



ENERGY TRENDS ONE DAY WORKSHOP

ELECTRIFICATION OF IOWA

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March 24, 2022

My Perspective...

- **40 Years Experience Primarily in Electric Distribution**
 - **Early Career in an Urban Environment**
 - **35 Years in a Rural Environment with Iowa Lakes Electric Cooperative**
 - ***Energy Sales & Demand Tripled***
 - ***Efficiency & Reliability Increased***
- **Led Two Utility Scale Renewable Generation Projects**
 - **21 MW Wind Generation Commissioned 2009**
 - **140 KW Solar Generation Commissioned 2016**

My Perspective...

- **Automation & Integration**
 - ***Outage Management System - OMS***
 - ***Automated Metering Infrastructure – AMI***
 - ***Automated Mapping/Staking/Graphical Interface System – GIS***
 - ***Supervisory Control & Data Acquisition - SCADA***

My Perspective...

- **Energy Efficiency Projects**
 - *DOE Load Management Projects*
 - **Water Heater Control**
 - **Strategic Voltage Reduction**
 - **Power Factor Improvement**

- **Demand Response/Peak Shaving**
 - **G & T Projects**
 - **Utility Scale Battery Storage**

My Perspective...

- **40 Years of Change**
 - *Dynamic Change Ahead*
 - *Challenges Ahead*
- **What Doesn't Change??**
 - *Our Mission – Affordable, Reliable, Energy Delivery*
- **Balance Between Climate Goals/Energy Demand**
 - *February 2021 – Polar Vortex*
- **Energy Security-Economic Security-National Security**

The Future...

- **Beneficial Electrification**
- **Electric Vehicles/Transportation**
- **Generation Landscape**
 - *Storage*



In a Perfect World...

- **National Energy Plan**
 - *Transition Path – Generation*
 - *Energy Education*
- **Universal Energy Communications Protocol**
 - *Smart Home – Energy Management System*
 - *Everything Connected to Everything*
 - *Potential For Energy Efficiency Improvement*

“Plans are nothing; Planning is everything”

Dwight D. Eisenhower

