

2016 Community Storage Initiative Leadership Forum

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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 providing information and education, working with Minnesota regulators and policymakers, and providing input to MISO, FERC, and DOE.

Many Values of Energy Storage

Grid modernization & ancillary services

Shaving peak demand

Deferring or avoiding infrastructure investment

Increasing efficiency of existing plants

Integrating high levels of renewable energy

Resiliency, back up power,
energy independence



Minnesota Value of Energy Storage Study

- 2013 Legislation required study on “value of customer sited, utility controlled energy storage”
- Study by EPRI and Strategen
- Conclusions:
 - Storage cost effective if value streams stacked, especially
 - Distribution capital deferral
 - Participation in frequency regulation market (and capacity market)
 - Ability to leverage Solar ITC and accelerated depreciation
- No value assigned to backup power, reduction of greenhouse gases

Regional Markets 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

How to Enable Energy Storage at the State Level

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