

Is There a Merchant Investment Model in the 100% Clean Grid of the Future?

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PRESENTED TO



Independent Power Producers of New York
35th Annual Fall Conference

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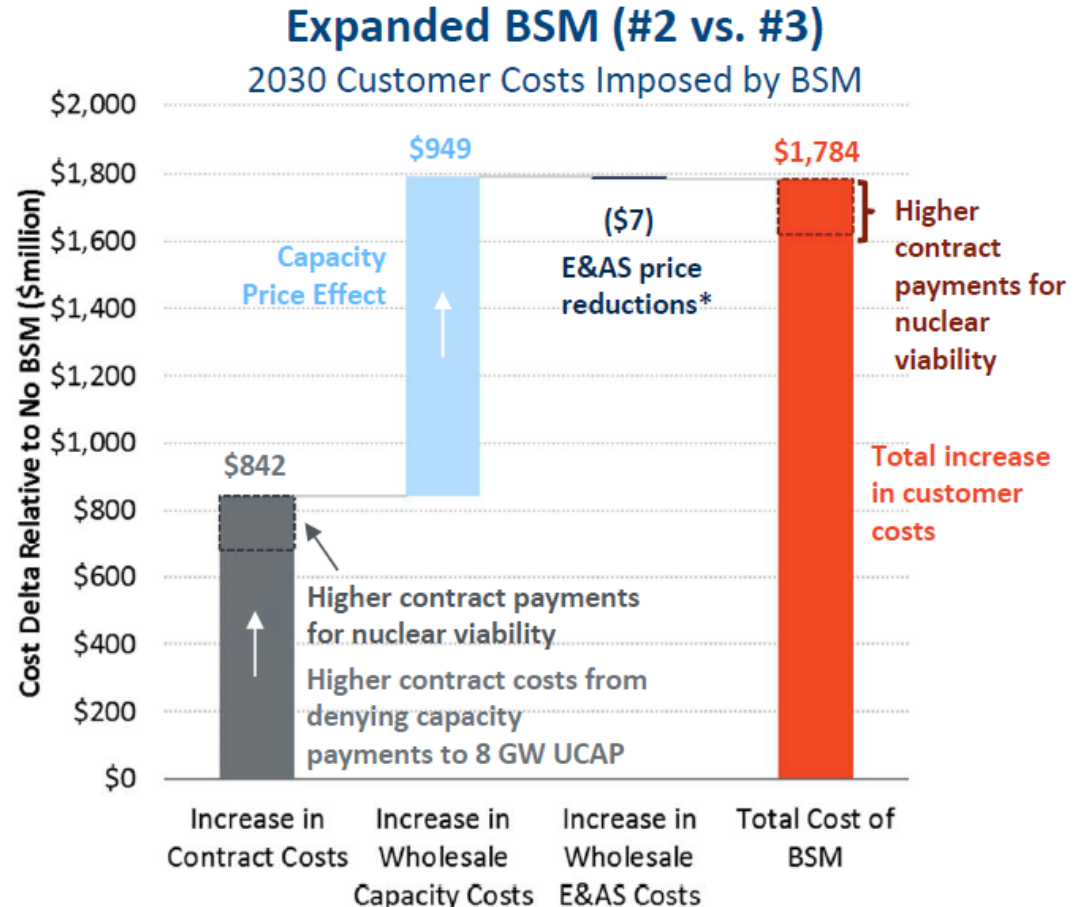
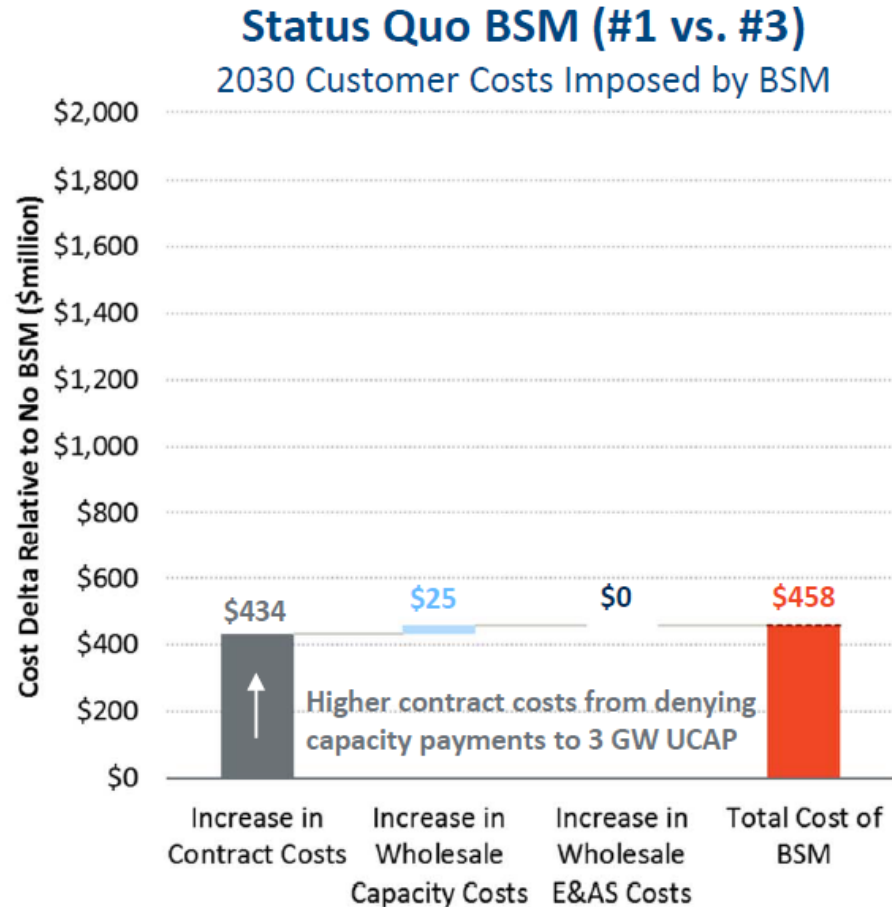
Kathleen Spees

Brattle

Brattle Supported New York Policymakers to Evaluate Alternatives to the Current Capacity Market

Structure		Description
1	ICAP Market with Status Quo BSM	Current ICAP market with current rules (including BSM)
2	ICAP Market with Expanded BSM	Same as above but with potential expansion to BSM rules corresponding to FERC's December 2019 order for PJM
3	Centralized Market for Resource Adequacy Credits (RACs), without BSM	Functionally similar to current ICAP market, but with rule-setting by State No BSM, except as applied by PSC to prevent the intentional introduction of uneconomic capacity to profitably suppress capacity prices
4	LSE Contracting for RACs	Same as #3, but with no centralized market LSEs must procure sufficient RACs bilaterally
5	Co-optimized Capacity and Clean Energy Procurement	Same as #3, but a State entity would procure RACs and RECs for LSEs in a joint, co-optimized auction

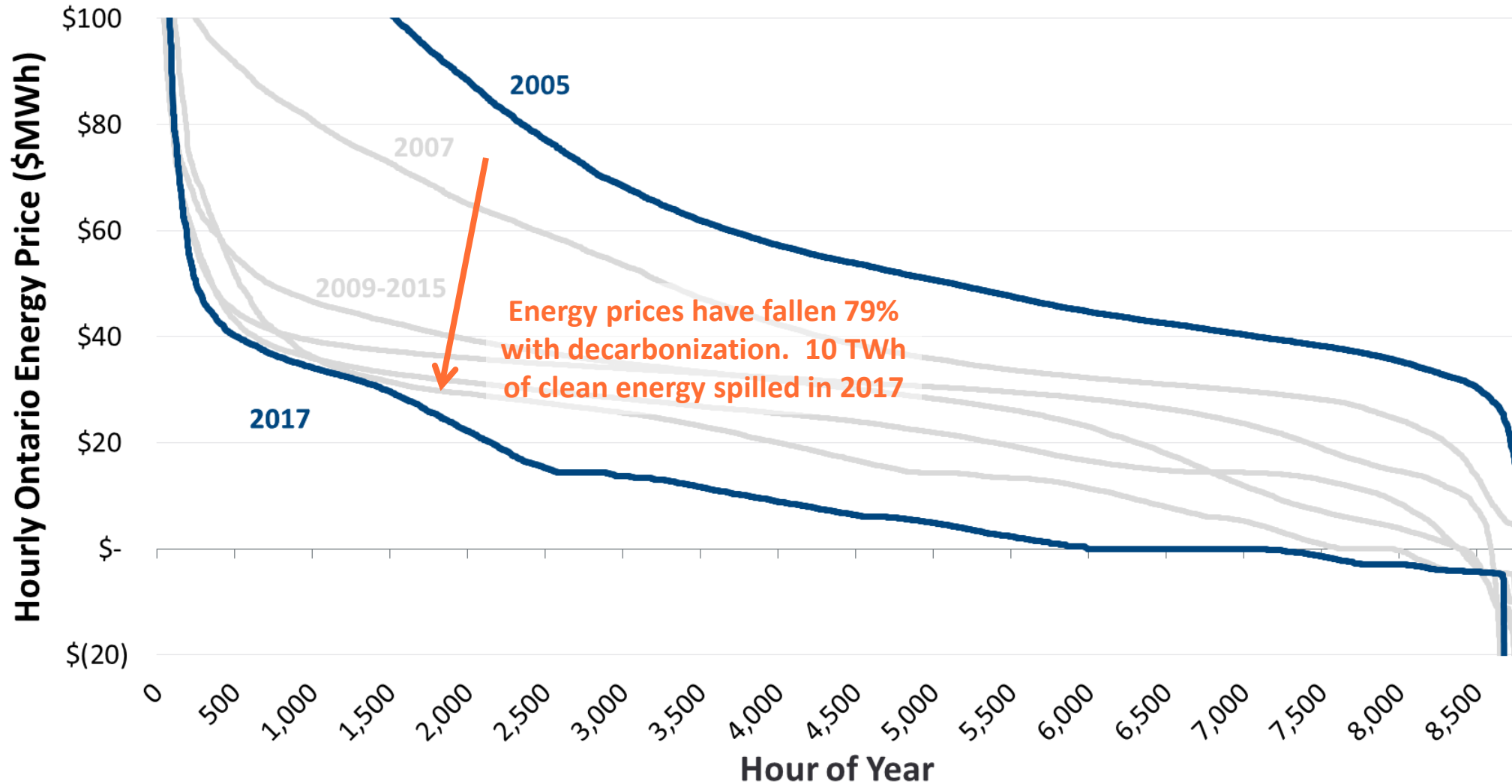
What Costs Might Customers Face From Buyer-Side Mitigation?



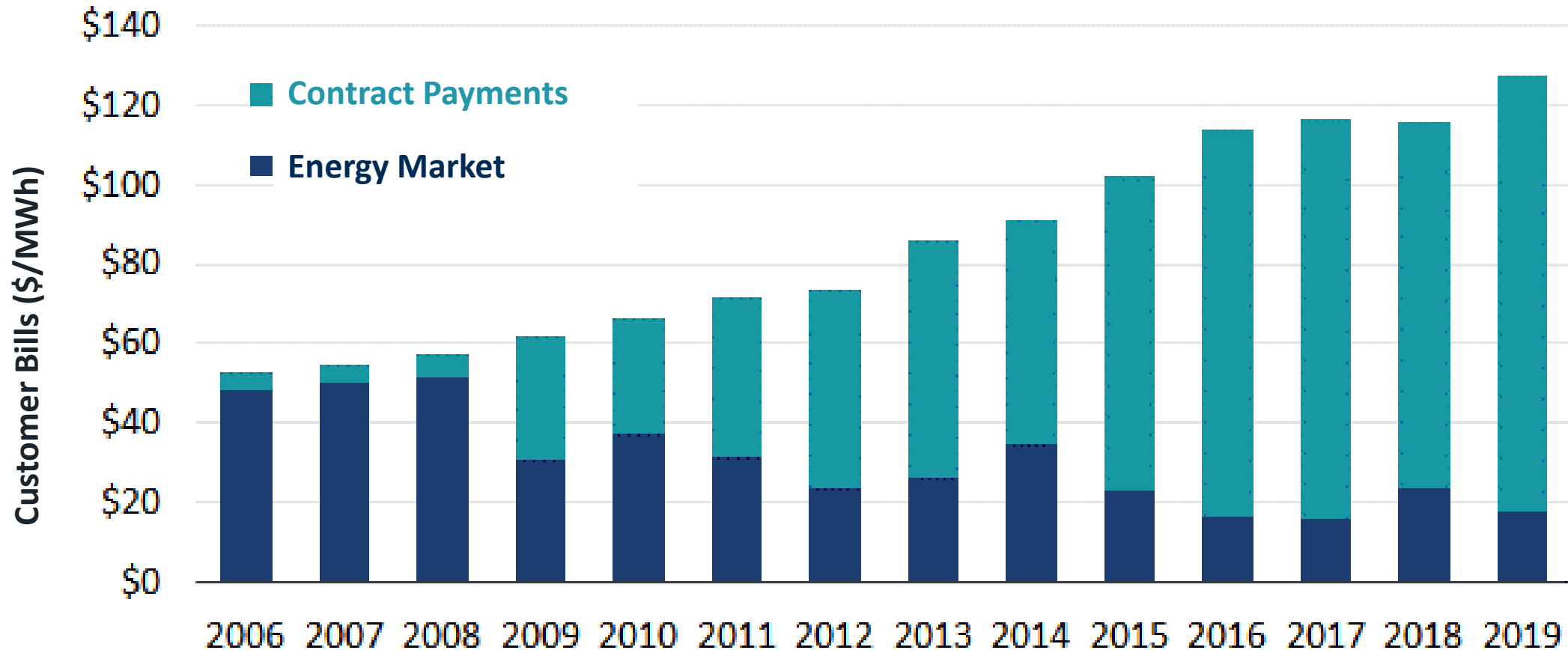
* Energy and AS prices decrease in some cases because excess capacity depresses prices in tight hours; and because higher contract payments (due to lack of capacity payments) cause energy prices to be more negative in over-generation hours.

Ontario Example: What Do Markets Look Like with Contract-Driven Decarbonization?

Ontario: Energy Market “Bottoms Out”, Enhancing the Importance of Proper DR, Storage, Hydro, and Scarcity Pricing

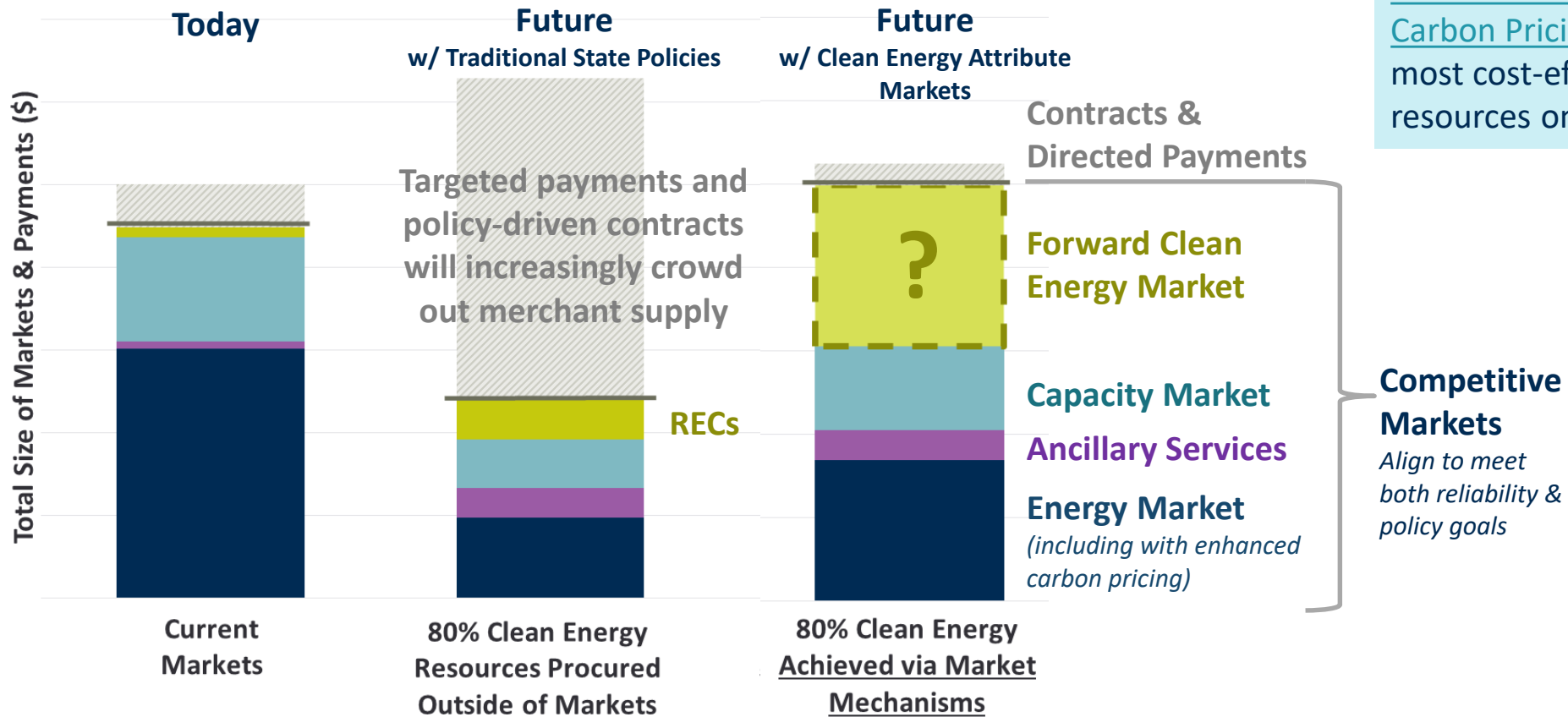


Ontario: Customer Bills Illustrate the Diminishing Role of Markets to Drive Electricity Sector Efficiencies



Could Merchant Developers Deliver a
100% Clean Grid of the Future More Cost
Effectively?

Still Missing: A Market-Based Solution to Meeting the State's Clean Electricity Goals



See these comprehensive proposals for a [Forward Clean Energy Market](#) and [ISO Carbon Pricing](#) that would attract the most cost-effective clean energy resources on a merchant basis.

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Dr. Kathleen Spees is a Principal at The Brattle Group with expertise in designing and analyzing wholesale electric markets and carbon policies. Dr. Spees has worked with market operators, transmission system operators, and regulators in more than a dozen jurisdictions globally to improve their market designs for capacity investments, scarcity and surplus event pricing, ancillary services, wind integration, and market seams. She has worked with U.S. and international regulators to design and evaluate policy alternatives for achieving resource adequacy, storage integration, carbon reduction, and other policy goals. For private clients, Dr. Spees provides strategic guidance, expert testimony, and analytical support in the context of regulatory proceedings, business decisions, investment due diligence, and litigation. Her work spans matters of carbon policy, environmental regulations, demand response, virtual trading, transmission rights, ancillary services, plant retirements, merchant transmission, renewables integration, hedging, and storage.

Dr. Spees earned her PhD in Engineering and Public Policy within the Carnegie Mellon Electricity Industry Center and her MS in Electrical and Computer Engineering from Carnegie Mellon University. She earned her BS in Physics and Mechanical Engineering from Iowa State University.