CleanEnergy States Alliance

Tribal-State Collaboration on Sustainability and Solar Development:

A Case Study of the Leech Lake Band of Ojibwe

September 23, 2024

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Celebrating 20 Years of State Leadership

Clean Energy States Alliance

The Clean Energy States Alliance (CESA) is a national, nonprofit coalition of public agencies and organizations working together to advance clean energy.

CESA members—mostly state agencies—include many of the most innovative, successful, and influential public funders of clean energy initiatives in the country.

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CleanEnergy States Alliance

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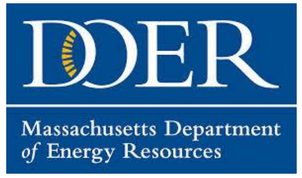
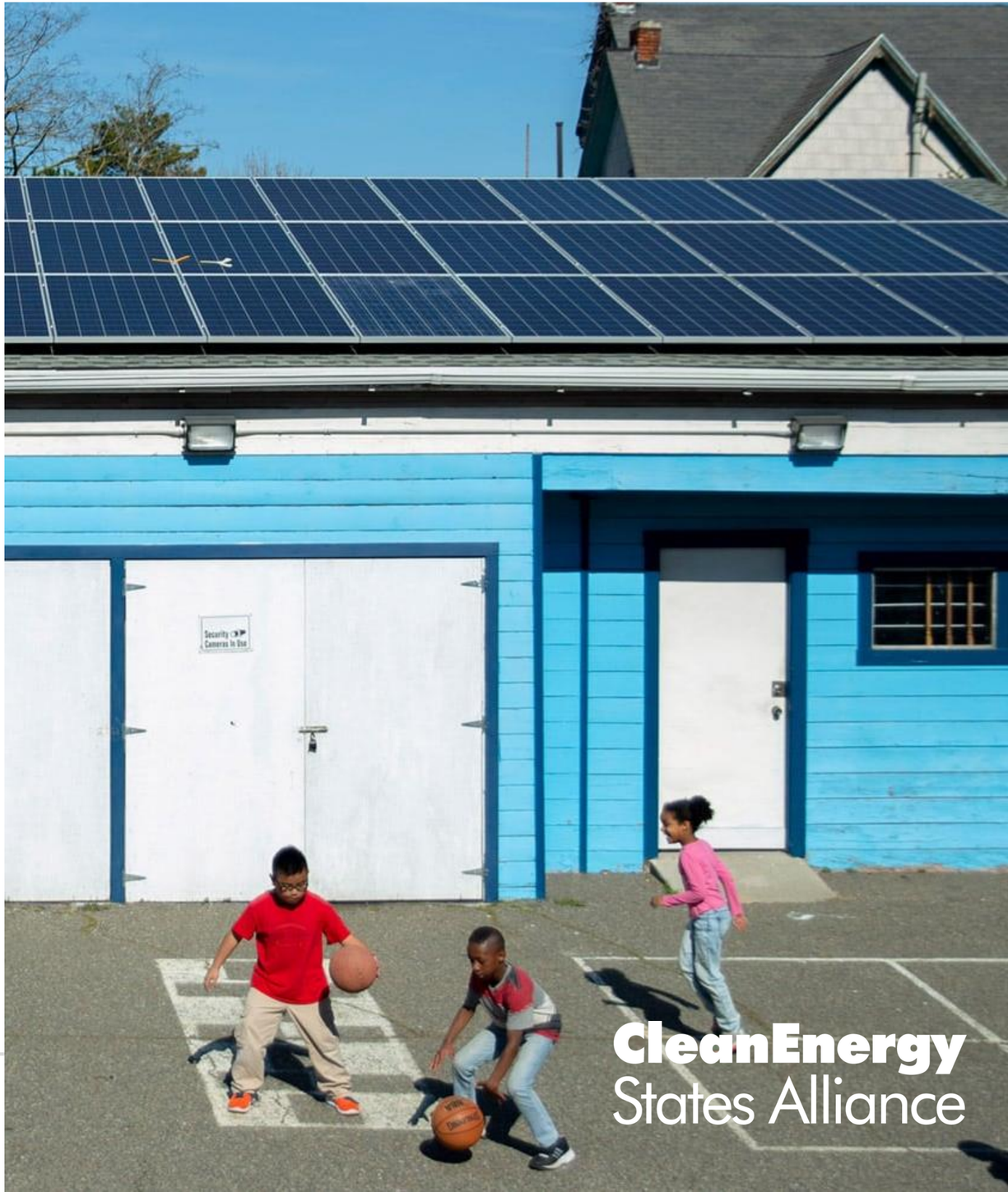


Solar with Justice:
Connecting States and Communities

Identifying models for how state energy agencies and community-based organizations can collaborate more effectively to expand access to solar.

U.S. DEPARTMENT OF ENERGY
SOLAR AWARDEE™

www.cesa.org/projects/solar-with-justice



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A Case Study of the Leech Lake Band of Ojibwe

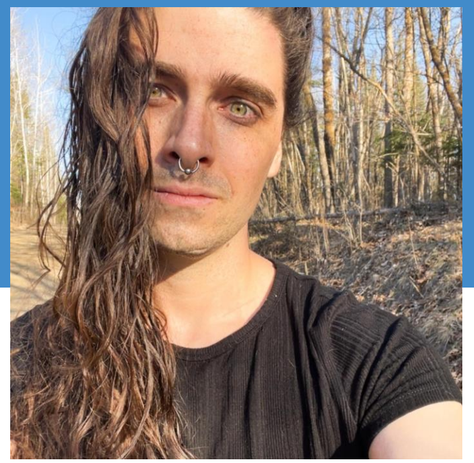
September 2024

Eugene Strowbridge, Sustainability Coordinator,
Leech Lake Band of Ojibwe

www.cesa.org/resource-library/resource/tribal-state-collaboration-solar-development-case-study

Webinar Speakers

Matt Ohloff
Project Manager
Clean Energy States Alliance



Eugene Strowbridge
Sustainability Coordinator
Leech Lake Band of Ojibwe

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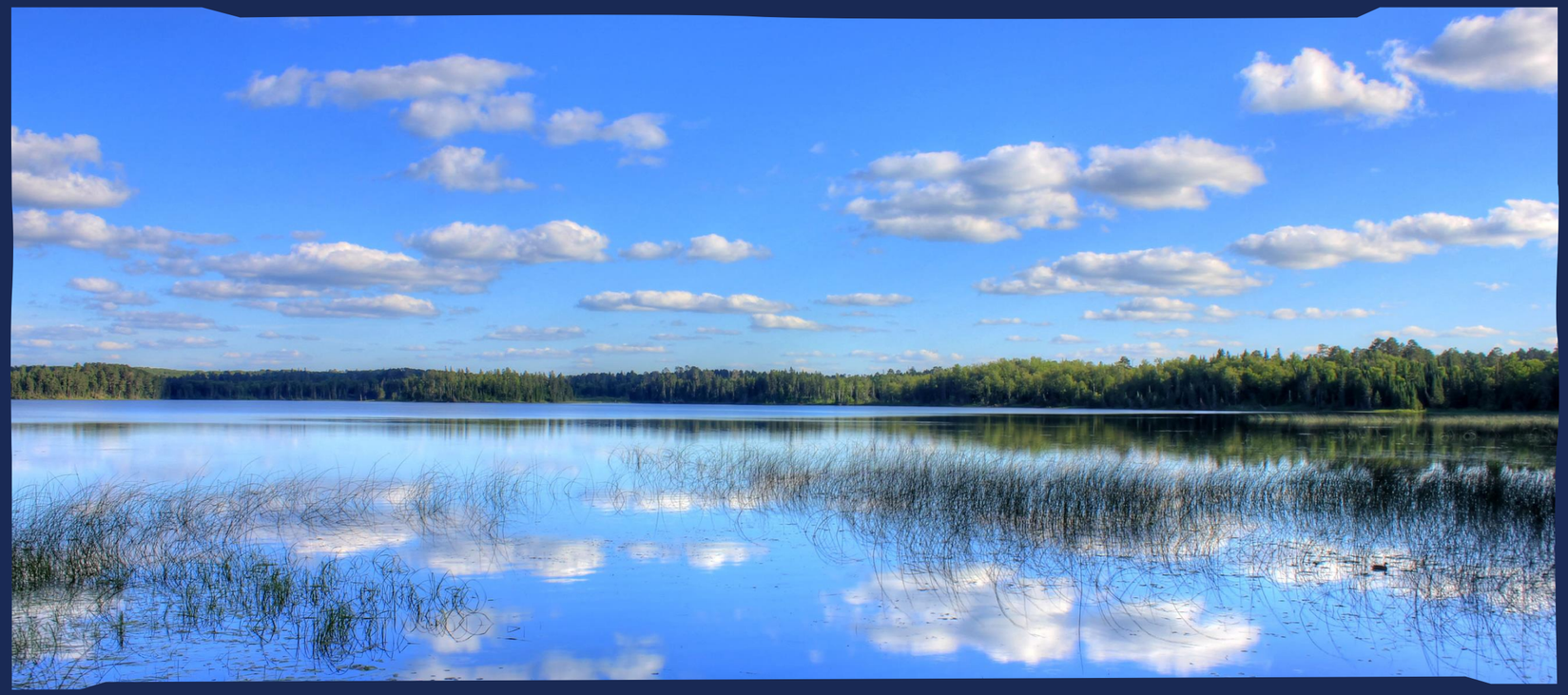
LEECH LAKE
BAND OF OJIBWE

Tribal-State Collaboration on Sustainability and Solar Development:

A Case Study of the Leech Lake Band of Ojibwe



Timeline

2003

Wind Feasibiltiy

2006

Green Team

2007

Solar Furnaces

2014

Greenstep Tribal Nation Step One

2017

Community Solar

Solar Furnaces Training

2018

GESP

Solar Master Plan

EV Chargers

Greenstep Tribal Nation Step Two

Population Vulnerability and Climate Adaptation Plan

2021

Solar Ready Construction

Approaching Net Zero Building Guide

Electric Vehicle Guide

Wind Feasibility Study

In 2013, Leech Lake began a five-year wind feasibility study to assess the suitability of wind power on the Reservation. The study was performed at both 20- and 50-meters using towers located at Tribe's air site in Boy River as well as Northern Lights Casino.

The study found that the best location for a windmill would be the Bug O Nay Ge Shig Tribal K-12 school.

Green Team

Sustainability has always been a way of life for the Ojibwe people. So we won't call this the beginning of the story. But the catalyst for where we are with our sustainability work today was the formation of the Green Team in 2006.

The formation of this interdisciplinary team meant that sustainability projects wouldn't have to happen in isolated silos, but would instead be collaborative ventures bringing together many different parts of the government.

The importance of this step can't be overstated. It created buy-in for people at multiple levels of the Tribal government - they felt like they had a stake in the success of these projects. And because of the diversity of the team, it meant that our projects were a lot *better*, too.

Solar Furnaces

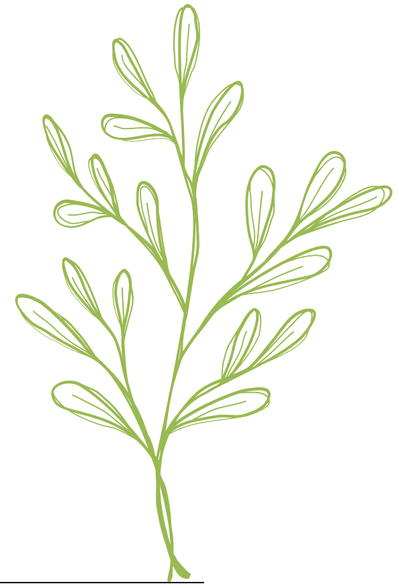
In 2007, around the time the wind feasibility study was wrapping up, the Band installed it's first solar furnaces on Tribal homes in the Prescott Community. A few years later, 8 more furnaces were installed and LLBO Environmental partnered with Leech Lake Tribal College and Honor the Earth to educate and train local women for careers in solar- including the installation of solar furnaces.

Today there are twenty-three solar furnaces on the Reservation- most on residential homes. The units save up to $1,100 in heating costs per year.

Minnesota GreenStep Tribal Nations

In 2014, Leech Lake became the first Tribal Nation to join the Greenstep Cities program- now called GreenStep Cities and Tribal Nations.

Today, the Band has achieved Step 5 - the highest recognition available to the program.

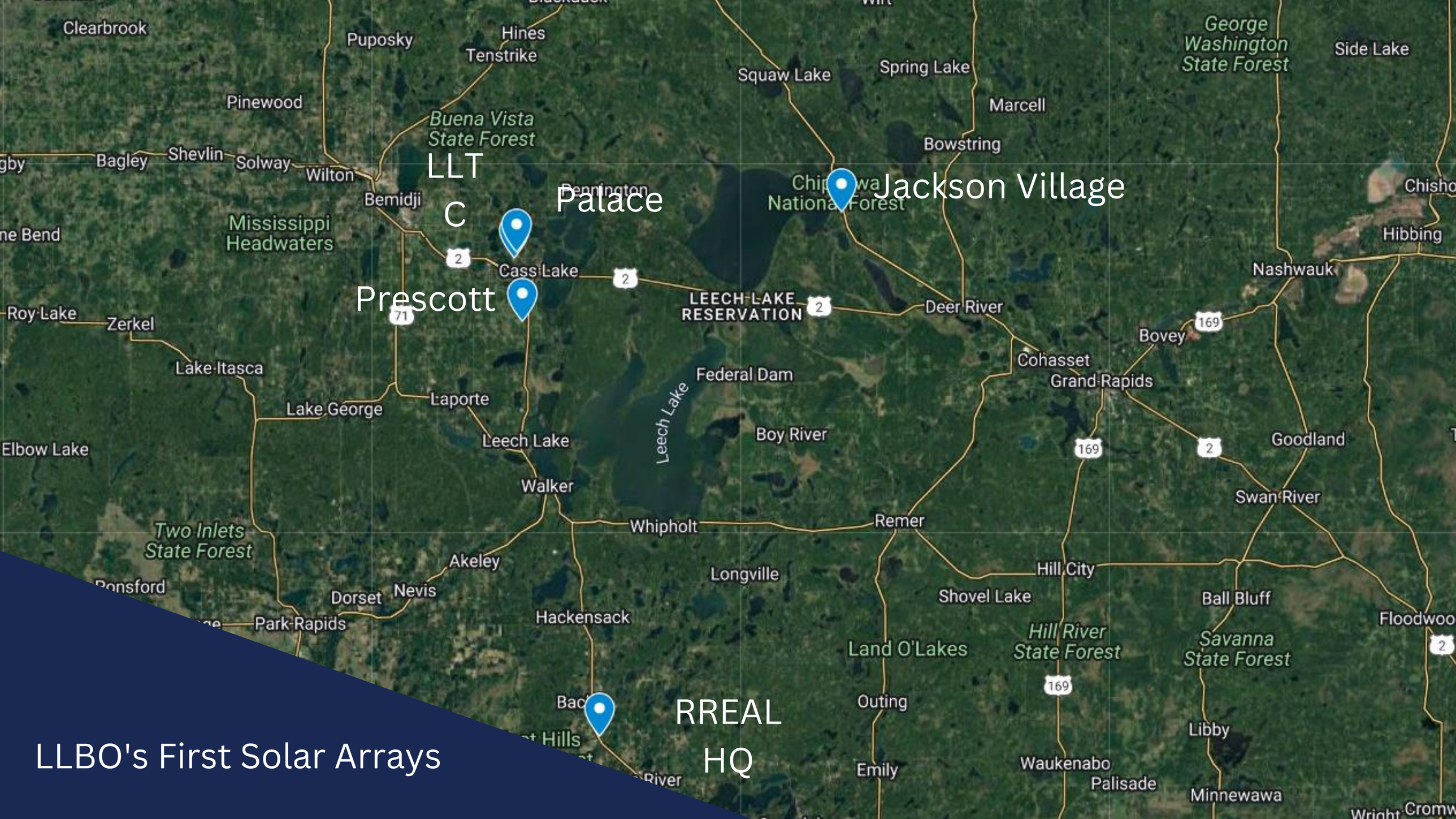


Community Solar

In 2017, the Band secured funding for a Community Solar Garden that would be the first of its kind in the nation. The power generated by the arrays would sold to the grid and the money would be used to subsidize the heating bills of low-income families in the winter.

The project also included a workforce component that provided LLTC students with on-the-job training in solar installation.

In the years since the installation of the arrays, the botany team has worked to install pollinator gardens around the arrays.

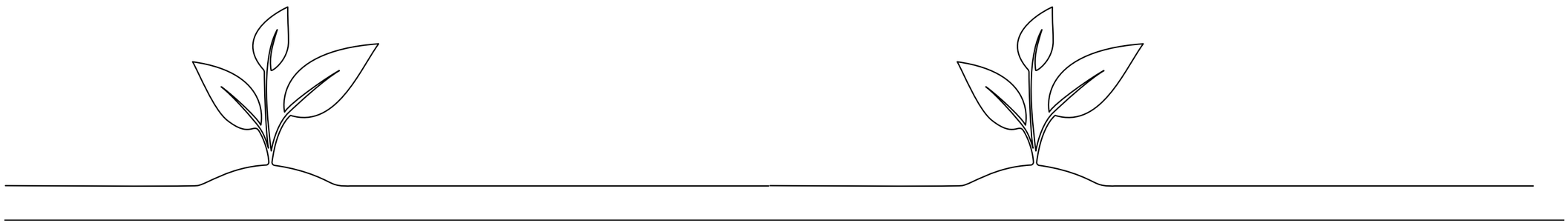


LLBO's First Solar Arrays

Guaranteed Energy Savings Plan (GESP)

Beginning in 2018, the Band installed new energy control measures in 22 Tribally owned buildings across the reservation. This $4.2 million project was a part of the Guaranteed Energy Savings Program (GESP), an executive order signed by Governor Dayton in 2011 to help state agencies and local governments upgrade infrastructure.

1. **MECHANICAL SYSTEMS UPGRADES**
2. **CONTROL SYSTEMS UPGRADES**
3. **LED LIGHTING UPGRADES**
4. **WATER CONSERVATION**
5. **UTILITY RELATED MEASURES**
5. **SOLAR PV**



GESP (Continued)

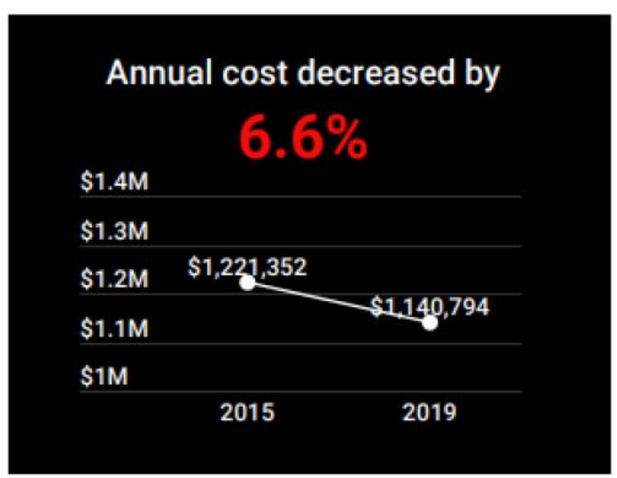
The conservation measures that were introduced were originally predicted to pay themselves off within 14.2 years and save the tribe $207,000 per year in energy payments. However, they worked better than expected and the current payoff estimate is around 12 years.

Buildings Retrofitted through the GESP Program:

Northern Lights Casino
Palace Hotel
White Oak Casino
Facility Center
Early Childhood
DRM Fisheries
Che We Kaegon
Bena Community Center
Sugar Point Community Center
Housing Authority
Food Distribution
Roads and Construction Garage
Ball Club Multipurpose
Fleet Management
Onigum Headstart
Public Works
Inger Headstart/Clinic
Vet's Memorial
Inger Community Center
DQ Buiding
Ball Club Headstart
Fitness Center

GESP Impacts:

- **CO2 Reduction:** 3.6 million lbs
- **SO2 Reduction:** 2,969 lbs
- **NO2 Reduction:** 2,871 lbs



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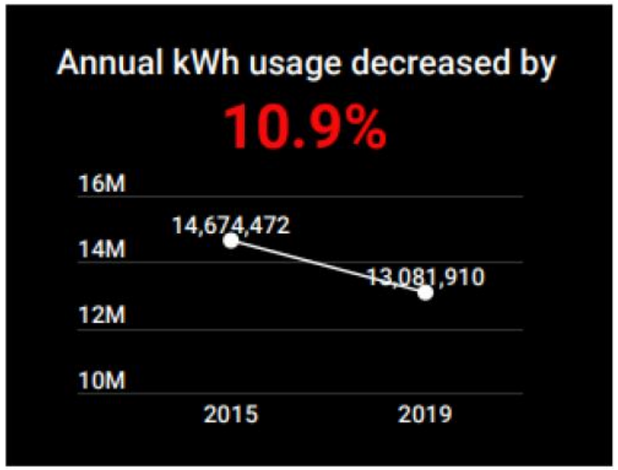
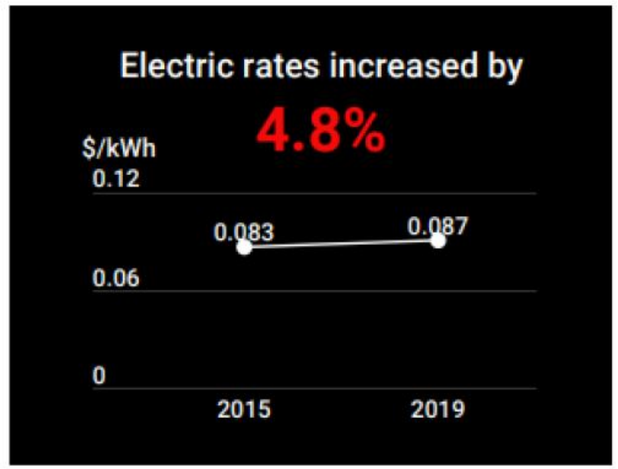


kWh



$/kWh

Policy Guidance - Part One

Solar Master Plan

In 2018 the Band partnered with PaleBlueDot LLC through a CERTs Seed Grant to develop the Solar Master Plan- a document that assessess the solar suitability of all Tribally owned facilities on the Reservation

Population Vulnerability Assessment and Climate Adaptation Framework

The Band also completed an assessment of vulnerable populations and the dangers facing Leech Lake due to climate change. This project was a partnership with the MPCA and PaleBlueDot LLC.

EV Chargers

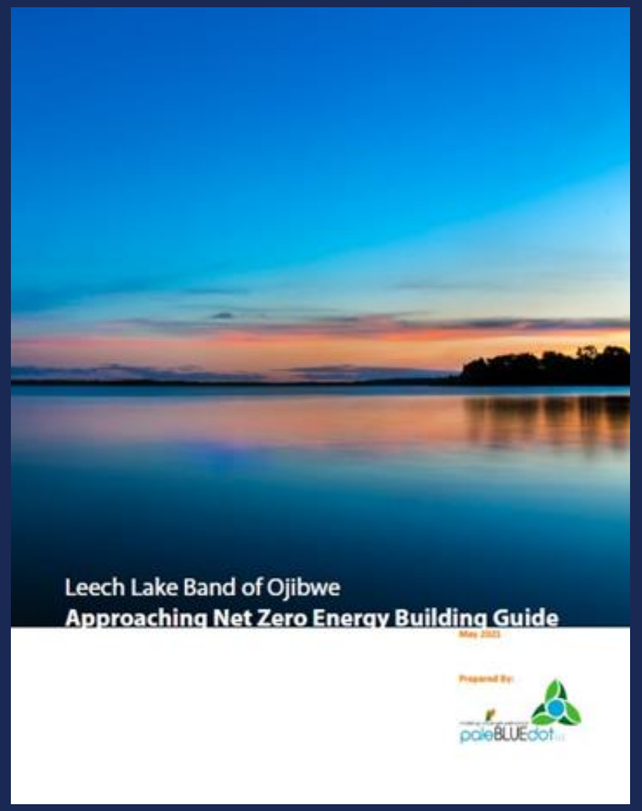
Also in 2018 (it was a busy year), the Band installed it's first EV chargers- located at Cedar Lakes, Northern Lights, and White Oak Casinos.

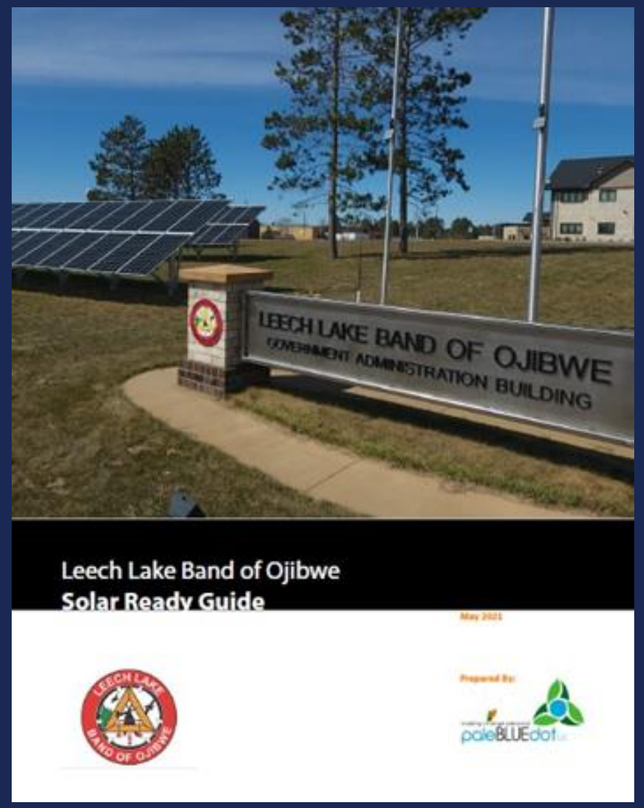
Five of the chargers are Level 2 Chargers, and are free of cost to Band Members.

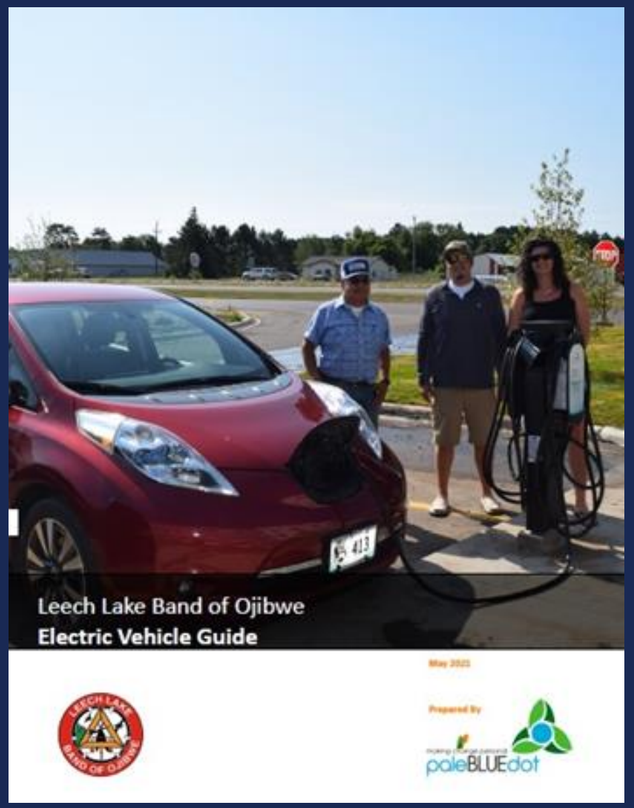
Policy Guidance - Part Two

In 2021, with the help of CERTs, we created three new policy documents meant to guide new construction projects on the Reservation in a more sustainable direction.

We also conducted a Propane and Natural Gas Study, aimed at providing us with more information on our energy landscape.







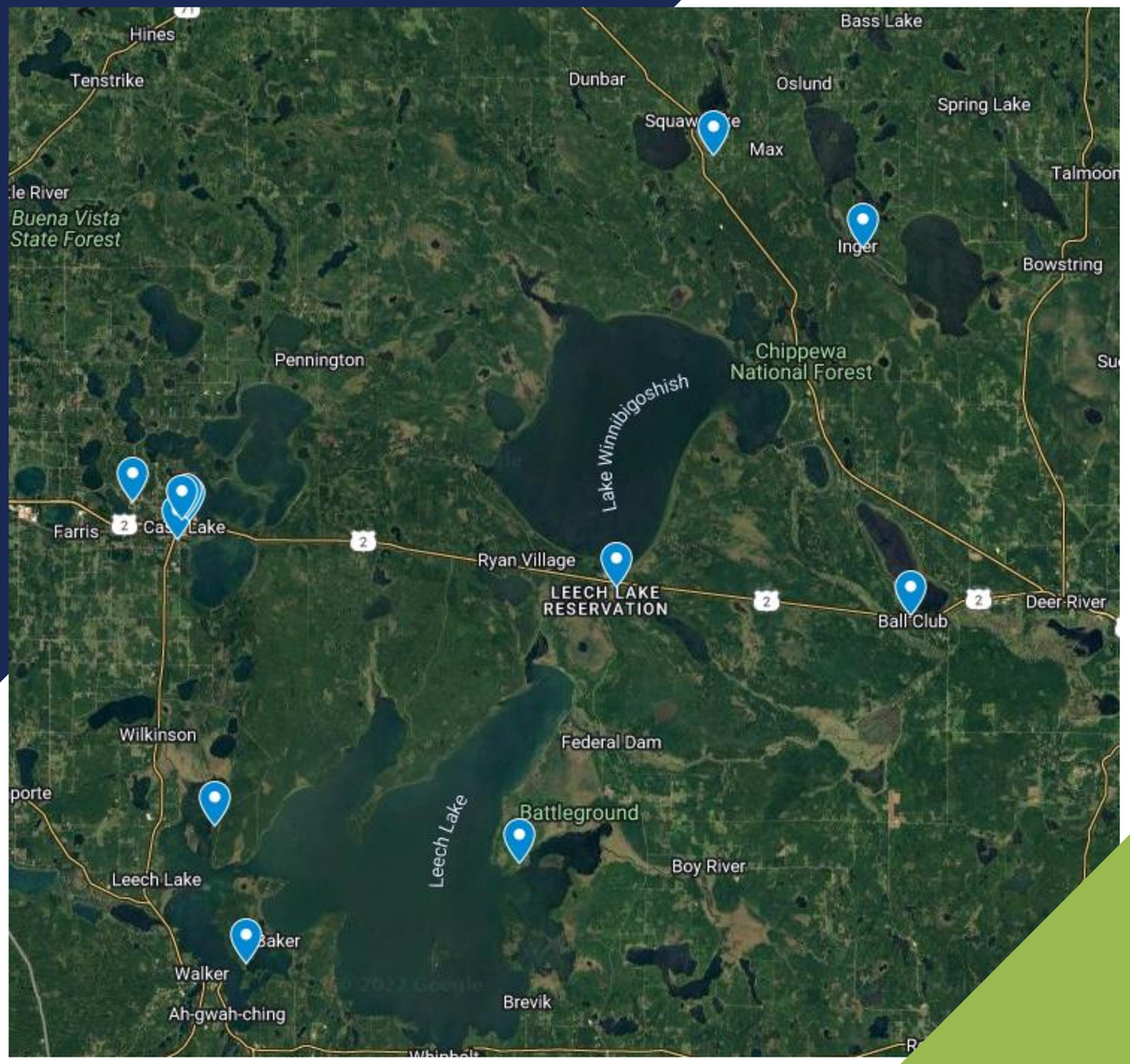
Sustainability Coordinator

In 2022 the Band hired a Sustainability Coordinator to work on their green initiatives full time. That's me!

Phase Two Solar PV Arrays

This year the Band is beginning the second phase of solar PV deployment on the Reservation.

The project, funded by a DOE grant, will add 534kW of capacity in ten separate arrays- nine mounted on the roofs of Tribal buildings, and one ground-mounted in an apple grove.



Phase Two EV Chargers

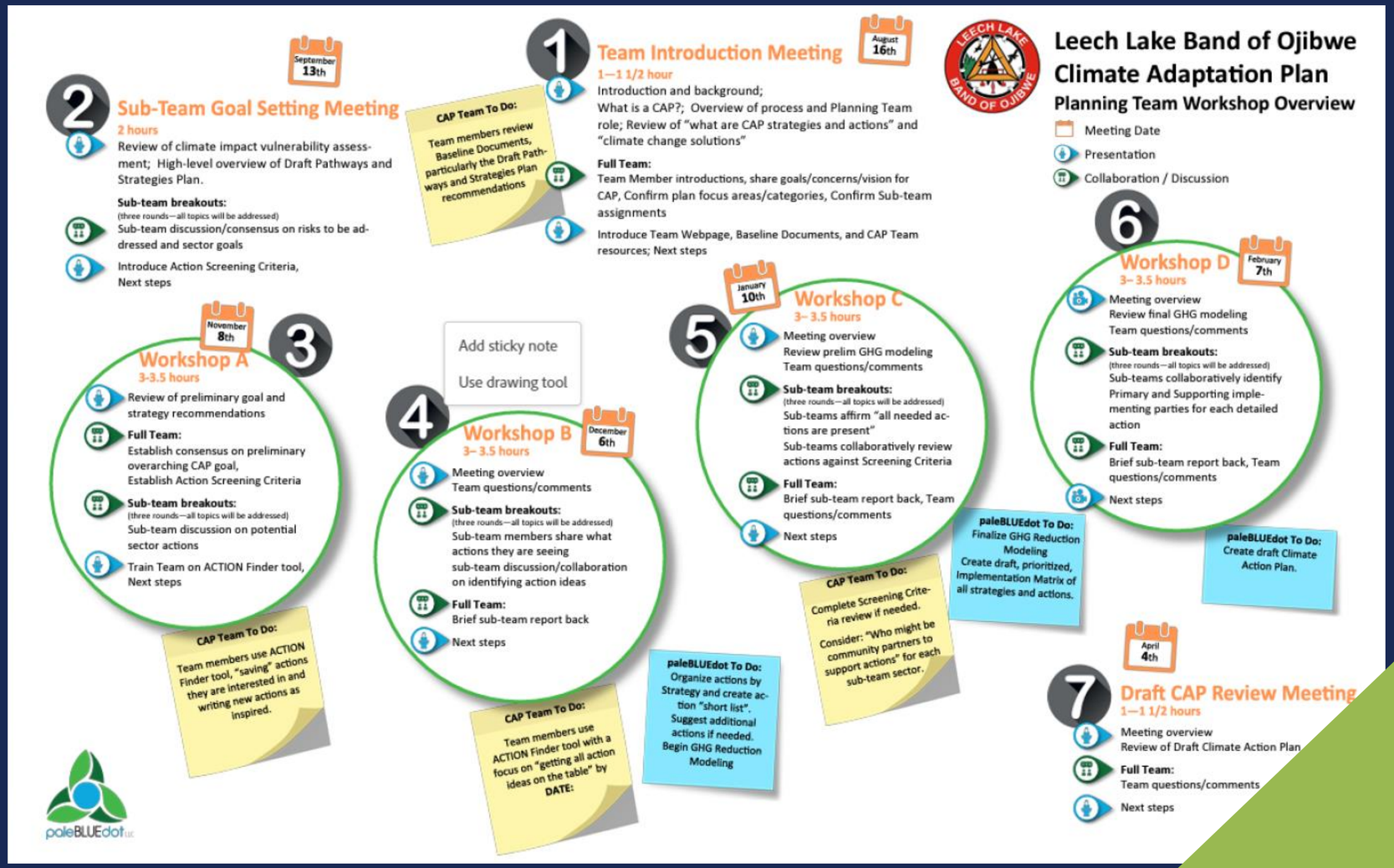
This year, the Band will also begin the second phase of EV charger installation, which will install an additional 14 level two chargers and 2 level 3 chargers.

The same grant through the Department of Commerce will allow us to test two PHEVs for Fleet Management and host two EV drive events to spur interest on the Reservation.

Climate Change Adaptation Plan (CCAP)

A natural continuation of the Population Vulnerability Assessment, which makes predictions about climate impacts, the CCAP is designed to answer the question - what are we going to do about it?

The finished product will include contributions from experts across many divisions.



Greenhouse Gas Emissions Inventory

The Band has also recently begun to develop an inventory of emissions produced by government functions. This will help us get a picture of the impact we're having as well as provide reccomendations for reducing that impact.

So far the results indicate that employee commutes constitute the largest source of emissions- a common problem for rural communities. Even those not the size of Rhode Island.

Looking Ahead...

Food Waste

Clean Transportation

Best Practices

Empower Advocates

Create Intraoganizational Teams

Recurring Opportunities for Collaboration

Assert and Respect Sovereignty

Honor Connections Between People and Land

Be Persistent

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Upcoming Webinars

Massachusetts' Accelerating Clean Transportation (ACT) School Bus Program (9/24)

Collaboration between Community-Based Organizations and State Energy Agencies: Findings and Lessons from the Solar with Justice Project (9/27)

Emerging Public Health Needs for Climate Smart Technology in Connecticut Affordable Housing (10/1)

Read more and register at www.cesa.org/webinars