

Menominee Tribal Enterprises

MTE Biomass CHP District Energy System

Presented by:
Norman Shawanokasic



The Menominee Nation



- The Menominee Nation once occupied 9.5 million acres of land
- The present Menominee Reservation was established in 1854 with 234,000 acres.
- The Menominee hunted, fished and harvested wild rice on their reservation.



MTE Menominee Tribal Enterprises

The Menominee Nation

- The Menominee retained their island of timber & community by dint of their own tenacity, federal protection and fortuitous circumstance.



The Menominee Nation

- 95% of the reservation produces the finest old stands of hardwood, pine and hemlock located in the Great Lakes region.



MTE Menominee Tribal Enterprises

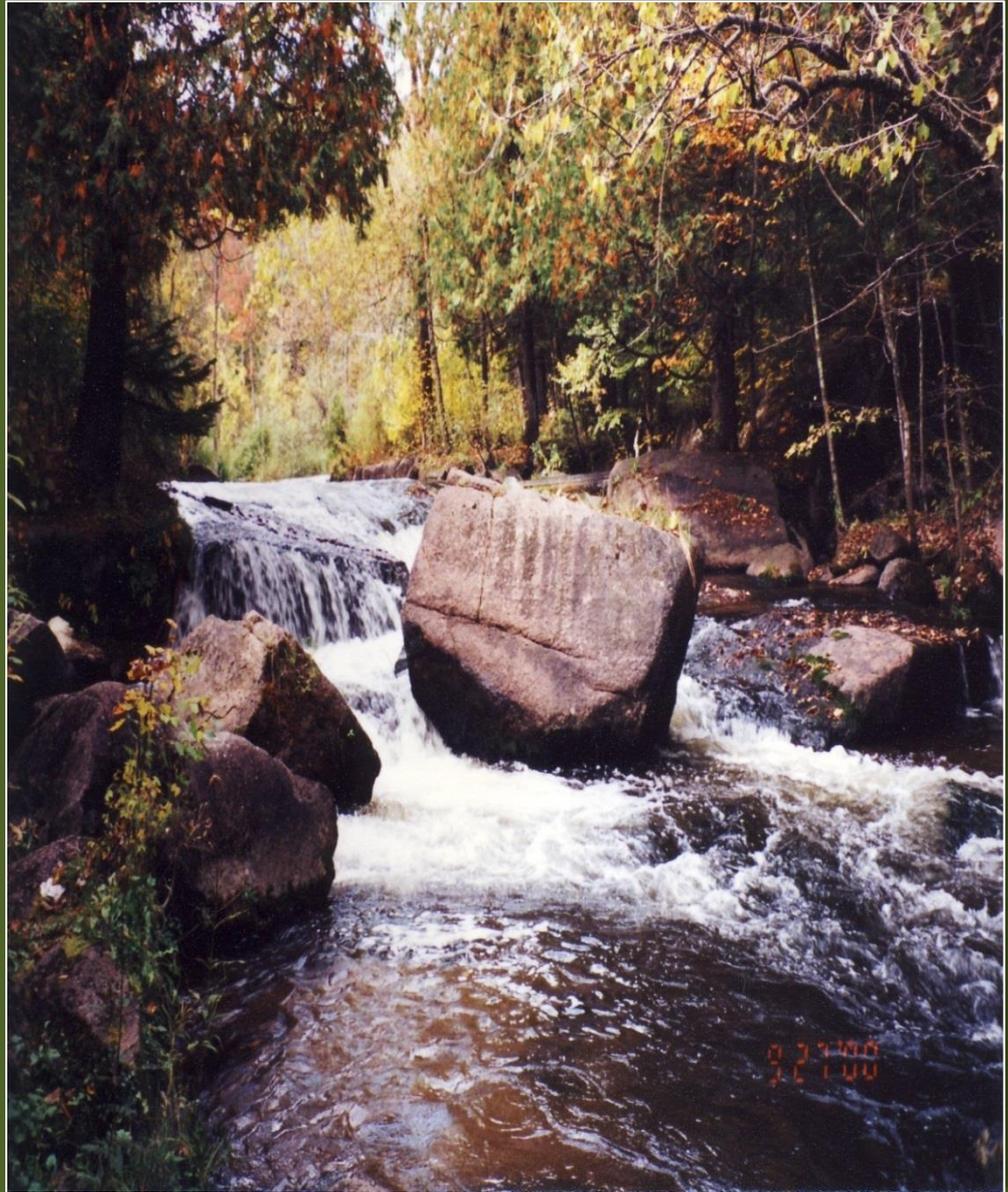
The Menominee Nation

- Forty-six of Wisconsin's timber varieties grow and are harvested on the reservation.



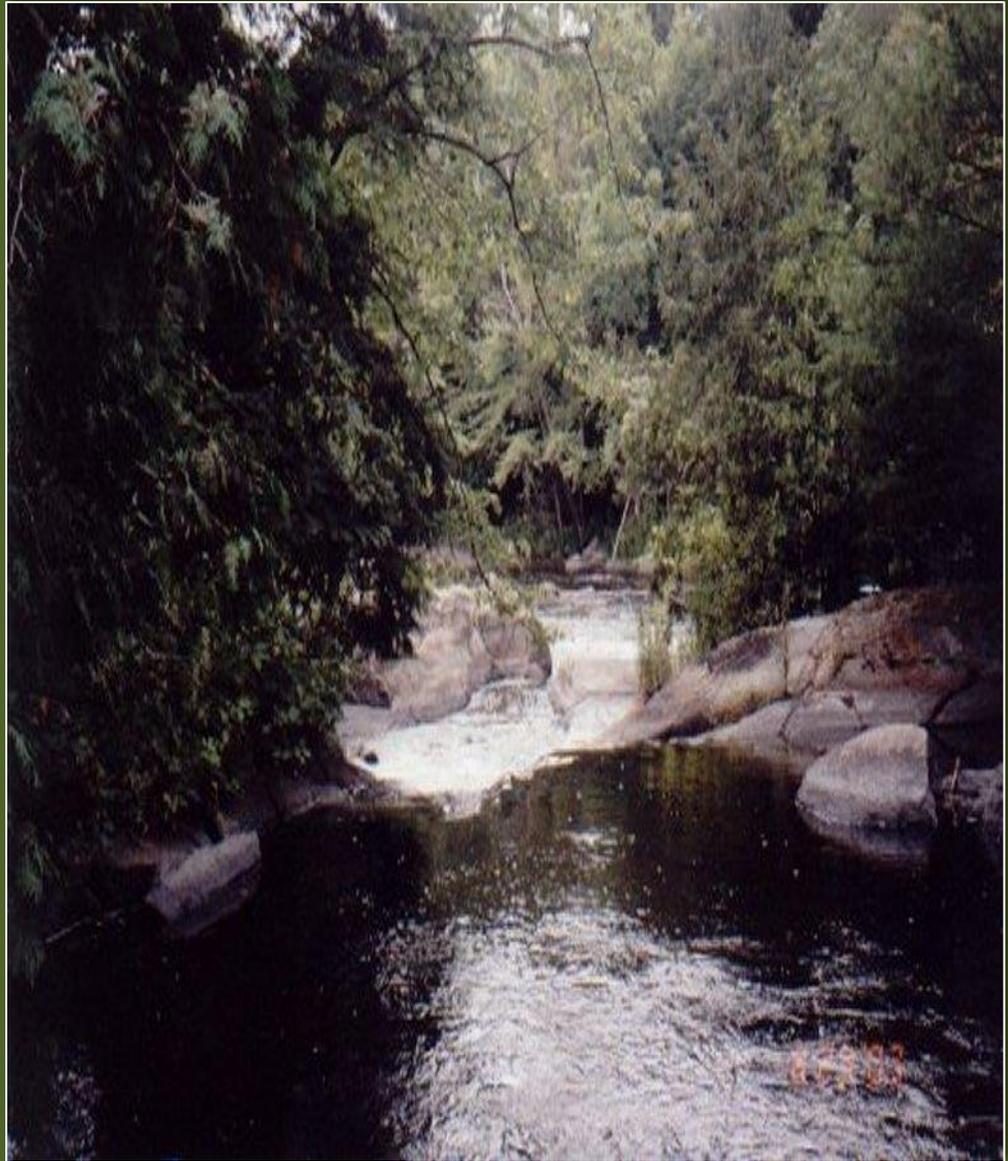
The Menominee Nation

- 24 miles of the Wolf River flows through the Menominee Reservation.
- It is one of the last pristine rivers in the state.



The Menominee Nation

- Located along the river at Keshena Falls is the Menominee Logging Camp Museum
- Visitors view over 20,000 artifacts housed in 7 log buildings



Menominee Tribal Enterprises



- MTE is the business arm of the Menominee Indian Tribe of Wisconsin

Menominee Tribal Enterprises



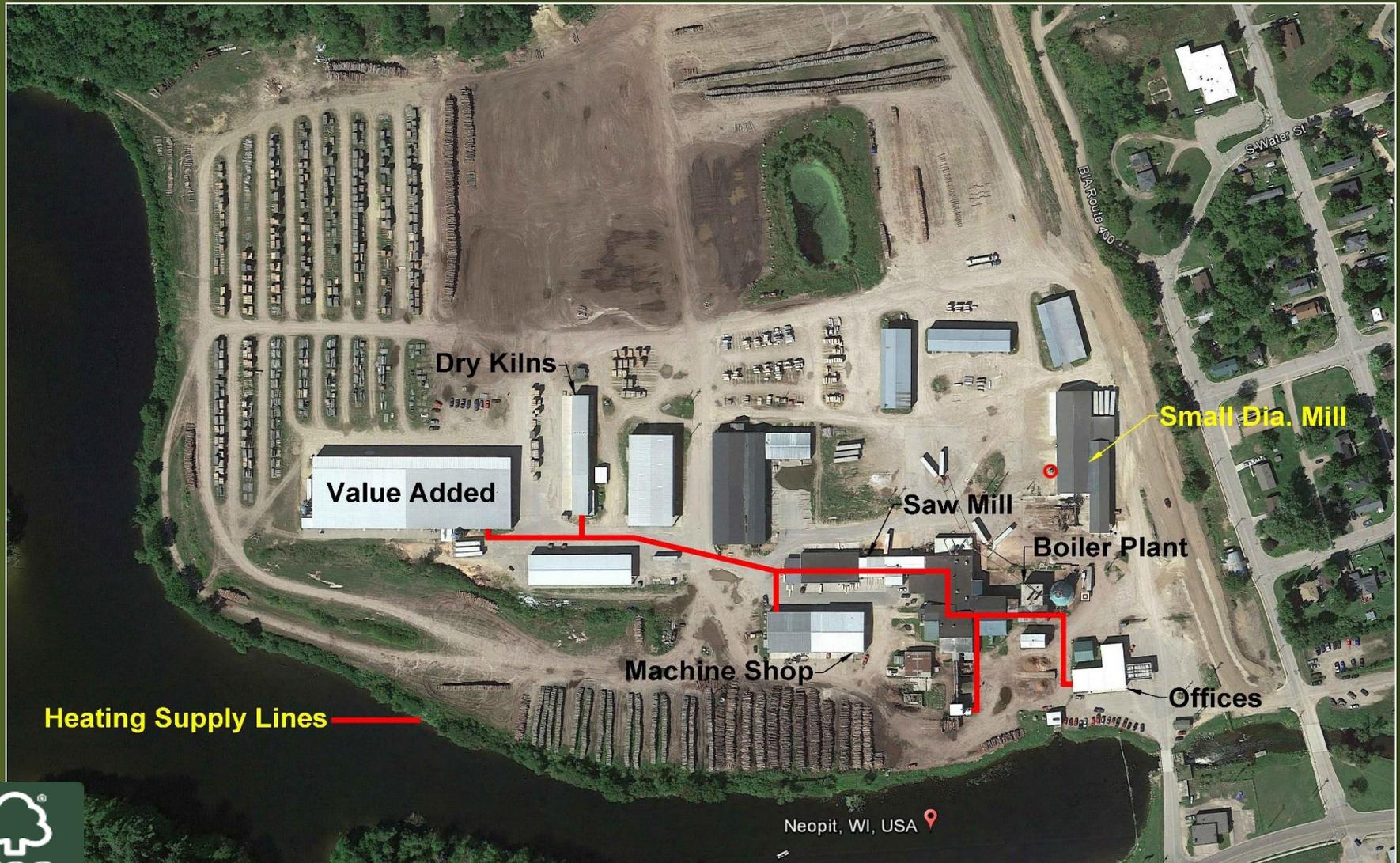
- MTE is owned and operated by the Menominee Indian Tribe of Wisconsin through a 12 member Board of Directors elected from the members at large.

Menominee Tribal Enterprises

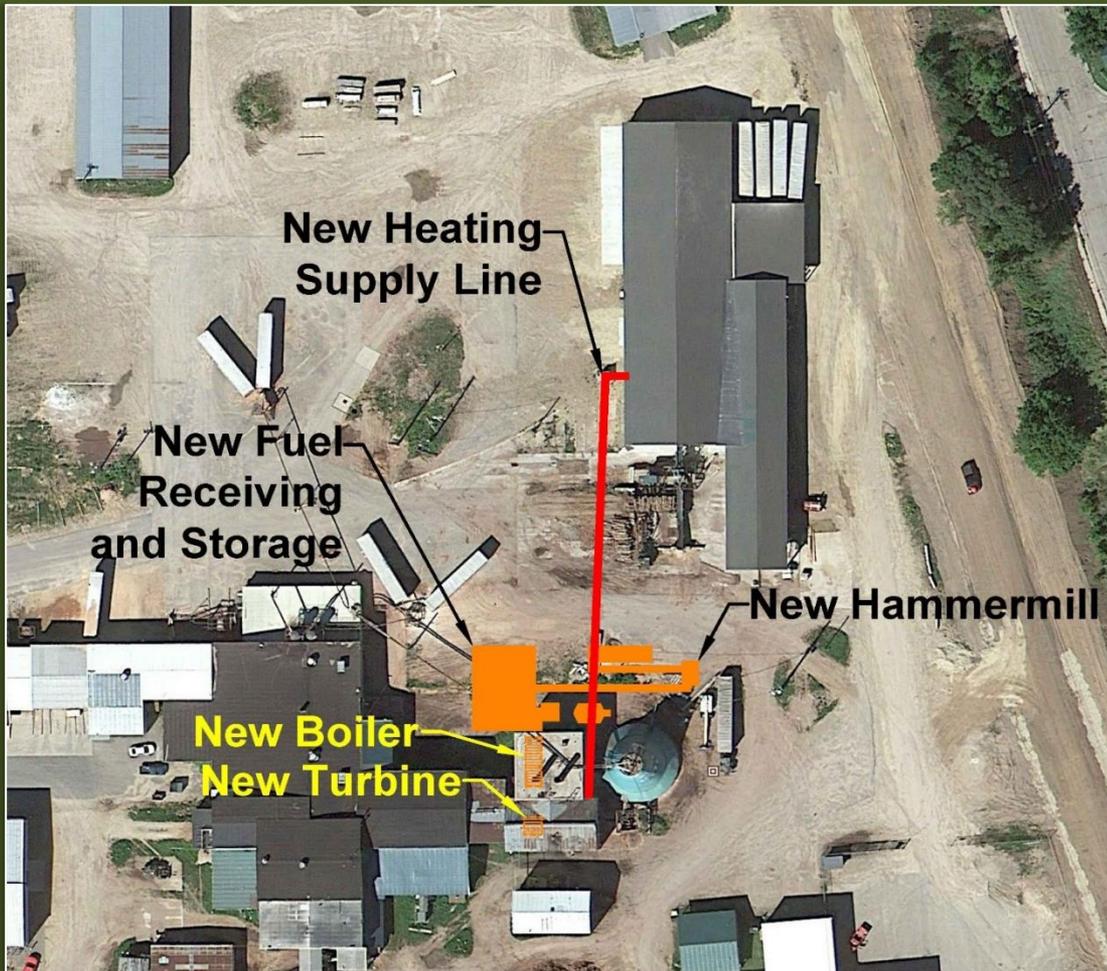


- Committed producer and manufacturer of quality sustainable forest products since 1908.
- Employs ~300 individuals throughout its operation. The mill alone employs ~160 in peak season.
- MTE embodies the culture, values and spirituality of the Menominee

Current District Heating System Site



Project Scope



- Demo and Replace a 25,000 PPH boiler with a 8,600 PPH high pressure steam boiler
- Automate and update an existing boiler to operate for peaking and backup
- Generate 1,000 MWh with backpressure steam turbine
- New Fuel handling, storage and processing system
- Tie additional load to the steam plant

Timeline

- **September 2012 – March 2013** : Feasibility study by USFS WBUG Technical Assistance Team
- **May 2013 – September 2013** : applied for grants and financing
- **October 2013** : Automation of Boiler 1 started with USFS-WBUG grant



Before Boiler Remodel

Timeline

- **November 2013 – March 2014** : financing commitments secured
- **March 2014** : project engineering started
- **May 2014** : Piney Creek fuel processing equipment transaction
- **July 2014** : contracts signed for boiler, fuel handling and storage system and turbine



After Boiler Remodel

September 2014

Construction begins on the new fuel processing, storage and handling.



MTE Menominee Tribal Enterprises

March – April 2015

Demolition of Boiler 2



May 2015 – September 2015

Boiler delivery and install



May 2015 – September 2015

Turbine delivery and install



Future Timeline

- **September 2015 – November 2015 : Commissioning system**
- **December 2016 : Final project closeout with DOE**

Project Partners

- US-DOE; Community-Scale Clean Energy Projects in Indian Country
- USFS-WERC Technical Assistance Team
- USDA REAP Grant Program
- USFS Woody Biomass Utilization Grant
- Indian Affairs; Energy and Mineral Development Program
- WI Focus on Energy
- US Endowment for Forestry
- Indian Land Capital Company

NO TRESPASSING
ONLY MEMOINIEE TRIBAL
MEMBERS MAY ENTER HUNTING
FISHING TRAPPING OR GATHERING
IS PROHIBITED VIOLATORS WILL
BE SUBJECT TO FEDERAL STATE
AND TRIBAL PROSECUTION
THE MEMOINIEE INDIAN TRIBE

Menominee Tribal Enterprises 1908-2015

Menominee Tribal Enterprises is committed to excellence in the sustainable management of our forest, and the manufacturing of our lumber and forest products providing a consistently superior product while serving the needs of our forest, employees, wood products customers, tribal community, and future generations.



MTE Menominee Tribal Enterprises