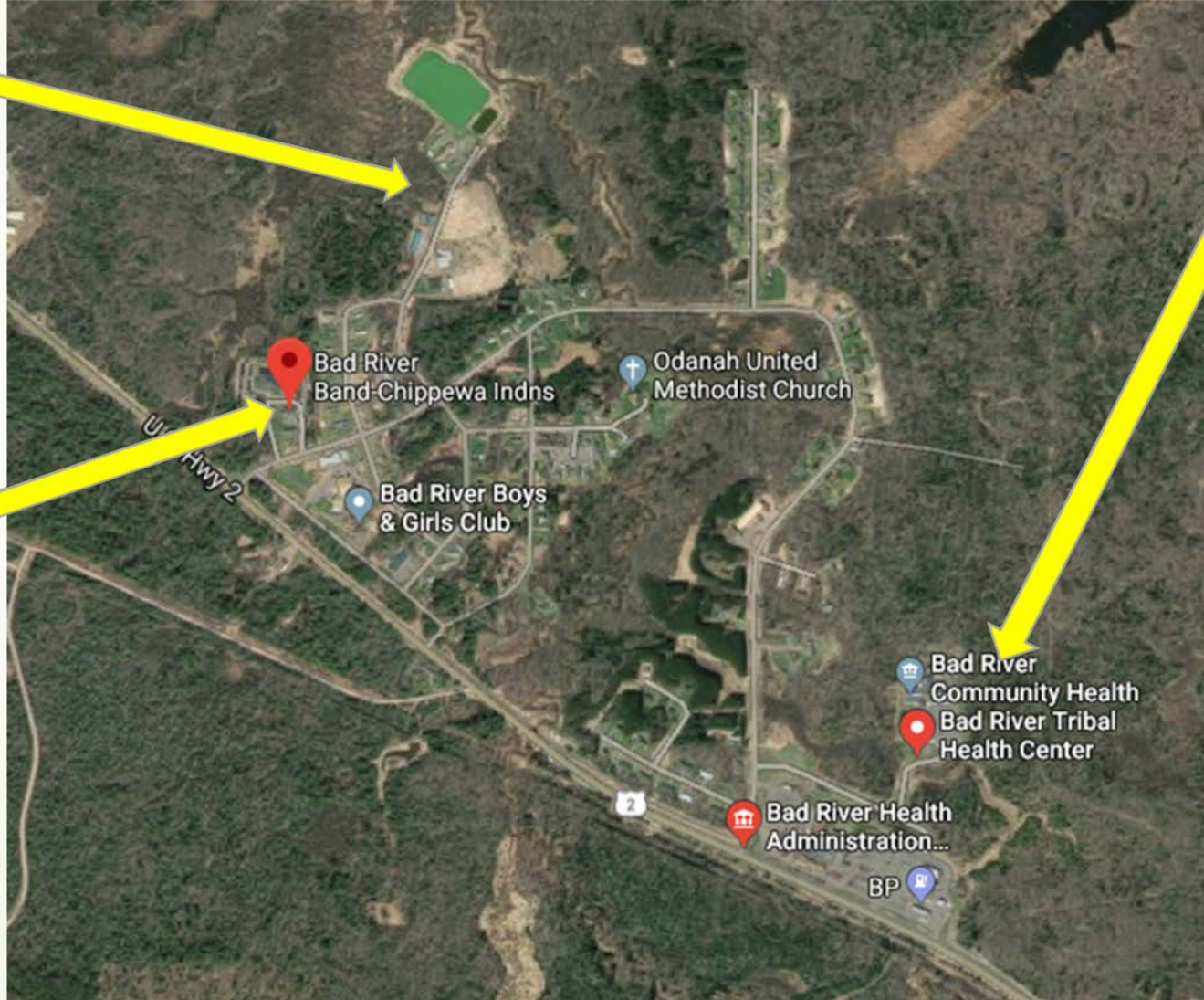
Odanah Community



Waste Water Treatment Plant

Administration

Health & Wellness Center



Ishkonige Nawadide Planning & Development



- ▶ The Ishkonige Nawadide Project was guided with both Strategic Energy Planning done in 2012 and 2017.
- ▶ The Tribe used the newly adopted 2018 Emergency Preparedness Plan (EPP) to identify critical infrastructure that was affected by power outages and the 2016 Flood.
- ▶ Several buildings and scenarios were identified for possible solar projects
- ▶ The 2018 EPP clearly identify the Health & Wellness Center, Wastewater Treatment Plant, and the Chief Blackbird Administration Building as critical infrastructure.

Ishkonige Nawadide

Execution of Project



- ▶ Request For Proposals:
 - ▶ Investor and Developer come together
 - ▶ Started Nov 2019
 - ▶ Concluded May of 2020
 - ▶ Awarded Faith Technologies
- ▶ Contracts & Documents
 - ▶ Started June 2020
 - ▶ Concluded and executed October 2020
- ▶ Began Construction in October of 2020
 - ▶ Anticipated Commissioning in March of 2021
 - ▶ Interconnection Agreement and PPA process has started

Administration



WWTP



Health & Wellness Center







Ishkonige Nawadide Challenges



► COVID-19

- Tribe issued *Declaration of Public Health Emergency with Respects to the 2020 COVID-19 Pandemic* in March of 2020 along with Safer at Home orders once COVID began to hit the community in June
- Made meetings difficult
 - Decision making by leadership
 - Utility Task Force Meetings
 - Overall Team Meetings
 - Virtual Meetings have created a great level of communication

► Construction

- Limited building access and extra precautions
- Contractors coming from out of town
- Required all contractors to have strict COVID-19 policies

Ishkonige Nawadide Challenges



► Community Acceptance

- Replacing land with solar or any infrastructure is not always accepted by elders and environmentalists.
 - “ I don't know how I'll feel about it until I see the panels.... The trees were nice.”
Community Elder
- There is a level of sovereignty given up when involving **partners and investors**.
 - Any time this is said it will not be accepted by many tribal members
 - Emphasizes the need for clarity and transparency
 - Community meetings and presentations around financing strategies

Ishkonige Nawadide Accomplishments



- ▶ Completed RFP Process
- ▶ Executed Construction and Contracts
- ▶ Developed a Long-term Strategy once Ishkonige Nawadide has been commissioned

- ▶ Working with Faith Technologies to develop Tribal workforce
 - ▶ Workers knowing how to install and handle panels
 - ▶ One tribal worker during Construction of racking and PVs
 - ▶ Working with education to support training module within 18–24-year-old program.
 - ▶ OMCO has offered complete training for Tribe with racking and PVs
 - ▶ Facility Managers will identify technicians to work with Faith Technology Staff or (Itians) in order to develop skills to fully operate the microgrids.



Ishkonige Nawadide

Next Steps

- ▶ Batteries and interior electrical
- ▶ Interconnection and Commissioning scheduled for March
- ▶ Execute Long-term Phased Energy Plan
 - ▶ Phase 2 USDOE Application Submittal in February of 2021
 - ▶ Identify Other funding strategies

Ishkonige Nawadide Partners

- Bad River Tribe Utility Task Force Team
- Cheq Bay Renewables
- Madison Solar Consulting
- muGrid Analytics
- Faith Technologies



Madison Solar Consulting



Miigwech!
(Thank you)



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