

Markets for 100% Clean Electricity



ESIG

ENERGY SYSTEMS
INTEGRATION GROUP

ESIG Task Force Meeting

October 24, 2024

Workshop Agenda



TIME	TOPIC	PRESENTER/LEAD
8:00 – 8:45	Welcome and Introduction Recap of 2023 Workshop	Robing Hytowitz, NextEra Analytics, Debra Lew, ESIG Erik Ela, EPRI
9:00 – 10:00	What evaluation tools and metrics can help us understand the potential performance of future market designs? Breakout Session 1	Breakout Leads: Conleigh Byers, Jim Gonzalez, Todd Levin, Bethany Frew, Francisco Munoz
10:00 - 10:30	Break	
10:30-11:15	What evaluation tools and metrics can help us understand the potential performance of future market designs? Breakout Session 2	Breakout Leads from above
11:15-12:00	Breakout report back	Breakout Leads
12:00 – 1:00	Lunch	
1:00 – 3:00	Paper and Visions Review	Leads Rob Gramlich, Kelli Joseph, Jacob Mays, Jessica Greenberg, Ryan Schoppe
3:00 – 3:30	Break	
3:30 – 4:15	Breakout: What is missing, what other possible challenges are left unaddressed?	Breakout Leads (same as above)
4:15 – 4:50	Forward Looking Actions to Enable Visions	Lead: Rob, Kelli, Jacob, Jessica, Ryan
4:50-5:00	Close out	Robin Hytowitz, NextEra Analytics
TBD	Networking Reception	

Task Force Goals



- **Questions** we hope to address

1. What different **visions and options** for wholesale market designs and **structures** can support 100% clean electricity futures?
2. How to accommodate high levels of **variable, zero-fuel cost, and inverter-based resources**, high levels of **limited duration resources**, and a dynamic distribution system with **price responsive demand-side assets**?

- **Objective**

- **Discussion and debate**
- **Develop a paper** containing several visions for wholesale market pathways to support instantaneous penetration of 100% clean as well as ensure reliability through periods of low renewables outputs and provide sufficient investment signals for future capacity needs.

- Introduction and Visions Overview

- What are visions? *In the context of this paper, visions are market designs and structures that modify current practice to accommodate 100% clean energy. Modification can be slight or drastic, or starting over completely.*
- What is defined as “clean” electricity (fuels included)? How much do we need to focus on the transition? What are the major gaps we need to address?

- Visions

- Physical structures, institutional roles, and designs needed for achieving a reliable and affordable carbon-free grid
- Mandatory Contracting Around Full-Strength Spot Prices
- Coordinated Planning for the Energy Transition
- Assessing price adders for lost load, capacity, flexibility, and carbon displacement
- Additional visions: Hybrid markets, un-restructuring, energy-only

- Metrics to evaluate markets

- Conclusions and next steps

Goals for Today's Workshop

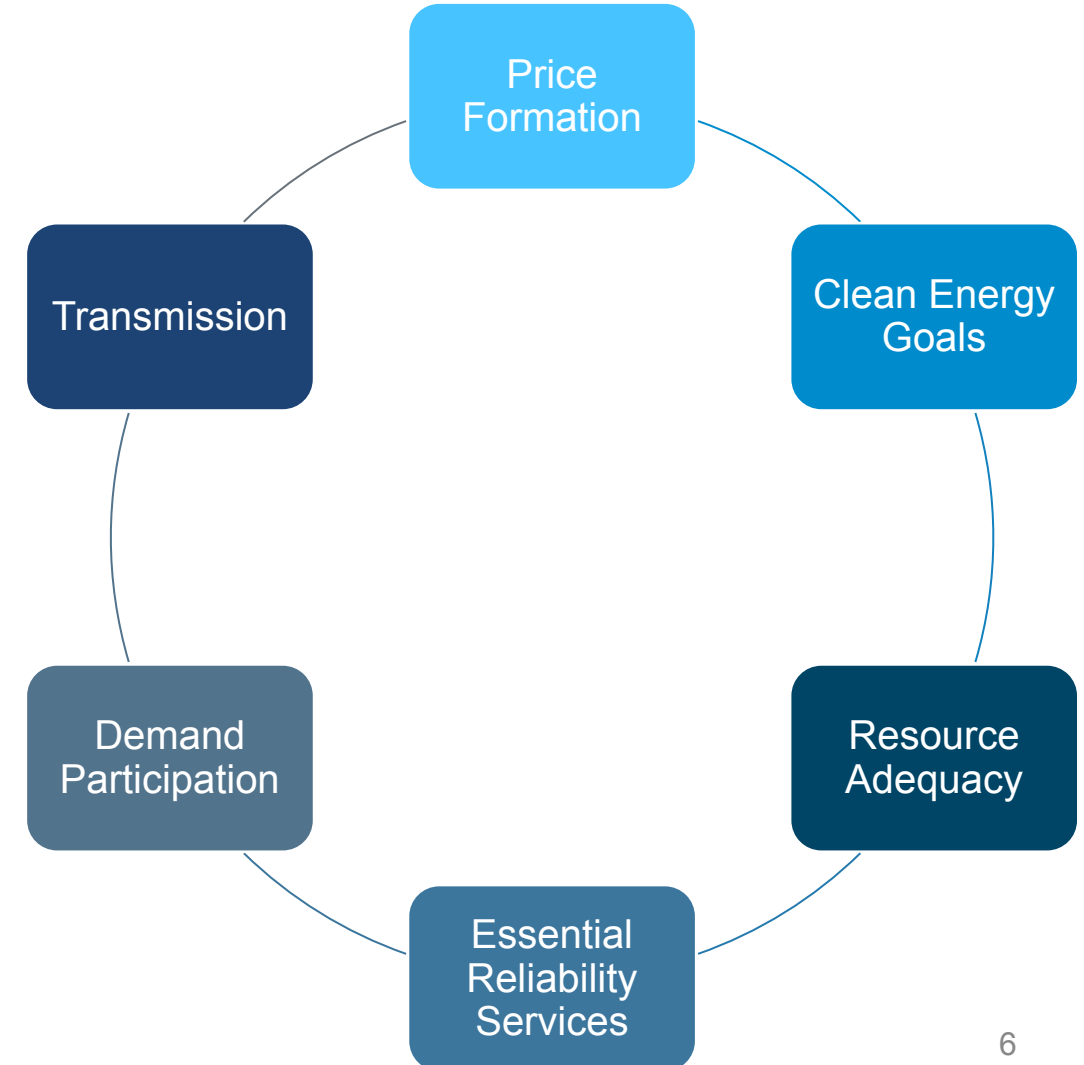


- Brainstorm and discuss metrics to evaluate future (or current) markets
 - How should we evaluate future markets?
 - Is there a single metric (qualitative or quantitative) that captures market efficiency?
- Summarize visions and get feedback
 - Paper lead authors will discuss their visions
 - Are there missing future visions?
- Please speak up!

Future Visions: Framework

Three major visions:

- **Status quo / incremental changes**
 - Can we make sufficient changes within the current market structures to accommodate changing resource mix and other technological advances?
- **Large scale changes**
 - Do we need to make fundamental changes to our markets? Are there designs or structures that are unique to the old resource mix?
- **Blank slate / Cost of service**
 - Should we dissolve the ISOs/RTOs and move to full cost-of-service regulation?





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THANK
YOU

Future Visions: Potential Visualization

