INTEGRATED SYSTEMS PLANNING

Mike Bull, Director
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Phase I: Founded in 2014

Conveners:

- GREAT PLAINS INSTITUTE
- Xcel Energy
  - RESPONSIBLE BY NATURE™
- minnesota power
- Center for Energy and Environment
- e21 INITIATIVE

Project Team for Phases 1 and 2:

- GW
- LAW
- ENERGY SYSTEMS CONSULTING SERVICES, LLC
e21 = Response to Changing Electric System

Analog & Manual → Digital & Automated

Centralized One-way flow → Cleaner More Distributed Multi-directional

Little consumer choice → More consumer choice
e21’s Distinguishing Features

**Proactive**
- Done in advance of crisis
- Agreement could reduce transaction costs & improve outcomes

**Multi-interest & Collaborative**
- Consensus-oriented
- Safe space outside of formal regulatory process

**Voluntary**
- Arose from mutual interest among participants
- Opportunity for diverse interests to travel common learning curve
Phase I (2014): Broad Consensus

Utility Business Model and Regulatory Framework Must Evolve

Early and Sustained Stakeholder Engagement is Critical

MN Regulators Should Be More Proactive In Addressing Key Issues
Phase II (2015-16): Three Focus Areas

- Performance-Based Compensation
- Integrated Systems Planning
- Grid Modernization
MN PUC-Initiated Investigations

- Grid Modernization 2015
- Advanced Rate Design 2015
- Distribution Interconnection 2016
- Performance Metrics/Incentives 2017
- Transportation Electrification 2018
Improving Resource Planning

Integrated Systems Planning Working Group

- Utility Resource Planners
- Clean Energy NGOs
- State Regulatory Staff
- Customer Advocates
- Renewable Developers
- Academics
Improving Resource Planning

Early, Proactive Stakeholder Engagement

• Seek stakeholder input re: Assumptions, Scenarios, Sensitivities as part of plan development

Biennial Planning Conference

• Share best practices and planning innovations
• Resolve cross-utility issues
Improving Resource Planning

Improve Modeling Capability

- Evaluate other planning modeling software to supplement or replace Strategist

Emphasize System Approach

- Transition to a more “End to End” analysis
- Further incorporating load-side resources and MISO market opportunities into our resource planning
Some Key Questions

• How to Create the Grid We Need – Reliable, Flexible, Resilient
• How to Keep Costs Affordable for Customers
• How to Treat Load as a Serious Resource
• How to Best Address Needs of Plant Communities and Workers
• What is the Role of Natural Gas
Three Keys to a Healthy Low Carbon Economy

- Maximize Efficiency
- Decarbonize Electricity
- Strategic Electrification
THANK you!