



Michigan Public Power Agency

*Presentation for the Grand Haven
Board of Light and Power*

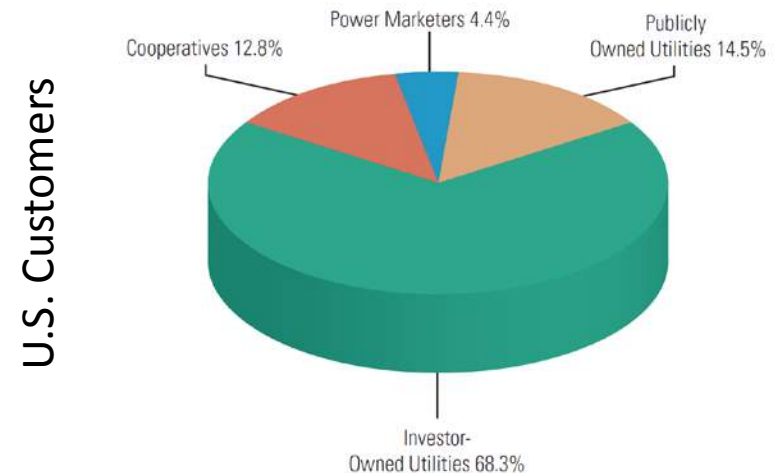
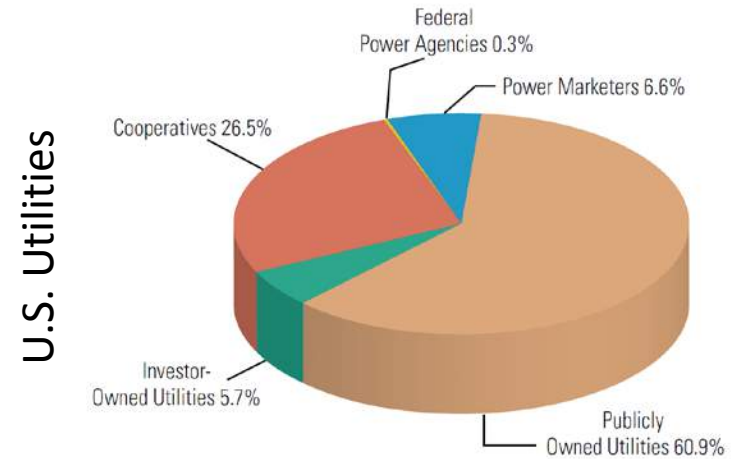
Tom Weeks

Wholesale Market Operations Lead

June 28, 2018

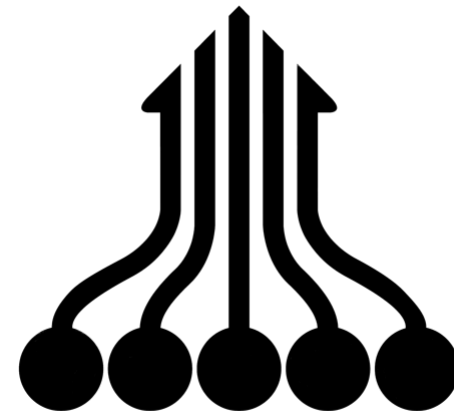
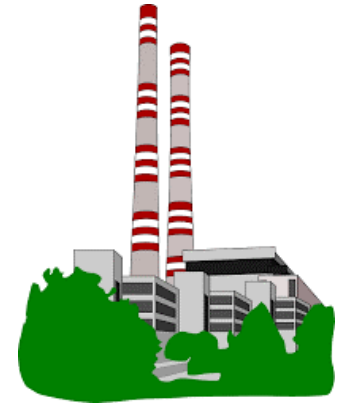
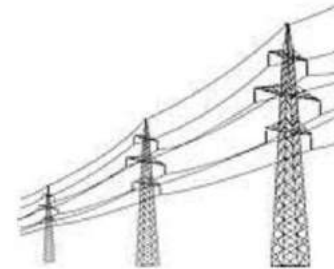
Public Power – United States

- Approximately 2,000 Public Power Entities in the United States
- Represent roughly 60% of Electric Utilities and 15% of the customers in United States
- Vast majority of Public Power Entities are Members of roughly 80 Joint Action Agencies (JAAs) or Power Supply consortiums
- *JAAs pool resources to gain efficiency, share costs, obtain economies of scale and focus expertise*
- *JAAs like MPPA are an extension of your local utility*



Public Power – Michigan

- 40 Municipal Electric Utilities in the State of Michigan (approx 2 GW or 10%)
- Joint Action Agencies (JAA) formed -1970s
 - Enabling Legislation
 - Municipal Utilities formed consortiums to invest in baseload power projects
 - Pooled needs of its members, finance (bond) and own a % central station power (mostly coal)
 - Member participants under JAA obligated through Municipal Resolution
- Michigan has 3 JAAs – MPPA (22 members), MSCPA (5 members) and WPPI (6 Members)



JOINT ACTION

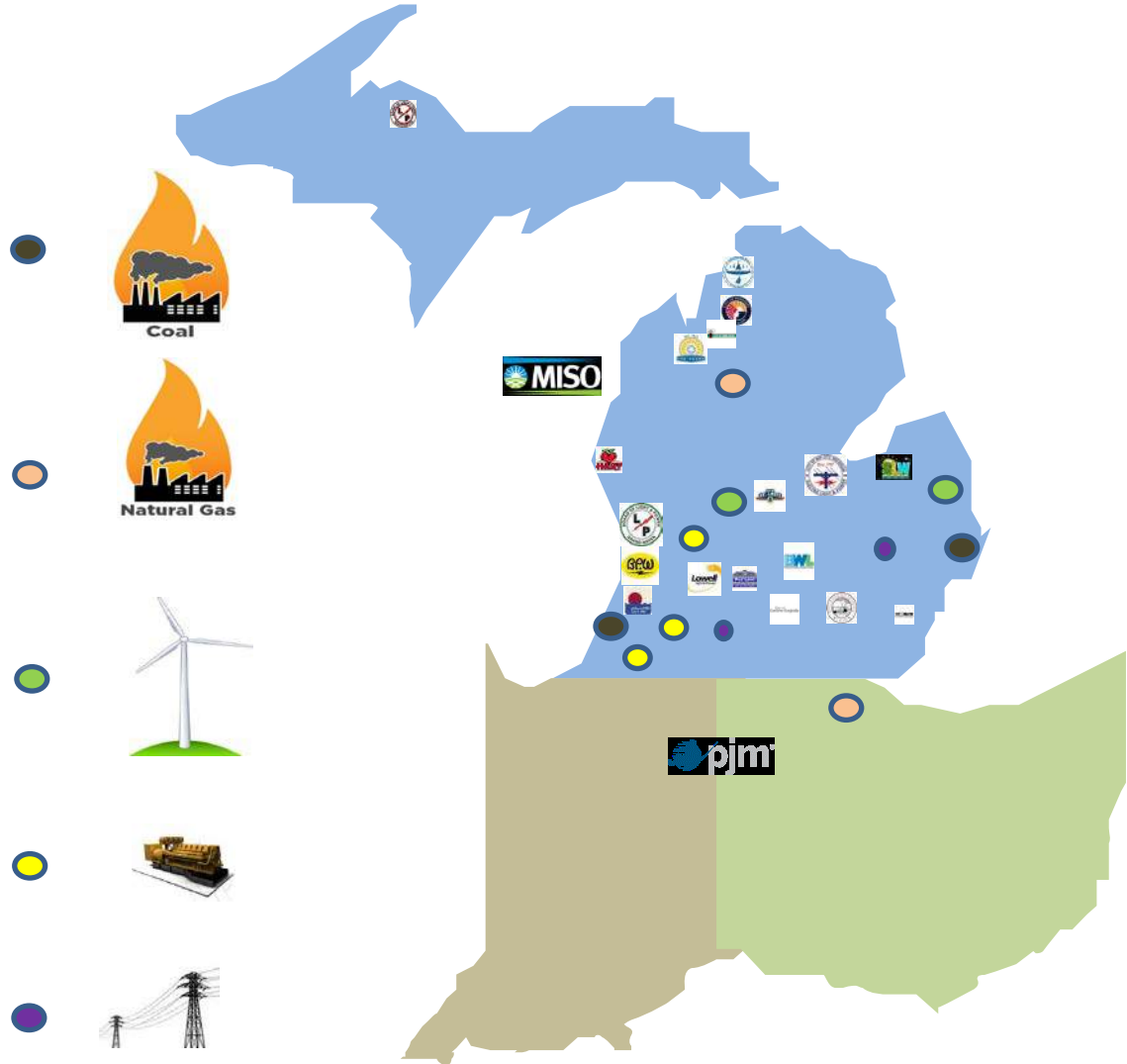
Michigan Public Power Agency

Created 1978, Act 448

- 40 Years in Operation
- 22 Municipal Members
- 85% of Municipal Utility retail energy sales
- 90 + % of Municipal Owned electric generation

Power Supply Resources

- Coal
- Natural Gas
- Wind
- Solar
- Landfill Gas
- Transmission



MPPA Operates in a Regional Market

KEY FACTS ABOUT MISO

99.99% system reliability

42 million end-use customers

400+ market participants

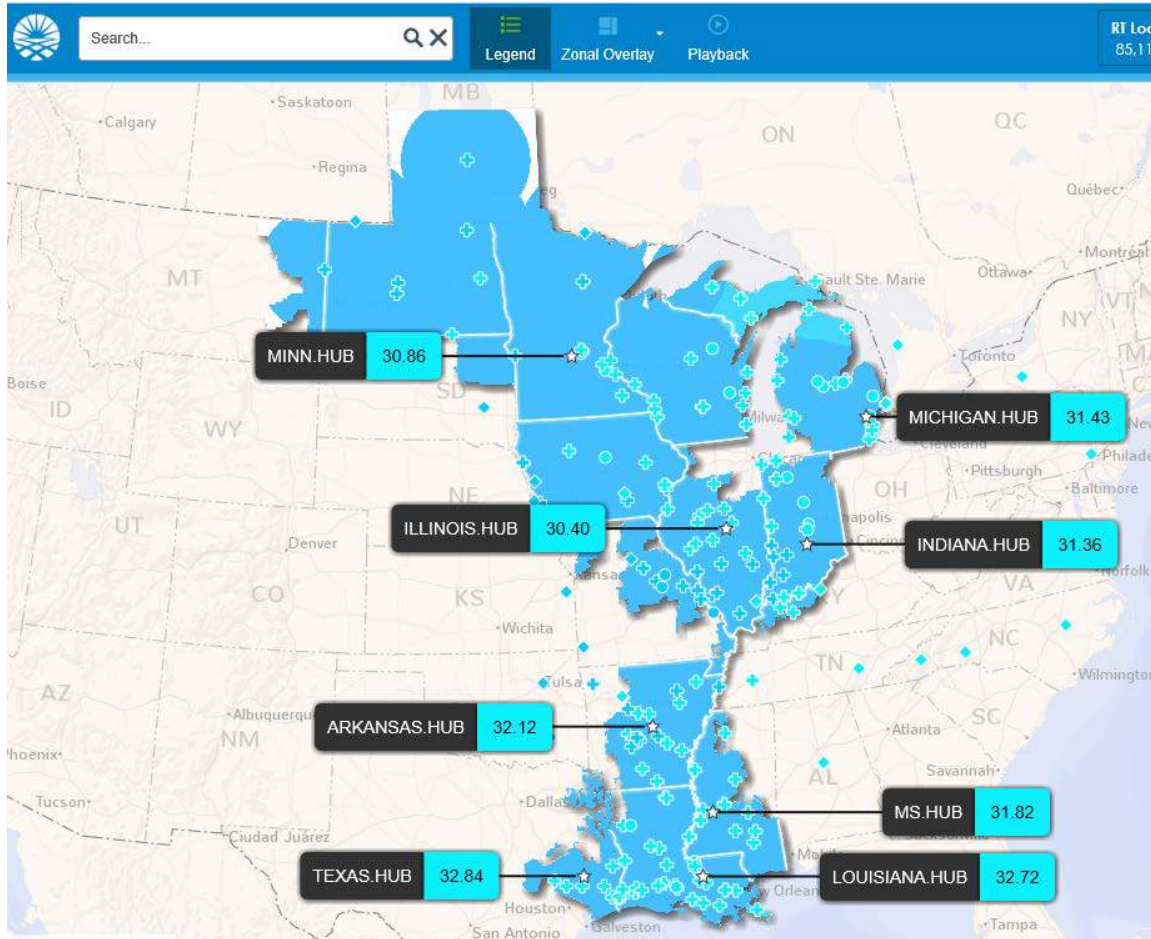
\$25 billion energy market

5-minute dispatch to over 6,000 electric generating units

MISO's reliability footprint and locations of regional control centers

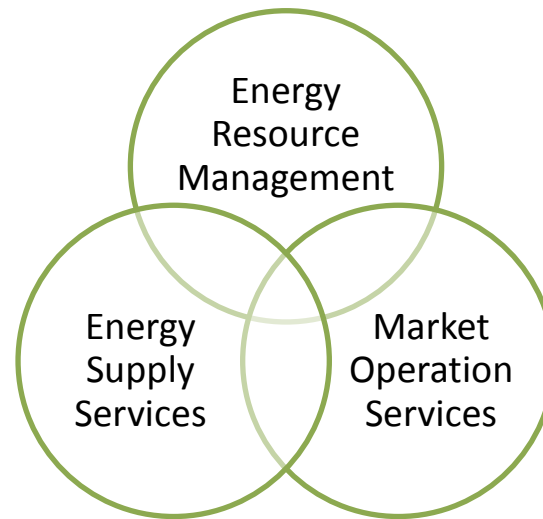


MPPA Operates in a Regional Market



MPPA Primary Functions

Primary services to Members fall into 3 functions



The Agency also provides

- “Back office” services (accounting, finance, credit, risk, human resources)
- “Service committees” used by Members and Non-Members to explore business opportunities or to comply with legislative or regulatory policies

MPPA Member Generation Breakdown

Type of Member Generation

Some Generation	Generation for Much of Need	No Generation
Bay City	Grand Haven	Charlevoix
Chelsea	Holland	Harbor Springs
Eaton Rapids	Lansing	Hart
Lowell		Niles
Marquette		Paw Paw
Portland		Petoskey
Sebewaing		South Haven
St Louis		Traverse City
Sturgis		
Wyandotte		
Zeeland		

MPPA Hedge Plan Rolling 5 Year Example

Example of Member needing 10 MW
MPPA Purchases 2MW blocks each year for the next 5 years



Diversification achieved by purchasing energy consistently in small quantities from a large pool of different supply sources under a **defined plan**

Incorporating Grand Haven into the MPPA Hedge Plan

1. Update Hedge Plan (Exhibit 1) within the MPPA Hedge Policy
2. Purchase small blocks of energy for calendar years 2021 and 2022 now (40% and 20% of expected purchases, respectively)
3. Add monthly purchases of energy for remaining months of 2020 (June through December)

MPPA's Future Forward Price Curve

