Midwest Tribal Energy: Roadblocks and Successes

Midwest Building Energy Codes Conference November 10, 2022



Housekeeping

- Enter all questions you have for speakers in the Q&A feature
- Enter any other questions or comments in the chat
- Slides and recordings will be made available to participants after the conference
- Continuing Education Credits are available to participants information will be shared at the end of the presentation
- Email Corie Anderson, Building Policy Associate, at <u>canderson@mwalliance.org</u> with questions



Agenda

- Mentimeter Poll
- Introductions
- Presentations
- Q&A Session



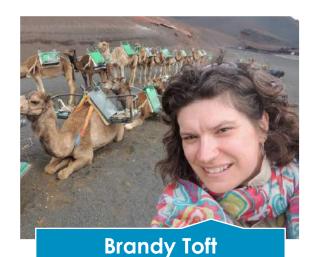
Mentimeter Poll

Open link in browser





Speakers



Interim Environmental Director
Leech Lake Band of Ojibwe



Oneida Nation





SUSTAINABILITY THRU ACTION: LEECH LAKE BAND OF OJIBWE



Brandy Toft
Interim Environmental Director
Midwest Energy Efficiency Alliance
November 10th, 2022





LEECH LAKE BAND OF OJIBWE

- Northcentral rural Minnesota
- •869,320 acres
- 57% is water/wetlands
- 622 miles of rivers/streams
- 247,502 acres of lakes
- Serving 9,000+ in 11 Tribal communities





Gaa-zagaskwaajimekaag WELCOME TO Leech Lake Reservation



- First Tribal Nation to attain Step 3
- On path for Step 4 early 2023



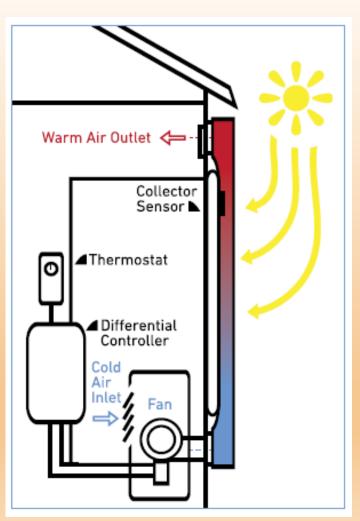
Leech Lake
Band of Ojibwe
Sustainability Video

https://youtu.be/EUO5nVTlxVE

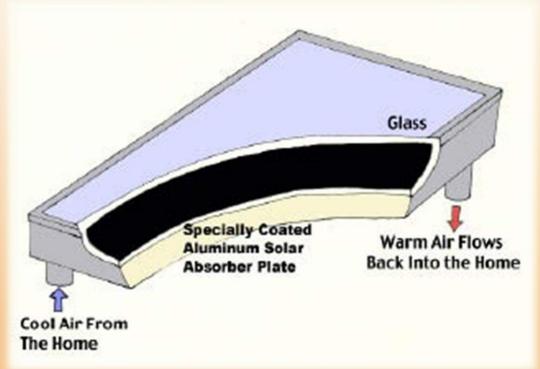


BENEFITS OF SOLAR HEAT

- Long-term solution fostering self-reliance
- Means to ending public energy program dependency
- Clean technology using "First Energy"
- Promotes national and Tribal energy security
- Social/Environmental Justice and Environmental Issues addressed with the Same Dollars!



SOLAR FURNACES



- 25-50 year lifetime
- Produce ~ 7-8 mBTUs annually





23 solar furnaces 2008 to present

Multiple funding sources

- EPA Seventh Generation Initiative \$50k
- EPA General Assistance Program \$30k
- RREAL Solar nonprofit \$30k
- REEGP MN Dept of Commerce \$32k
- 8th Fire nonprofit \$32k





COMMUNITY SOLAR PV

First garden to serve low income, energy assistance in Indian Country

- 5 40 kWs = 200 kW "garden"
- Generates average of \$22,000/yr
 - Assists up to 100 underserved or additional families
- •\$490k Funded via state Legislative-Citizen Commission on Minnesota Resources (LCCMR) and many non-profits
- Cooperative utility roadblock and reroute





DISCUSSION ON ENERGY SOVEREIGNTY

- Reliability?
 - Served by 5 separate utilities, rural, end of lines
 - Extreme events
- Self-reliance
 - Want engagement Tribal governance
 - Range from ~ 8 (commercial) to 14 cents per kWh
- Sustainability
 - Cleaner energy, be smarter users
- Workforce and economic development

Becoming aware of leverage as Tribal Government,

To make our own decisions and enact them.

ENERGY DESIGN PROGRAMS

- Justice Center \$27,000
- Assisted Living Center \$22,000
- Shingobee on the Bay \$8,000
- Homeless Shelter \$3,350
- Cedar Lakes Casino \$65,025
- Early Childhood Center \$6,100



"We no longer have to whittle away at small projects, that large sustainable projects are attainable and hugely beneficial on an economical, cultural and spiritual level."



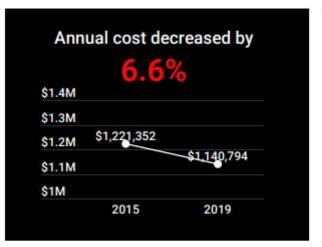
GUARANTEED ENERGY SAVINGS PROGRAM

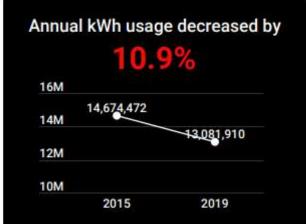
- Program with MN Department of Commerce
- Savings pay back the loan
- Provides structure and vetted contractors/process
- •22 buildings
 - 3.8 million project
 - •\$ 276,657 per year savings
 - 12 year payback
 - 3.6 million lbs of CO₂
 - •2,969 lbs of SO₂
 - •2,871 lbs of NO₂

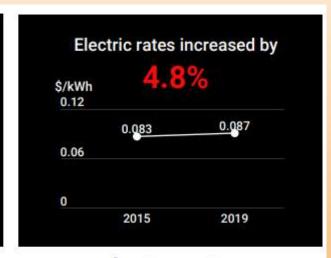




PROOF IS IN THE PUDDING...







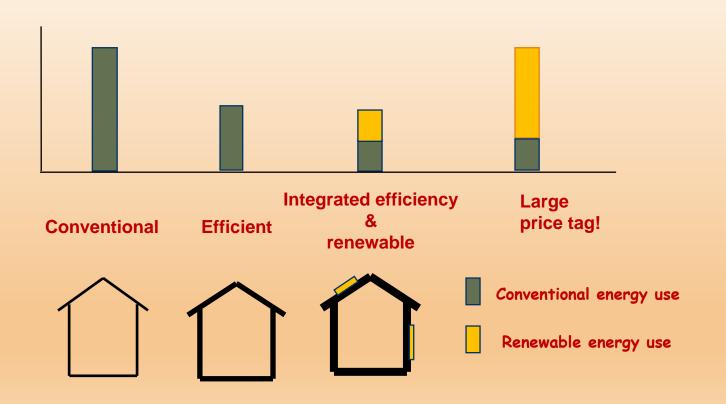
\$

kWh

\$/kWh



ENERGY EFFICIENCY BEFORE RENEWABLES





THE NEXT BIG STEPS...SOLAR PV

- •534 kW roof top
- 10 arrays on 9 structures
- •\$1.5 million DOE grant

- Started writing fall 2019
 - Submitted September 2020
 - Dear John letter July 2021
 - Awarded March 2022



IF YOU BUILD IT, THEY WILL COME...

Current EV charging...

- Leech Lake largest EV charging hub in northern Minnesota
 - 5 L2s, 1 L3 chargers

Soon...

- Grant to install
 - 14 additional L2s and 2 L3s
 - Test 2 PHEVs for fleet management
 - 2 EV Community Test Drive events



POLICIES TO LEAD CHANGE

- Guidances (conv. to policy in process) 2022
 - Build Solar Ready
 - Approaching Net Zero
 - EV Infrastructure and Installation
- Resources and Plans
 - Solar Master Plan- 2018
 - Sustainability Portfolio -2018, 2022
 - Population Vulnerability and Climate Adaptation Framework -2018
 - Leech Lake Climate Change Adaptation Plan (2022 2023)
- Feasibility Studies and Strategic Plans
 - Wind Feasibility Study 2005
 - Electrical Energy Strategic plan 2022
 - Propane and Natural Gas study 2021





SUSTAINABILITY PROGRAM

- Initiate Sustainability Program Fall '21
 - Former GreenCorps member
- Hired Sustainability Coordinator March '22
 - Project management (solar, EV)
 - Green Team Coordination
 - Policies
 - Waste stream management
 - Data (solar, EV) management and outreach

Build capacity, expand program, strengthen energy sovereignty

WHEW... DISCUSSION TIME ©

BRANDY TOFT INTERIM ENVIRONMENTAL DIRECTOR LEECH LAKE BAND OF OJIBWE BRANDY.TOFT @ LLOJIBWE.NET HOW MANY TIMES HAVE I TOLD YOU NOT TO PUT ALL THE CHILDREN IN ONE BASKET?!?



MIDWEST ENERGY EFFICIENCY ALLIANCE CODES CONFERENCE

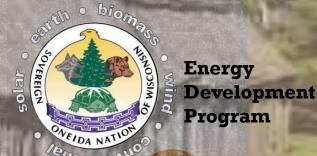
MIDWEST TRIBAL ENERGY ONEIDA NATION

MIKE TROGE NOVEMBER 10, 2022



A good mind. A good heart. A strong fire.

November 8-10, 2022



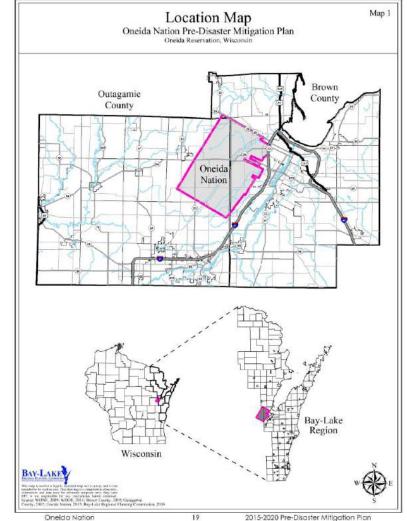




















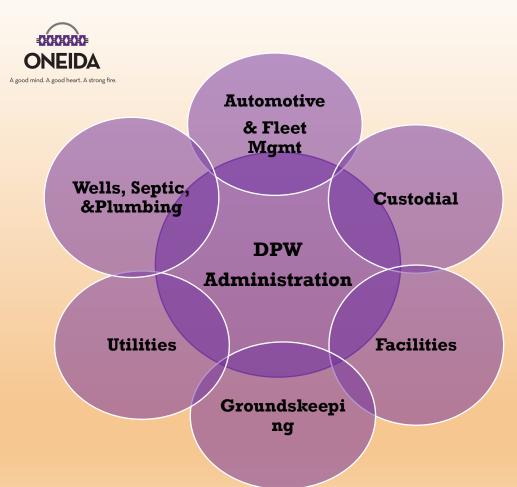




Oneida Nation Food Sovereignty Strategic Plan

Creating a sustainable, self-sufficient food system as a comprehensive approach to enhancing our community's health and wellness

























Residential Energy

According to the Energy Information Administration:

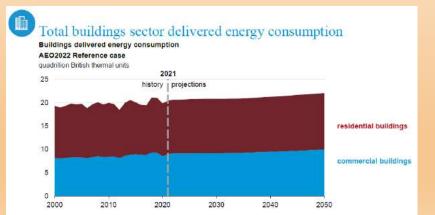
- · Sector energy use
 - Commercial 12%
 - Residential 16%
 - Industrial 26%
 - Transportation 37%
- 123.5 million households in the U.S.
- Average electricity usage 10,632 kWh
- 27% report energy insecurity
- 31% have heating equipment 15+ YO
- Population increase in several regions out to 2050
- Delivered energy will increase to 2050
- 60-80% of FL and HI households are all-electric
- To 2050,
 - residential electricity will increase by about a quad,
 - · residential gas will decrease by about a quad





Source: eia.gov





www.eia.gov/aec

Source: U.S. Energy Information Administration, Annual Energy Outlook 2022 (AEO2022

Source: U.S. Energy Information Administration, Annual Energy Outlook 2022 (AEO2022)



"Wisconsin Focus on Energy empowers the people and businesses of Wisconsin to make smart energy decisions with enduring economic benefits."

In 2022, FOE tailored incentives and training in the Tribal Residential Energy Program.

Building Performance Institute provided Home Energy Audit training for Tribal employees.

Planning to promote energy audits for Tribal Community members, prioritizing LMI residents.

Working with FOE to prolong the Tribal Residential Energy Program









Energy Team Projects



Solar Project #1



Energy Audits & Upgrades

- · Improved lighting
- Decreased energy use



Energy Crop Study

- Locally grown energy crop for heat, fuel
- UWGB partner

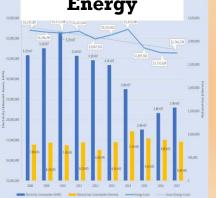


Anna John Solar

- 48 collectors, 75% of hot H2O
- 75% grant funded

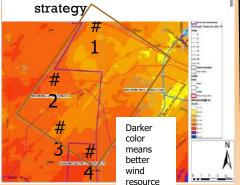


Tracking Energy



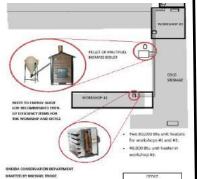
Wind Power Study

- · Wind best in the west
- Part of clean energy



Biomass Energy

100,000 Btu biomass boiler Demonstration



Solar Deployment Project

- DOE grant + investor support
- 800 kw on 6 buildings



HEALTH CENTER CAMPUS



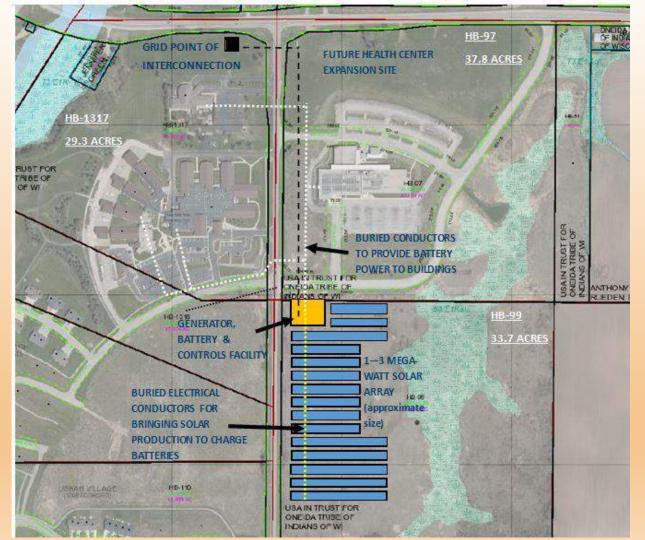






A good mind. A good heart. A strong fire.





2 MW Solar with 6 MWh BESS

Normal Operation



Oneida Nation

- Electrical Kevin Rentmeester
- HVAC Ray Olson
- Facilities Craig Clausen
- · DPW admin Shannon Stone
- GM Administration Jacque Boyle
- Engineering Paul Witek
- Community Development Troy Parr
- Emergency Management Kaylynn Gresham
- · GIS Stephanie Skenandore
- Environmental Mike Troge

PNNL

Arthur Santos Elsie Puig-Santana

Saurabh Biswas Dhruv Bhatnagar

• Jeremy Twitchell Jay Barlow

Woven Energy

• Jake Glavin Kelsey Dillon

CORE PROJECT TEAM





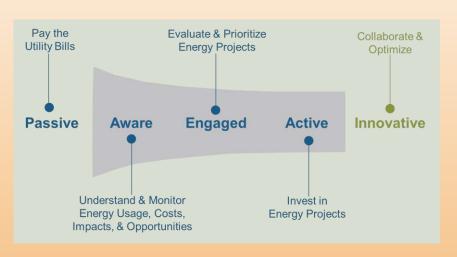


MIDWEST TRIBAL ENERGY RESOURCES ASSOCIATION

MTERA AIMS TO REACH OUT TO ALL MIDWEST TRIBES!







www.mtera.org





Midwest Building Energy Codes Conference





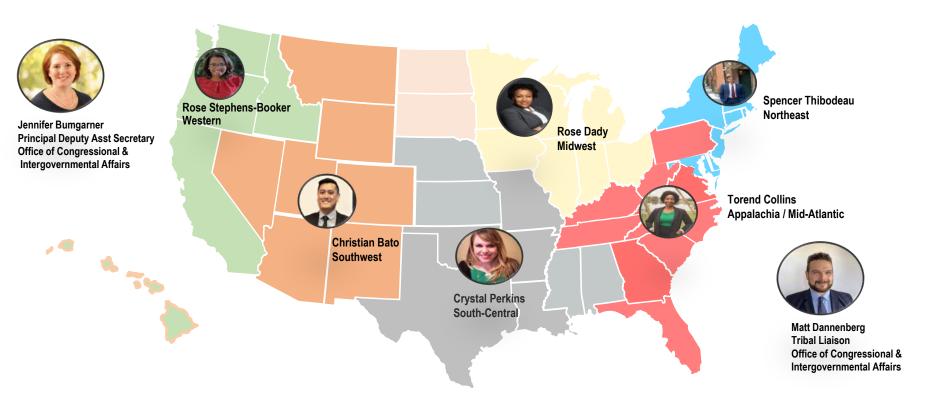
Matt Dannenberg, Tribal Liaison DOE, Office of Intergovernmental and External Affairs matthew.dannenberg@hq.doe.gov

BIL & IRA Overview

- IRA invests a historic \$369 billion in addressing climate change, with a number of new or expanded Tribal specific programs created at DOI and DOE
- BIL provided DOE with \$62 billion in programs including weatherization, EECBG, SEP
- Clean energy tax credits now directly available to Tribal governments and non-profits
- Other relevant programs and provisions supporting reinvestment in energy and environmental justice communities. Some programs expire in 2024 or 2026.
- Most tax credit bonuses and DOE loans can stack, providing a significant opportunity for Tribal energy projects

Intergovernmental & External Affairs – Regional Specialists







DOE Resources & Partners



- Office of Indian Energy Policy & Programs (IE)
- Office of State & Community Energy Programs (SCEP)
- Office of Clean Energy Demonstrations (OCED)
- Grid Deployment Office (GDO)
- Building Technologies Office (EERE)
- White House Council on Native American Affairs (WHCNAA)
 Economic Development & Energy subcommittee

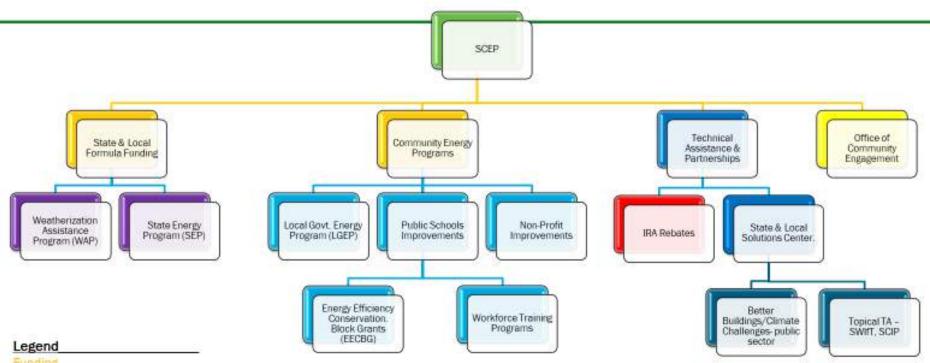


Office of State and Community Energy Programs (SCEP)





- New Office created as part of the Bipartisan Infrastructure Law (BIL)
- Creating a "Center of Excellence" to accelerate climate and clean energy solutions
- Works with state and local organizations to significantly accelerate
 the deployment of clean energy technologies, catalyze local
 economic development and create jobs, reduce energy costs, and
 avoid pollution through place-based strategies involving a wide
 range of government, community, business and other
 stakeholders.
- Funding oversight: \$16 billion USD
 - \$6 billion in BIL funding provisions
 - \$10 billion in IRA rebate provisions



Funding

- Formula grants
- Competitive grants

Technical Assistance

Rebates

Inflation Reduction Act in Indian Country



High Efficiency Home Rebate Program \$225M

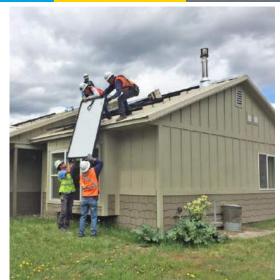
IRAHomeRebates@hq.doe.gov

Tenfold increase: **\$20B** in loan guarantees

TELGP@HQ.DOE.GOV

202-586-1262

BIA: Tribal Home Electrification \$150M





Direct Payment of Tax Credits



Tribal Governments, Alaska Native Corporations, and any other non-profit organization, can now receive the following tax credits as a direct payment from the Treasury:

Tax Code §	Credit	Summary Description
30C*	Alternative Fuel Refueling Property Credit	30% of investment cost, including EV chargers
45/45Y*+	Clean Electricity Production Credit	\$26/MWh for 10 years, with bonuses possible
48/48E*+	Clean Electricity Investment Credit	30% of investment cost, with bonuses possible
45Q*	Carbon Oxide Sequestration Credit	Up to \$85/metric ton sequestered for 12 years
45V*	Clean Hydrogen Production Credit	Up to \$3/kg of hydrogen for 10 years
45W	Commercial Clean Vehicles	Up to \$7,500 for a light duty clean vehicle, or up to \$40,000 for a medium or heavy-duty clean vehicle
45X	Manufacturing Production Credit	Credits for production of solar, wind, and battery components or critical minerals
45Z*	Clean Fuel Production Credit	Credits for production of low carbon fuels
48C*	Advanced Energy Project Credit	30% investment credit for facilities manufacturing clean energy products

^{*}over time, projects must meet domestic content criteria in order to be eligible for direct pay.

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^{*}prevailing wage and apprenticeship requirements must be met for max credit, otherwise 5x lower in value

Environmental and Climate Justice Block Grants

- \$3 billion new EPA program to support community-led projects to address disproportionate environmental and public health harms related to pollution and climate change
- Tribal governments partnered with a community-based nonprofits eligible

Eligible Activities

Community-led projects that help reduce GHG and other air pollution:

- Pollution monitoring, preventing, and remediation
- Investments in low- and zero-emissions technologies and infrastructure
- · Workforce development

Mitigating climate and health risks from urban heat islands, extreme heat, wood heater emissions, and wildfires

Climate resiliency and adaptation

Reducing indoor toxics and indoor air pollution

Facilitating engagement of disadvantaged communities in State and Federal advisory groups, workshops, rulemakings, and other public processes



Bipartisan Infrastructure Law in Indian Country



Grid Deployment Office

- -Resilience Formula 40101d Deadline Extended to March 2023
- -Grid Resilience Innovation Partnership (GRIP) stay tuned

Office of Clean Energy Demonstrations

- -Energy Improvement in Rural or Remote Areas \$1B (RFI closes 11/28)
- -Clean Energy Demonstrations on Mine Lands \$500M
- -Regional Hydrogen Hubs \$7B
- -Carbon Management \$3.5B

State & Community Energy Program

- -Weatherization Assistance Program \$3.5B
- -State Energy Program \$500M FY22-26
- -Energy Auditor Training \$40M FY 22-26
- -EECBG \$550M; BIL added EE, RE projects (Stay tuned!)

energy.gov

Technical Assistance & Resources



- What does energy sovereignty mean?
- Office of Indian Energy Policy & Programs
 - \$35M Funding opportunity for clean energy deployment & electrification
 - Technical Assistance requests
- 7th Annual Tribal Clean Energy Summit
- Tribal Green Building Code Guidance | US EPA
- WH Tribal Nations Summit 11/30 12/1



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Upcoming MEEA Events



Early Bird Registration Now Open!

January 31 - February 2, 2023 Chicago, IL www.meeaconference.org

