



# Minnesota house Energy and Climate Finance & Policy Division Meeting

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## hearing on energy storage February 7, 2019

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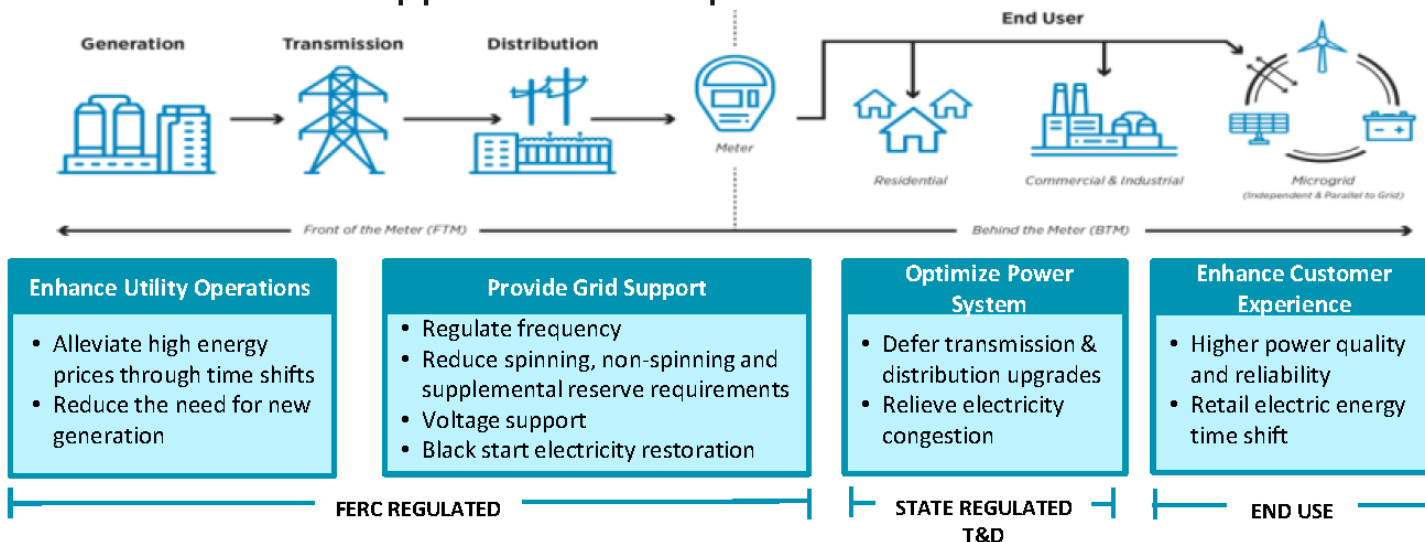


# Clean Grid alliance overview

- Regional non-profit advocacy organization focused on renewable energy policy, technical/engineering issues, project implementation, primarily for utility-scale resources
  - Members include NGOs, wind/solar/storage developers, turbine manufacturers, businesses that provide goods/services to the industries (construction, legal, supply chain)
  - 9 state footprint: ND, SD, MN, IA, WI, MO, MI, IL, IN
  - Extensive participation in stakeholder process (policy/technical) at the MidContinent Independent System Operator (MISO)
  - 18-year track record of success
  - Work extensively with electric utilities, including in Integrated Resource Planning

# Why Energy Storage?

Energy storage can be deployed in all parts of the grid, and has applications in all parts of the value chain.



Source: Adapted from DOE/EPRI Handbook, EEI (graphic)

# Drivers for storage in minnesota

- **Resource Needs**

- Utilities looking at capacity/energy needs in the 2020s, 2030s and beyond
- Appropriate to take a more systematic look at opportunities for storage in Minnesota that benefit ratepayers

- **Utility customers**

- Customers are increasingly asking for electricity generated by reliable, affordable, renewable energy. In some cases, storage pairs well with renewables.

- **Saving Money**

- Utilities are looking for opportunities to save money for their customers, such as the Connexus solar/storage project that's helping mitigate a demand charge.

- **Grid Resilience/Microgrids**

- Some customers like manufacturing or hospitals need high resilience in their grid
- Work being done on locations for microgrids

# Other work underway in Minnesota/the midwest

- **Minnesota Public Utilities Commission**

- Updating Interconnection Standards that will apply to storage
- Distribution Integrated Planning

- **MidContinent Independent System Operator (MISO)**

- Federal Energy Regulatory Commission (FERC) Order 841
  - Storage is eligible to provide all capacity, energy, and ancillary services that the resource is technically capable of providing
- MISO made a FERC filing on storage late December 2018; on-going work to implement and address additional issues
- Creates an opportunity for Minnesota-located storage resources to participate in the regional energy market



# THANK YOU



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