Electricity Advisory Committee Meeting

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Minnesota Energy Storage Alliance (MESA)

- Convened by the Energy Transition Lab
- Broad-based stakeholder organization—utilities, wind and solar industry, technology companies, clean energy organizations, state government, academia, other experts
- Our mission: To lead in accelerating the development of energy storage in Minnesota and the Midwest region.
- Technology-neutral and all scales: from batteries to hot water heaters to pumped hydro to electric vehicles; from customer to distribution to utility/transmission level
- Key strategies: we will work to advance smart policies that support energy storage by working with regulators and policymakers and providing input to MISO, FERC, and DOE.

Minnesota - the Midwest - MISO

Midwest & MISO:

- Low-average electricity prices
- Politically diverse
- Coal 37%
- High renewables potential
- Wind record: 13.1 GW (21%)
- ~15,000 wind capacity; ~15,000 MW queue
- Dispatchable Intermittent Resources (DIRs)

Minnesota:

- 45% coal
- 21% renewable electricity
- Renewable Energy Standard:

  31.5% by 2020 (Xcel)

  25-26.5% by 2025 (all others)
- Solar projected to grow 10-30X in 2016-2017

Regional Market for Energy Storage

MISO changes needed:

- Allow aggregation of distributed energy storage resources
- Reduce minimum MW threshold for market participation
- Enable storage assets to provide multiple, stacked services to market
- Encourage fast-ramping resources in ancillary services market
- Develop simplified interconnection rules

State Level Barriers to Energy Storage

- Need for accurate valuation of energy storage attributes
- Need for modeling alternatives in resource planning
- Need for expert information on policy & regulatory tools
- Need for funding for demonstration projects at scale