

Cloverland Electric Cooperative

Presentation to U.P. Energy Task Force | September 2020



Electric Co-op Overview

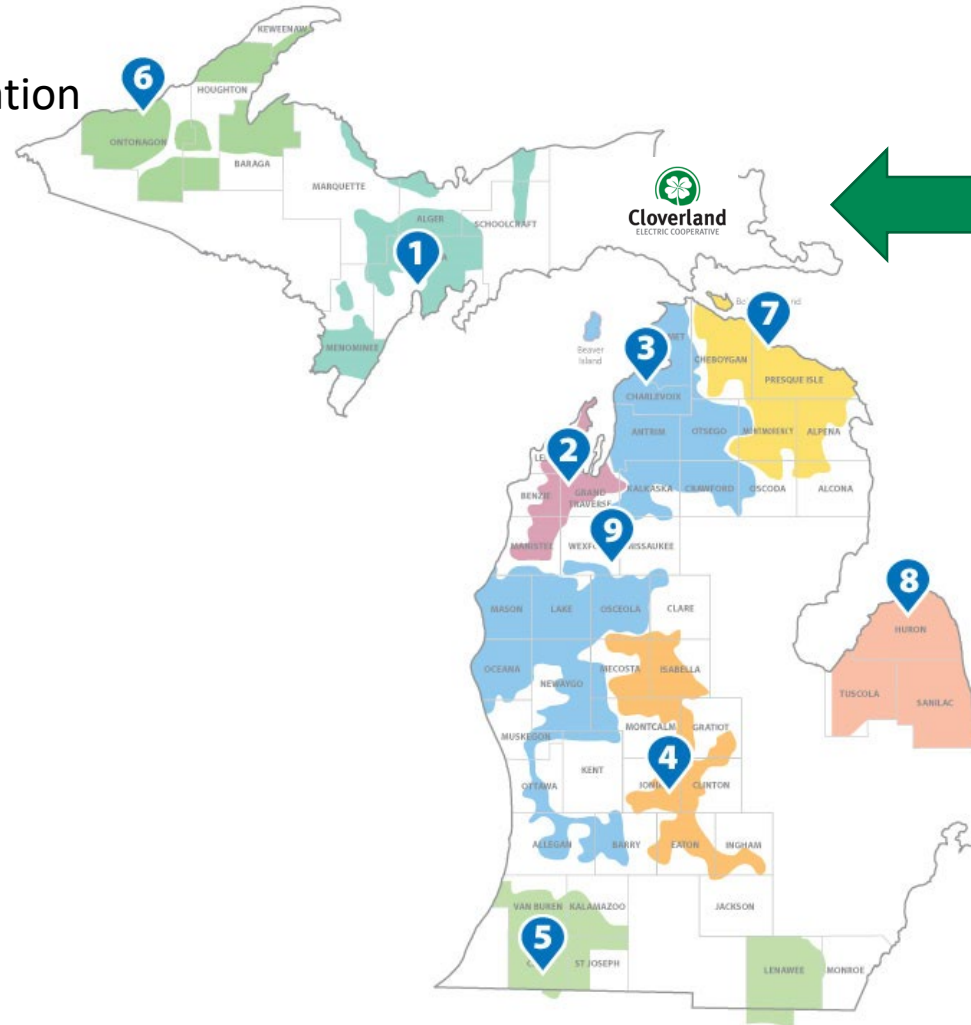
- ❖ 834 distribution cooperatives, 63 generation & transmission cooperatives
- ❖ 20 million American homes, farms and businesses
- ❖ Located in 48 states
- ❖ 42% of U.S. electric distribution lines
- ❖ Built and owned by the communities they serve
- ❖ Non-profit and exempt from federal and state income tax

Cooperatives
Power
56%
of the
nation's
landmass.



Michigan Electric Cooperatives

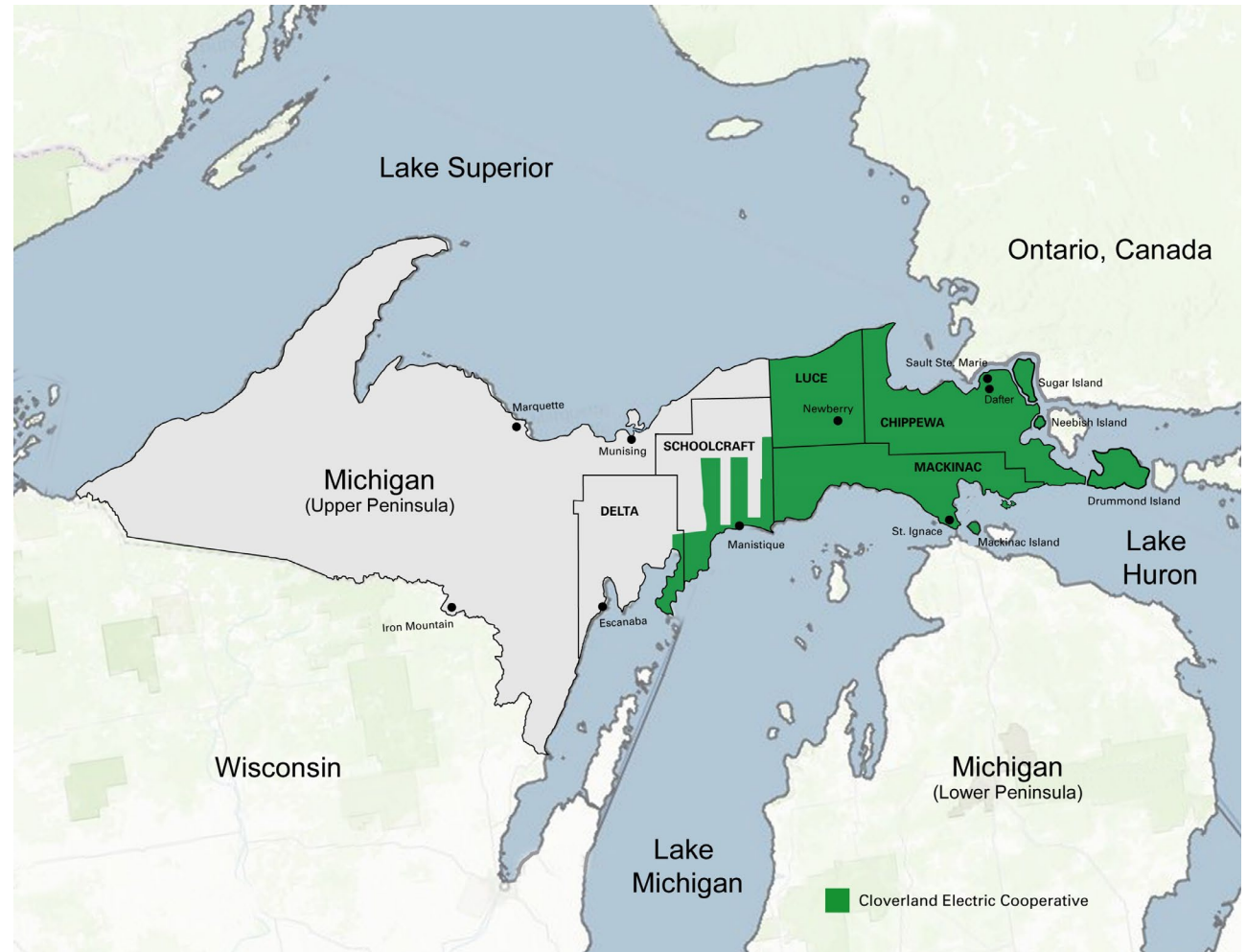
1. Alger Delta Cooperative Electric Association
2. Cherryland Electric Cooperative
3. Great Lakes Energy Cooperative (& 9)
4. Tri-County Electric Cooperative
5. Midwest Energy Cooperative
6. Ontonagon County REA
7. Presque Isle Electric & Gas Cooperative
8. Thumb Electric Cooperative



1 of 9 electric
cooperatives in
Michigan

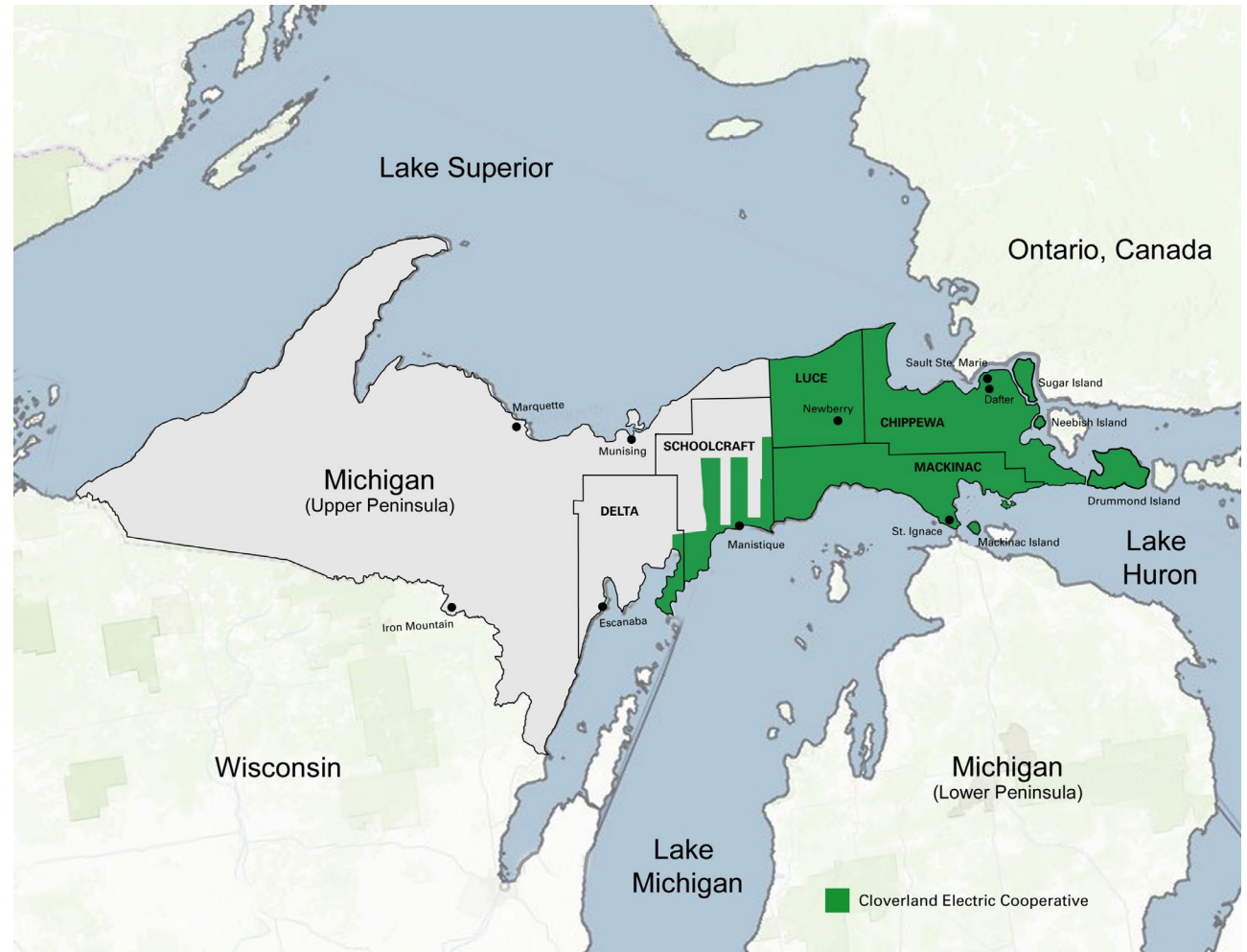
Cloverland Electric Cooperative Overview

- ❖ Founded in 1938 with 1,090 members
- ❖ Acquired Edison Sault Electric in 2010
- ❖ 4,000 miles of distribution line
- ❖ Over 33,000 members and 43,000 meters
- ❖ Five county service territory



Cloverland Electric Cooperative Overview

- ❖ Member regulated
- ❖ Not associated with a G&T or Joint Action Agency
- ❖ MISO Market Participant
- ❖ Owner and customer of ATC
- ❖ Significant renewable generating facilities



Cloverland Electric Service Territory

❖ Divided into three member districts

❖ Five divisions of line crews:

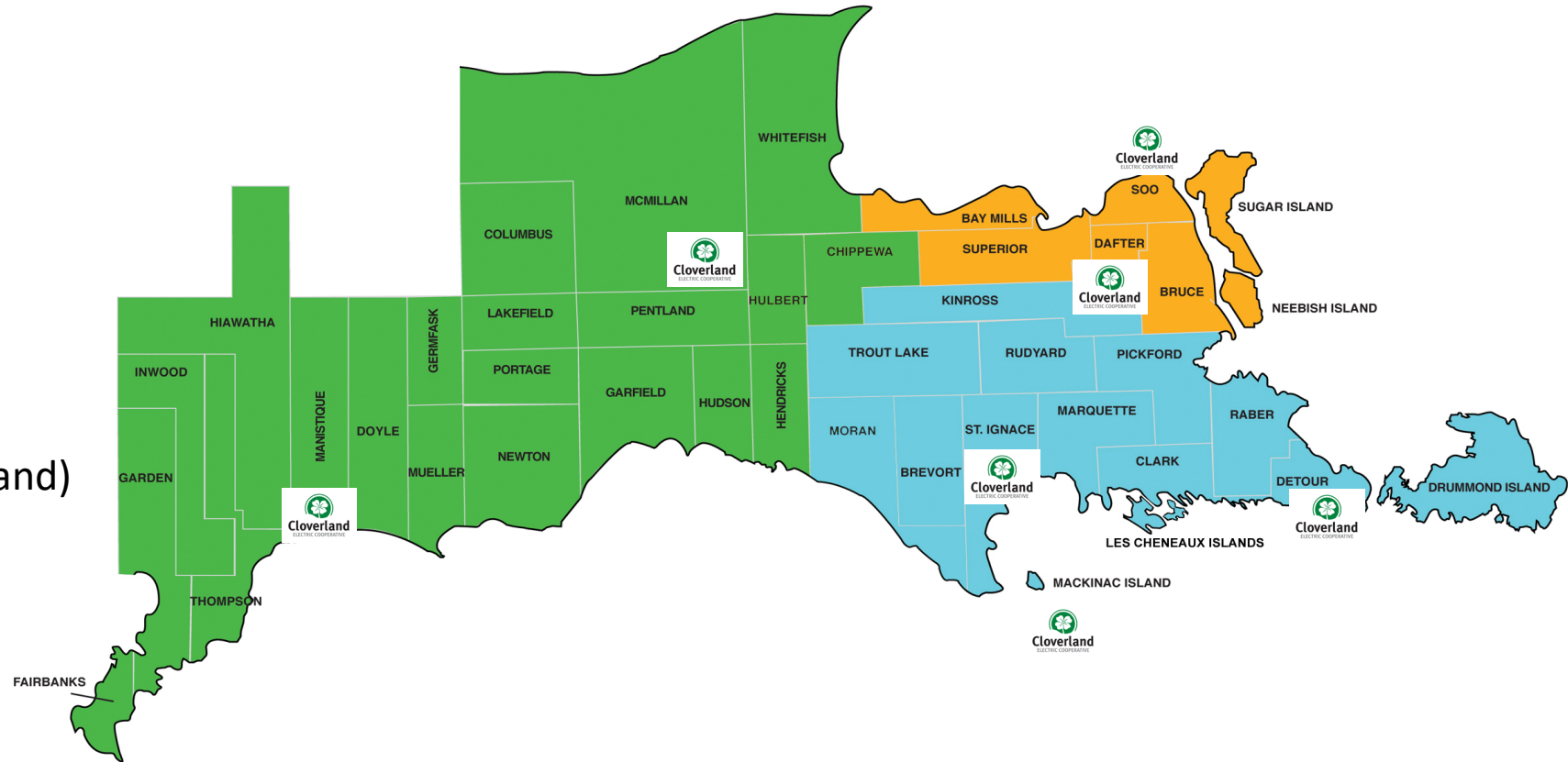
- Dafter
- Newberry
- Manistique
- St. Ignace / Mackinac Island
- DeTour

❖ Seven stores (five divisions plus Mackinac Island & Drummond Island)

❖ Dafter member service center

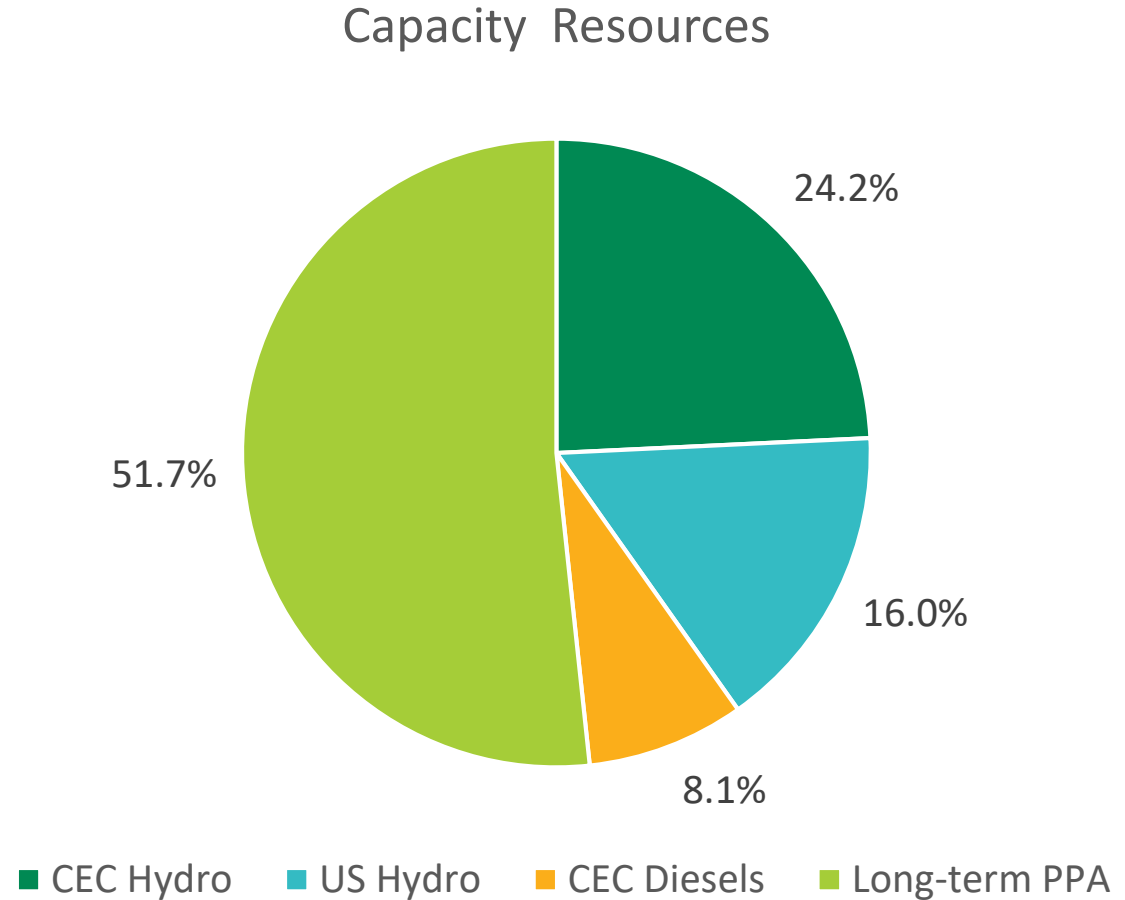
❖ Sault Ste. Marie administrative office & hydroelectric plant

❖ Serve 58 islands



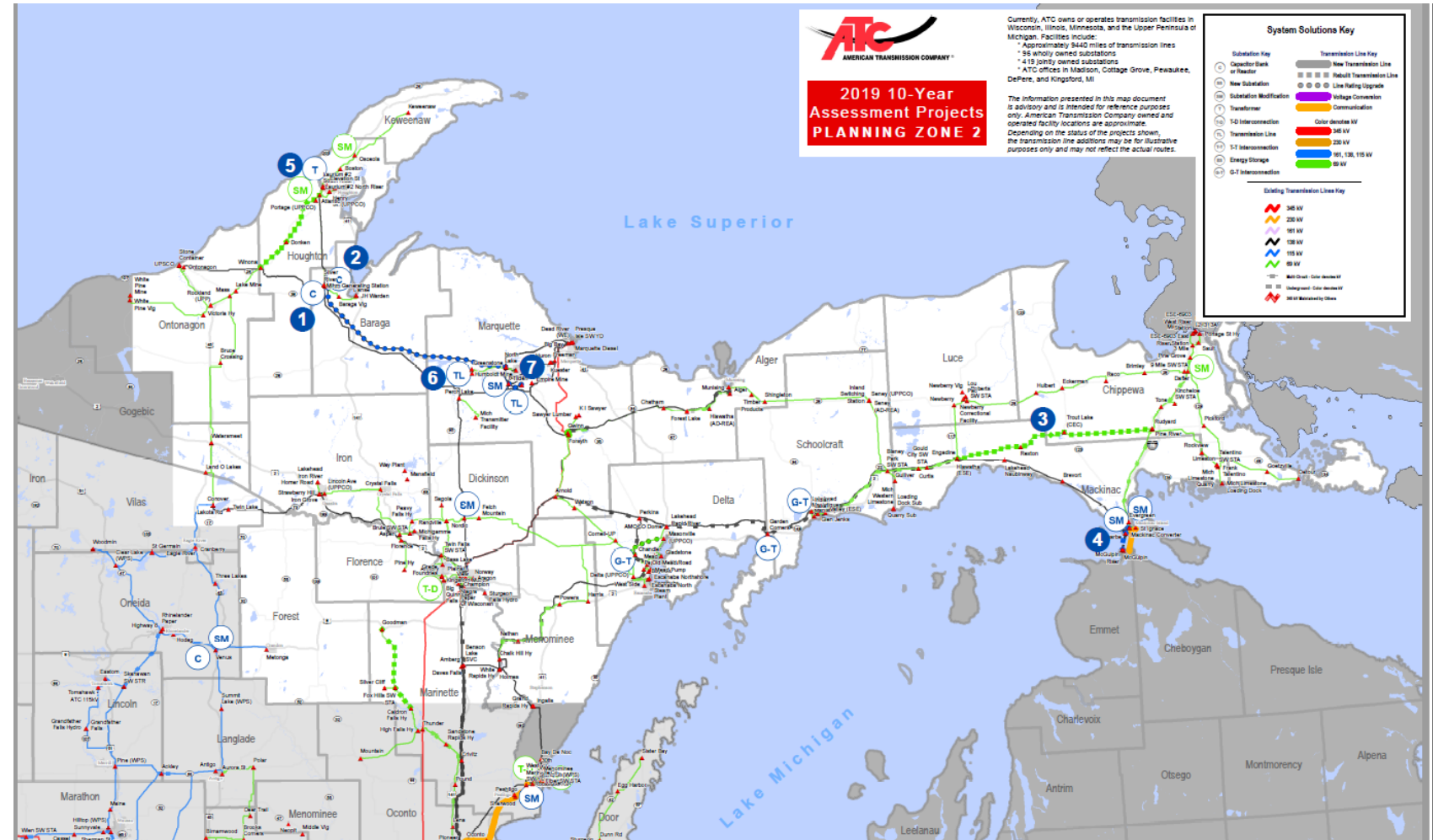
Cloverland Electric Cooperative **Overview**

- ❖ 150MW Peak Load - Winter
- ❖ 30 MW Hydro Facility
- ❖ 18MW Hydro PPA
- ❖ 10MWs Diesel
- ❖ Long-term PPA
- ❖ No demand response



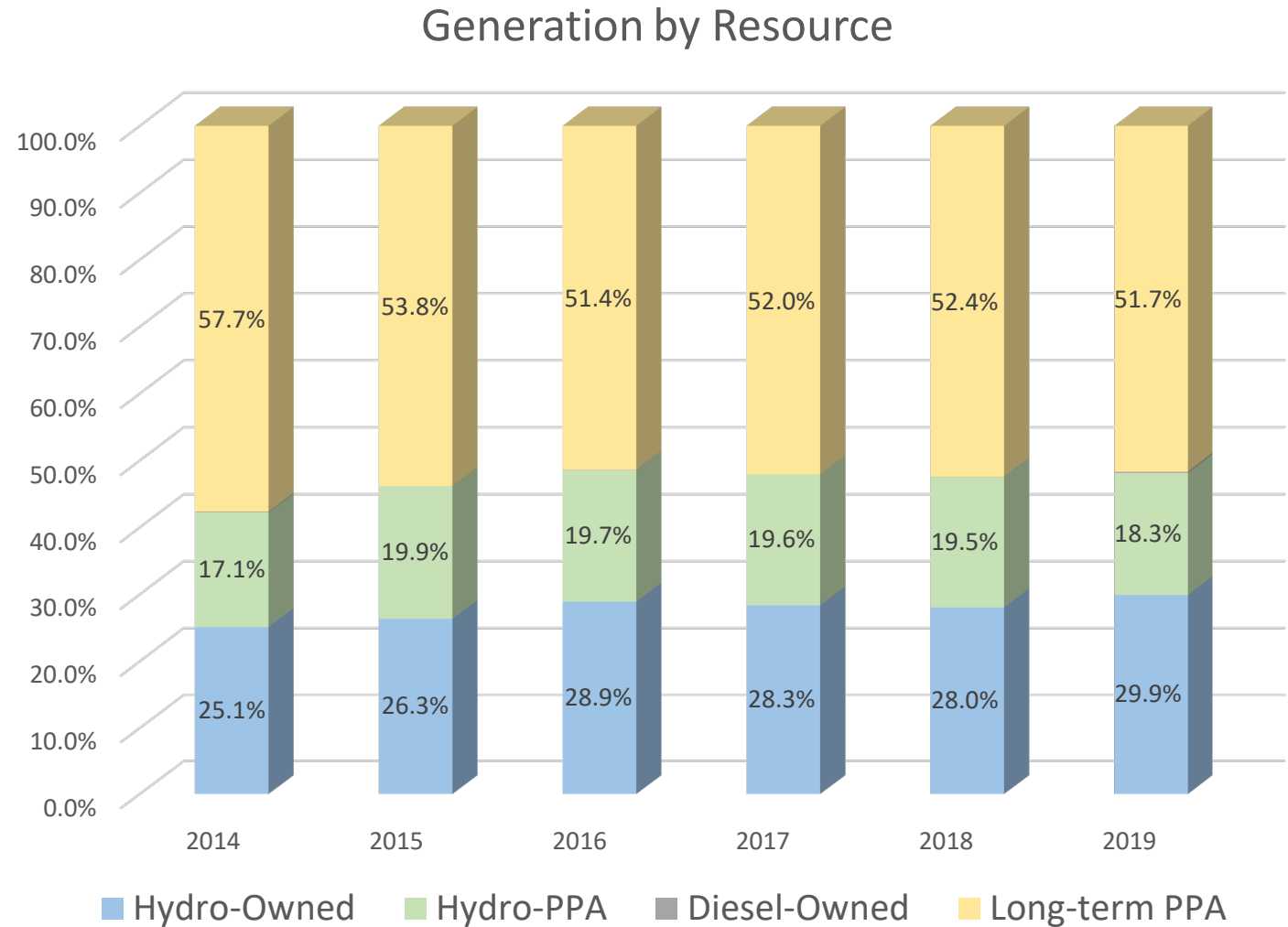
Eastern U.P. Transmission Perspective

- ❖ Limited ability to import/export power
- ❖ Potential generator instability
- ❖ Low and high system voltages



Cloverland Electric Energy Resources

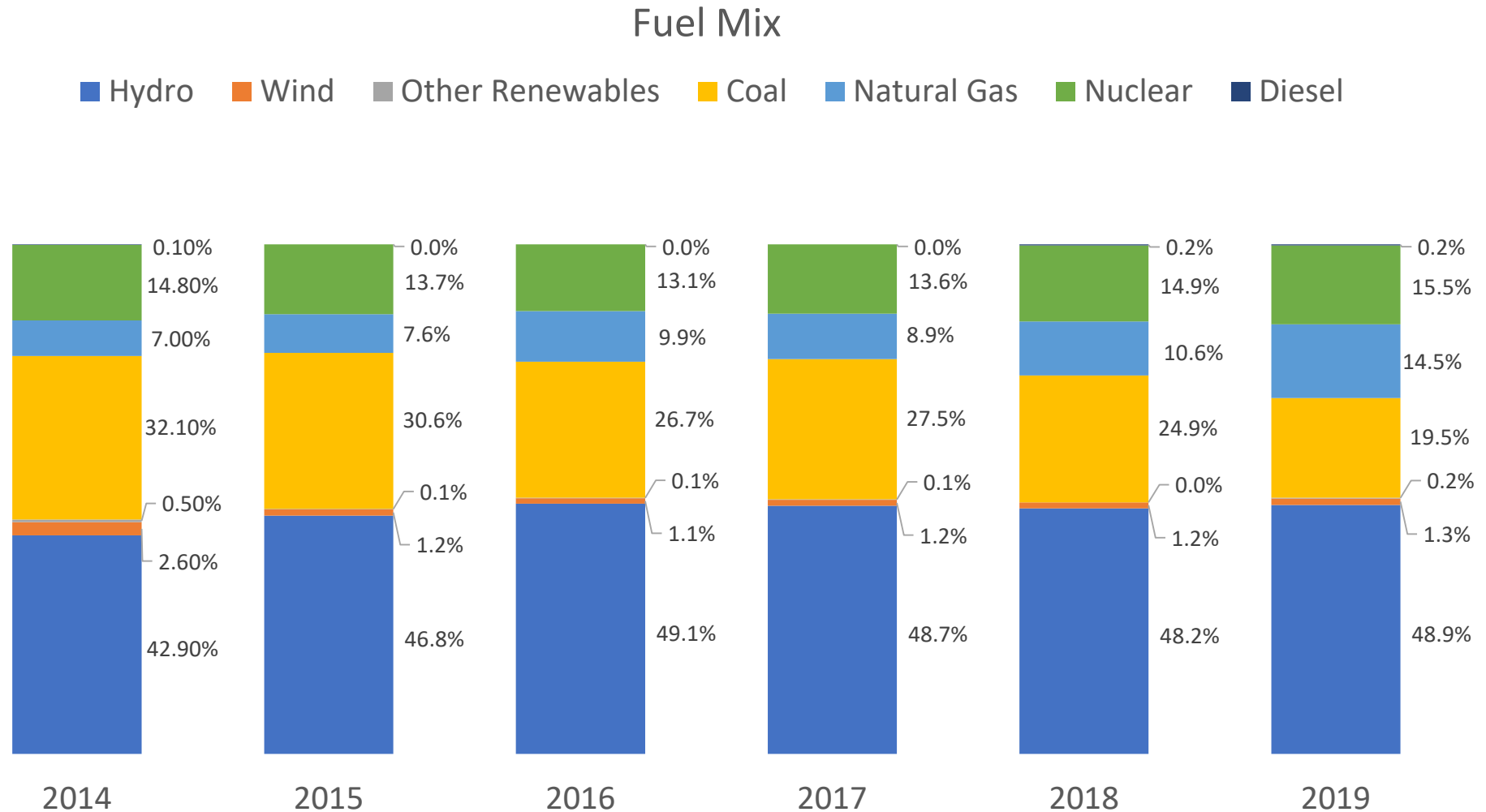
- ❖ Majority of energy requirements via LT PPA with delivery point in WI
- ❖ Significant hydro resources



Cloverland Electric Energy by Fuel Type

❖ Between 45% to 50% of energy needs from hydro and other renewables

❖ Decline in coal replaced by natural gas



Cloverland Electric **Hydro Facility**



Hydroelectric Plant

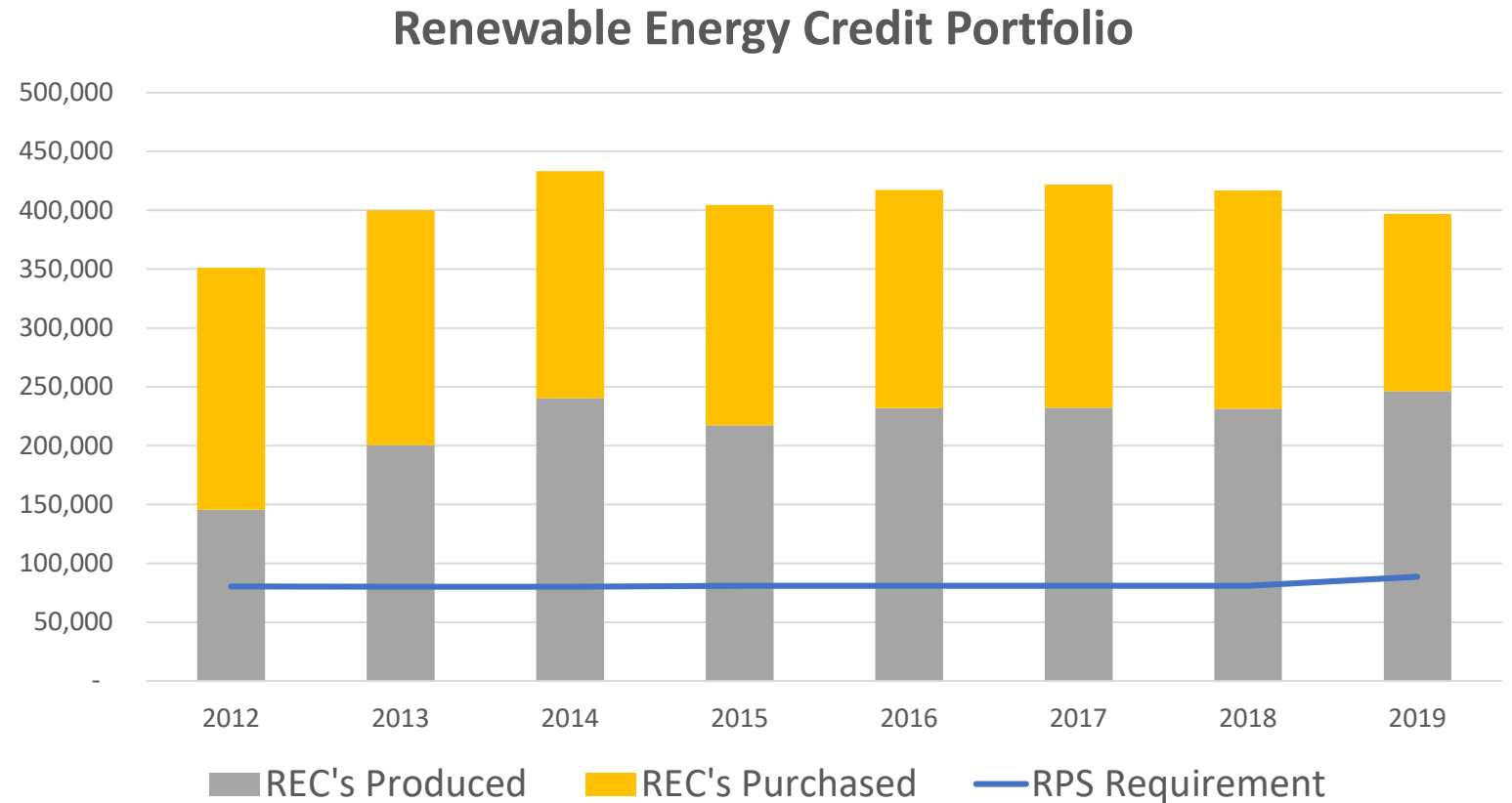
- Completed in 1902
- 1/4 mile long | 80 feet wide
- 74 turbines
- Locally-owned and operated

Power Canal

- Completed in 1902
- 2 ¼ miles long
- 200 feet wide
- Velocity-5-7 MPH

Cloverland Electric Renewable Requirements

- ❖ About 50% of energy requirements from hydro or other renewable resources
- ❖ RECs received from hydro PPA and long-term PPA
- ❖ Excess RECs sold to minimize cost of power



Upper Peninsula **Electric Rates**

2017 (\$/kWh)

	<u>Residential</u>	<u>Rank</u>	<u>Commercial</u>	<u>Rank</u>	<u>Industrial</u>	<u>Rank</u>	<u>All Sectors</u>	<u>Rank</u>
Bayfield Electric Cooperative	\$ 0.294	12	N/A		N/A		\$ 0.294	1
Upper Peninsula Power Company	\$ 0.243	11	\$ 0.170	10	\$ 0.067	1	\$ 0.148	8
Alger-Delta Co-op Electric Association	\$ 0.206	10	\$ 0.156	T9	\$ 0.132	4	\$ 0.178	11
City of Negaunee	\$ 0.176	9	\$ 0.134	T7	N/A		\$ 0.156	9
City of Marquette	\$ 0.171	8	\$ 0.156	T9	N/A		\$ 0.161	10
City of Norway	\$ 0.162	7	\$ 0.134	T7	N/A		\$ 0.143	7
Village of L'Anse	\$ 0.145	6	\$ 0.130	6	N/A		\$ 0.136	6
Village of Baraga	\$ 0.131	5	\$ 0.126	5	N/A		\$ 0.127	5
City of Gladstone	\$ 0.130	4	\$ 0.114	3	N/A		\$ 0.123	4
Cloverland Electric Cooperative	\$ 0.128	3	\$ 0.105	2	\$ 0.082	3	\$ 0.108	2
Northern States Power	\$ 0.126	2	\$ 0.117	4	N/A		\$ 0.112	3
City of Escanaba	\$ 0.116	1	\$ 0.094	1	\$ 0.081	2	\$ 0.094	1



Questions?

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