The system is quite resilient to most threats to supplies

Even as fleets evolve, spot price signals help address a broad range of threats to supply

Market	Offer Cap[1] ($/MWh)	Max Shortage Adder[2] ($/MWh)	Capacity Performance ($/MWh)	Max Signal in Severe Shortage ($/MWh)
ISO-NE	$2,000	$3,050	$3,500[3]	$8,500
PJM	$2,000	$1,700	$3,500[4]	$7,200
MISO	$2,000	$1,500	N/A	$3,500
NYISO	$2,000	$3,250	N/A	$5,250
ERCOT	$9,000	$9,000	N/A	$14,000[5]

Notes:

1 Offers up $1,000/MWh normally, or $2,000/MWh w/case-specific review, except ERCOT.

2 Sum of Reserve Constraint Penalty Factors in ISO-NE, PJM, MISO, and NYISO.

3 In effect for 6/2021-5/2025.

4 In effect for the RTO in 2020-21; range is $2,200 to $4,000 across the LDAs.

5 ERCOT high offer cap is for "small fish." "Max signal" reflects marginal energy offers + ORDC adder but is capped at $9,000, except to the extent transmission constraint penalty factors are binding (adds up to $5,000).

Are there threats to existing standards?

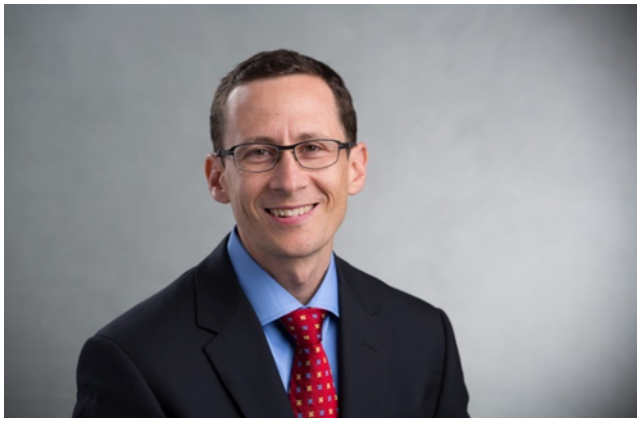
Are new standards needed?

Can we rely on market mechanisms?

ISO-NE has identified fuel security risks

We should define and evaluate the need and rely on market-oriented solutions

Presenter Information



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Dr. Samuel Newell, a Principal of The Brattle Group, is an economist and engineer with 20 years of experience consulting to the electricity industry. His expertise is in the design and analysis of wholesale electricity markets and in the evaluation of energy/environmental policies and investments, including in systems with high penetration of variable energy resources. He supports clients in regulatory, litigation, and business strategy matters involving wholesale market design, contract disputes, generation asset valuation, benefit-cost analysis of transmission enhancements, the development of wholesale demand response programs, and integrated resource planning. He frequently provides testimony and expert reports to RTOs, state regulatory commissions, and the FERC and has testified before the American Arbitration Association.

Dr. Newell earned a Ph.D. in Technology Management and Policy from MIT, a M.S. in Materials Science and Engineering from Stanford University, and a B.A. Chemistry and Physics from Harvard. Prior to joining Brattle, Dr. Newell was Director of the Transmission Service at Cambridge Energy Research Associates.

About The Brattle Group

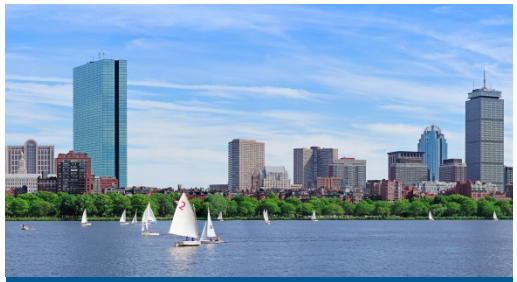
The Brattle Group provides consulting and expert testimony in economics, finance, and regulation to corporations, law firms, and governmental agencies worldwide.

We combine in-depth industry experience and rigorous analyses to help clients answer complex economic and financial questions in litigation and regulation, develop strategies for changing markets, and make critical business decisions.

Our services to the electric power industry include:

- Climate Change Policy and Planning
- Cost of Capital
- Demand Forecasting Methodology
- Demand Response and Energy Efficiency
- Electricity Market Modeling
- Energy Asset Valuation
- Energy Contract Litigation
- Environmental Compliance
- Fuel and Power Procurement
- Incentive Regulation
- Rate Design and Cost Allocation
- Regulatory Strategy and Litigation Support
- Renewables
- Resource Planning
- Retail Access and Restructuring
- Risk Management
- Market-Based Rates
- Market Design and Competitive Analysis
- Mergers and Acquisitions
- Transmission

Offices



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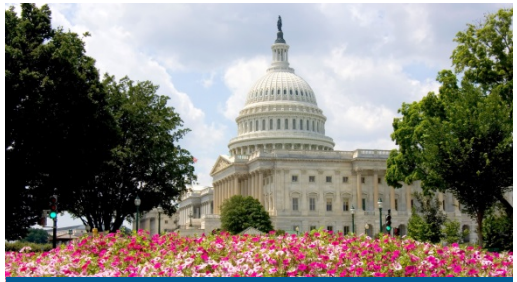
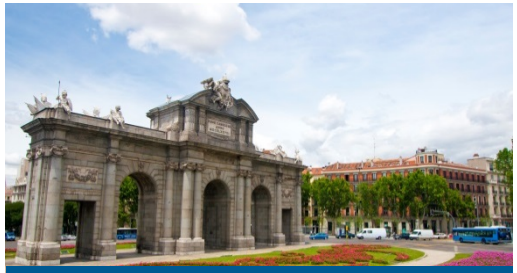


WASHINGTON, DC

TORONTO

LONDON



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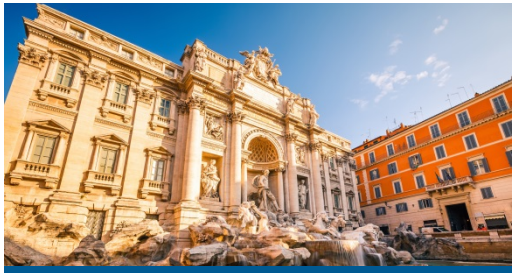

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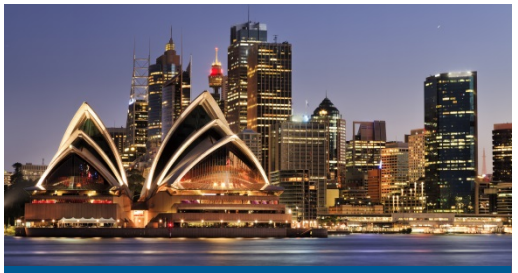

SYDNEY