

#### CEE 21st Annual Meeting/Think Day, December 7-8, 2016

Electric Power Issues, Part 2 – What Future for Competitive Markets?

**MISO** presentation

## As the electric industry continues to change, many challenges and opportunities are created for MISO and its members Externalities



## Need to research and partner with stakeholders now, ahead of the technology curve

- Utility scale energy storage
- Utility scale solar
- Distributed Energy Resources
- High Voltage Direct Current (HVDC) Transmission
- Synchrophasors



# Energy Storage technology advancement projected; adoption is growing where policy is supportive







Source: EPRI

#### Minimal solar penetration today, but economics and public policy are driving to higher penetration potential





#### Growth of distributed energy resources in MISO has been slow thus far, but we're actively studying opportunities for integration





## HVDC technology is both in-use and being evaluated for expanded use in the MISO footprint



#### MISO's use of synchrophasor technology will continue to evolve as the technology continues to mature



## Working together to ensure the evolving resource portfolio is utilized reliably and economically

Strategic Objectives	Strategic Initiatives
Market and Grid Positioning	<ul> <li>Portfolio Evolution (Environmental Policy and Economics)</li> <li>Electric – Gas Coordination</li> <li>Seams Optimization</li> <li>Grid Technology Advancement</li> <li>Infrastructure Development Enablement</li> </ul>
Serve and Grow Membership	<ul> <li>Serve Existing Members</li> <li>Strategic Member Expansion</li> </ul>
Provide Independent Thought Leadership	<ul> <li>Regional Modeling and Analytics</li> <li>Policy-Level Relationships, Reputation and Visibility</li> <li>Platform Provider for Policy Implementation</li> </ul>
Strategic Compete	Platform Provider for Policy Implementation encies:      People * Process * Technology

