

Status of Electricity Regulation Across the US

Mission Statement

The WUTC protects consumers by ensuring that utility and transportation services are fairly priced, available, reliable, and safe.

WUTC – Kyrgyz Republic Partnership

Philip Jones, Commissioner

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Status of Electricity Regulation Across the US

“Market development is a difficult thing to predict and perhaps an even harder thing to mandate... in the mid-1990s policy makers and regulators in nearly half of the states begin designing retail electric service markets... Unfortunately, all markets did not develop as expected. While some markets did develop, some failed to develop at all.”

Raymond W. Lawton, Ph.D., Director,
National Regulatory Research Institute, 2003

Open Question

- Must markets develop “naturally” to serve buyers and sellers or can they be designed by policymakers?
- Whichever – the role of government is to ensure that the “market” serves important social values:
 - Reliability
 - Universal service
 - Environmental policies
 - Minimize prices (control market power)

Utility Regulation in the US

Divided at the wholesale and retail level

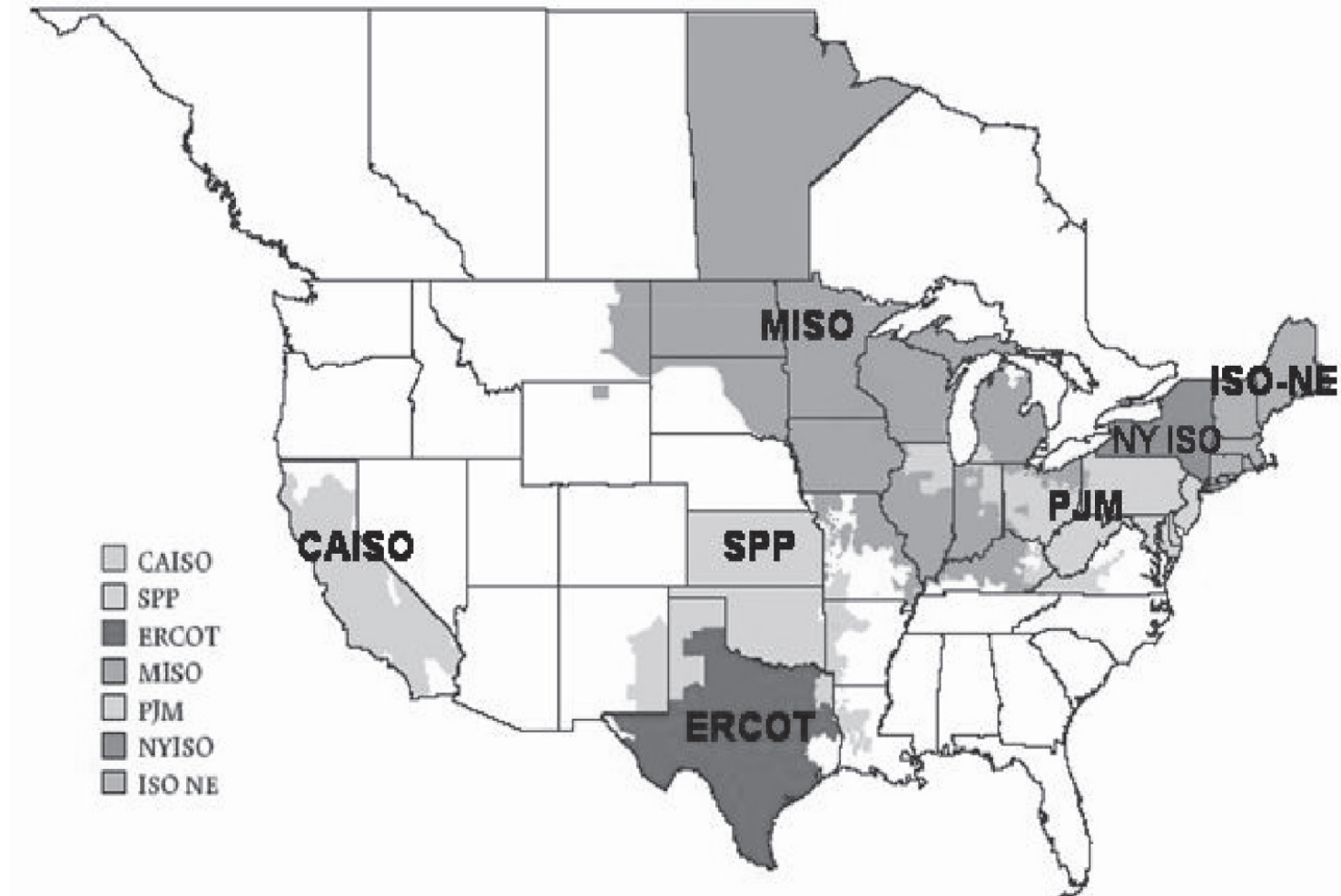
- The federal government regulates wholesale electric markets
 - Generator sales to utilities and interstate transmission
 - Since 1992, federal policy has been to promote competitive power sales and open access transmission
- States regulate retail sales
 - Not addressed in this presentation

Status of Wholesale Electricity Regulation Across the US

Wholesale regulation electricity follows two models

- About 50% of the U.S. generating capacity operates under some type of ISO/RTO model
 - The primary features of this model are day-ahead, hour-ahead and real time energy prices, determined through a centralized auction process
 - All power sales cleared at a **single** market price
- The primary features of the remaining systems are bilateral transactions based on sales and delivery at convenient market “hubs”
 - Power sales cleared at a **negotiated** price

ISOs and RTOs in the US and Canada in 2005



Source: U.S. Federal Energy Regulatory Commission (2005), p. 52 6

Where we are today

Market Based Systems

System Operators	Generating Capacity (MW)
New England (RTO)	31,000
New York (ISO)	37,000
PJM (RTO)	164,000
Midwest (ISO)	130,000
California* (ISO)	52,000
ERCOT "Texas"	78,000
Southwest Power Pool (RTO)	60,000
ISO/RTO Total	552,000
Total U.S. Generating Capacity	970,000

Source: *Paul L. Joskow*

Markets for Power in the United States: An Interim Assessment
The Energy Journal

The PJM Interconnection

- A centrally dispatched, competitive wholesale electricity market comprising
 - 163,000 MW of generating capacity
 - about 390 market buyers, sellers and traders
 - a region of more than 51 million people
- PJM integrated new members in 2005 from North Carolina, Virginia, Maryland and Pennsylvania
- PJM Markets: day-ahead and real-time energy, daily, interval, monthly and multi-monthly capacity, spinning reserves; and others

PJM's Independent Market Monitoring Unit

- The Energy, Capacity, Regulation, and Spinning Reserve markets are competitive
 - Market power in the Capacity Markets remains a serious concern
 - Proposed pricing rules explicitly include market power mitigation
- The Ancillary Service Markets in PJM are generally not competitive

ERCOT - Texas

ERCOT

- opened to wholesale competition in 1996
- serves more than 20,000,000 people in a 200,000-square-mile area in Texas
- added more than 26,500 MW of new generation since 1996
- peak load grew from 48,000 MW in 1996 to 60,000+ MW in 2003
- employs a single point of control, competitive interconnection

The Midwest ISO

- founded on Feb. 12, 1996
- Covers 1.1 million square miles with more than 100,000 miles of transmission lines
- ***Energy markets commenced on April 1, 2005***
- Energy Market Tariffs (3 years to develop)
 - Grandfathered Transmission Agreements
 - Interstate Regulatory Coordination (15-states)
 - Transmission Congestion Management
 - Coordination among MISO and 23 Control Areas
 - Transmission Losses

Status of Wholesale Electricity Regulation Across the US

Traditionally Regulated Systems

Pacific Northwest region:

Washington, Oregon, Idaho, Montana

Remainder of Western US outside of California

5 whole states, 3 partial states

Southern region

7 whole states, 5 partial states

Pacific Northwest Region

Dominated by the Bonneville Power Administration

- Hydro based (31 federal dams)
- Cost-based rates
- Open access transmission
- Multiple use of river resources
- Long history of bilateral contracting and direct service industries that by-pass the utilities

Issues for Centralized and Decentralized Markets

Generation

- Many parts of the country will need to significantly expand generation capacity over the next few decades.
- New generation is encumbered with many risks
 - Transmission from rural locations to demand centers
 - Environmental concerns (e.g., mercury, CO₂)
 - Large construction costs
 - Prudence reviews by state PUC's and uncertainty of full cost recovery
 - Fuel costs
 - Demand assumptions

Issues for Centralized and Decentralized Markets

Transmission

- The current transmission system was designed and built for individual utility needs.
 - The U.S. electricity sector has many vertically integrated utilities and nearly 150 control areas
- To fully exploit market competition requires sufficient transmission to give utilities multiple opportunities to select among suppliers
 - Unclear what the cost of, or who would pay for that additional transmission
- Transmission bottlenecks and congestion management

Issues for Centralized and Decentralized Markets

FERC Rules Utilities owning transmission must:

- have standardized cost-based transmission tariffs;
- provide real time transmission availability and price information;
- connect independent power producers to their networks;
- make efforts to expand their transmission networks to meet service requests when capacity is not available;
- provide network support services (e.g., balancing);
- Separate the operators of their transmission networks from generators and marketers to mitigate abusive self-dealing behavior.

Energy Policy Act of 2005

Conclusion

“The jury is still out”

- Despite the experience of California and others, the role of competition is still being debated
 - advocates argue that the designs of most previous approaches were fundamentally flawed
 - opponents argue that unique attributes of electricity make market approaches infeasible
 - decision makers presently have little appetite for further competition, **BUT** re-vertically integrating utilities would be expensive
- About half of electric generation operates under the ISO/RTO framework, and half does not, allowing further analysis comparing the outcomes of traditionally regulated and competitive electric systems

Thank You.

I am available for any questions.