

INTEGRATED SYSTEMS PLANNING



Systems Planning Forum
Dec. 3, 2018

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Phase I: Founded in 2014

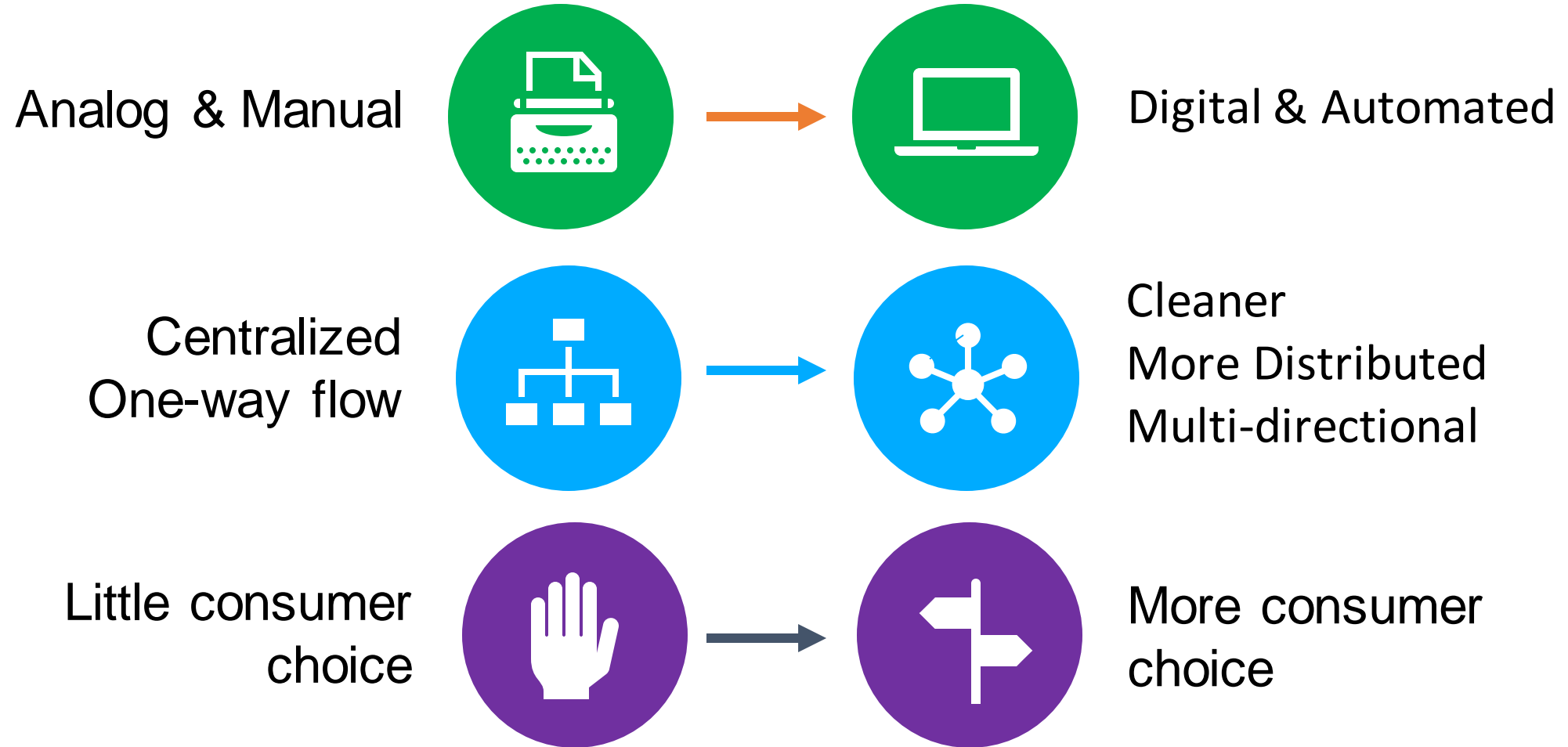
Conveners:



Project Team for Phases 1 and 2:



e21 = Response to Changing Electric System



e21's Distinguishing Features

Proactive



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

Multi-interest & Collaborative



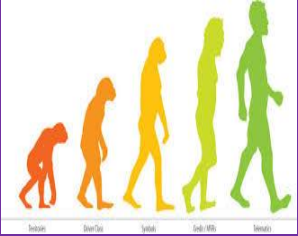
Consensus-oriented
Safe space outside of formal regulatory process

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**



Grid Modernization



**Integrated Systems
Planning**



MN PUC-Initiated Investigations

2015

• **Grid Modernization**

2015

• **Advanced Rate Design**

2016

• **Distribution Interconnection**

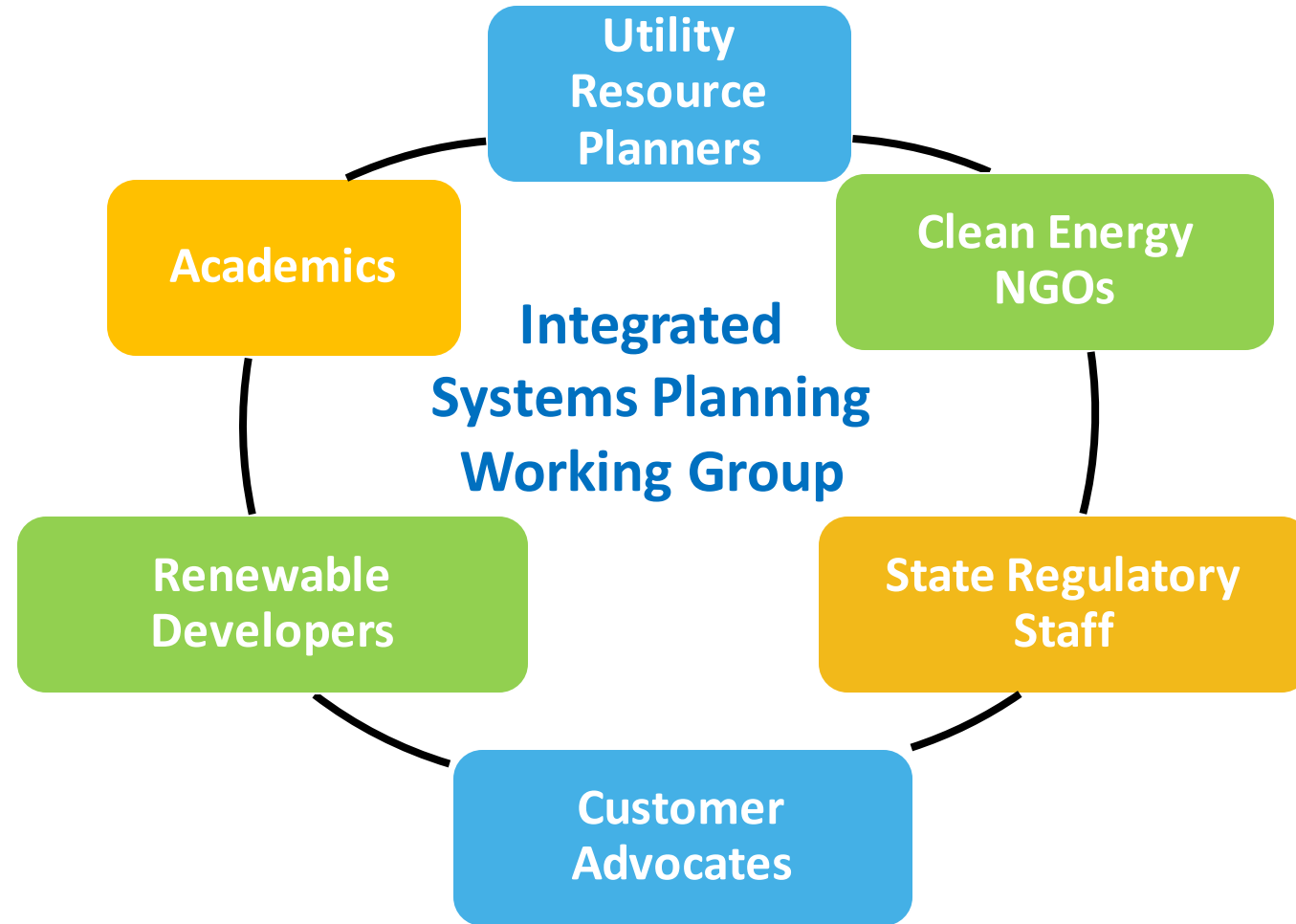
2017

• **Performance Metrics/Incentives**

2018

• **Transportation Electrification**

Improving Resource Planning



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!

