

Evolving Resource Adequacy Approaches in North America

PRESENTED BY

Dr. Andrew W. Thompson

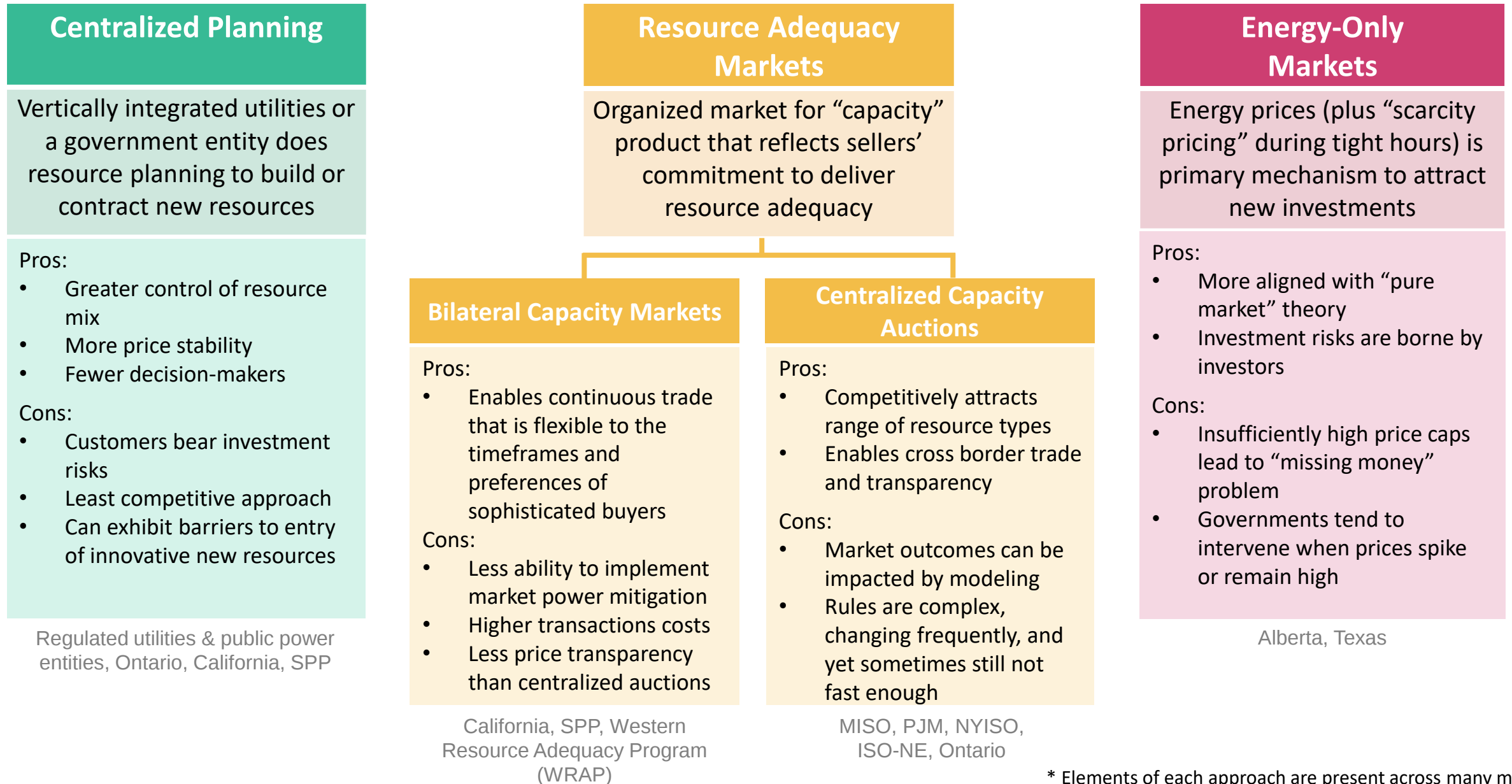
PRESENTED FOR

IEA Power Market Design
Expert Workshop
Paris, France

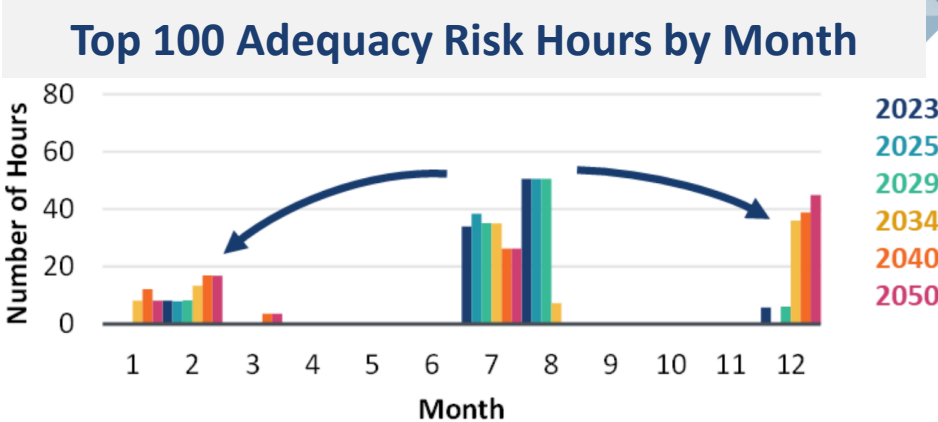
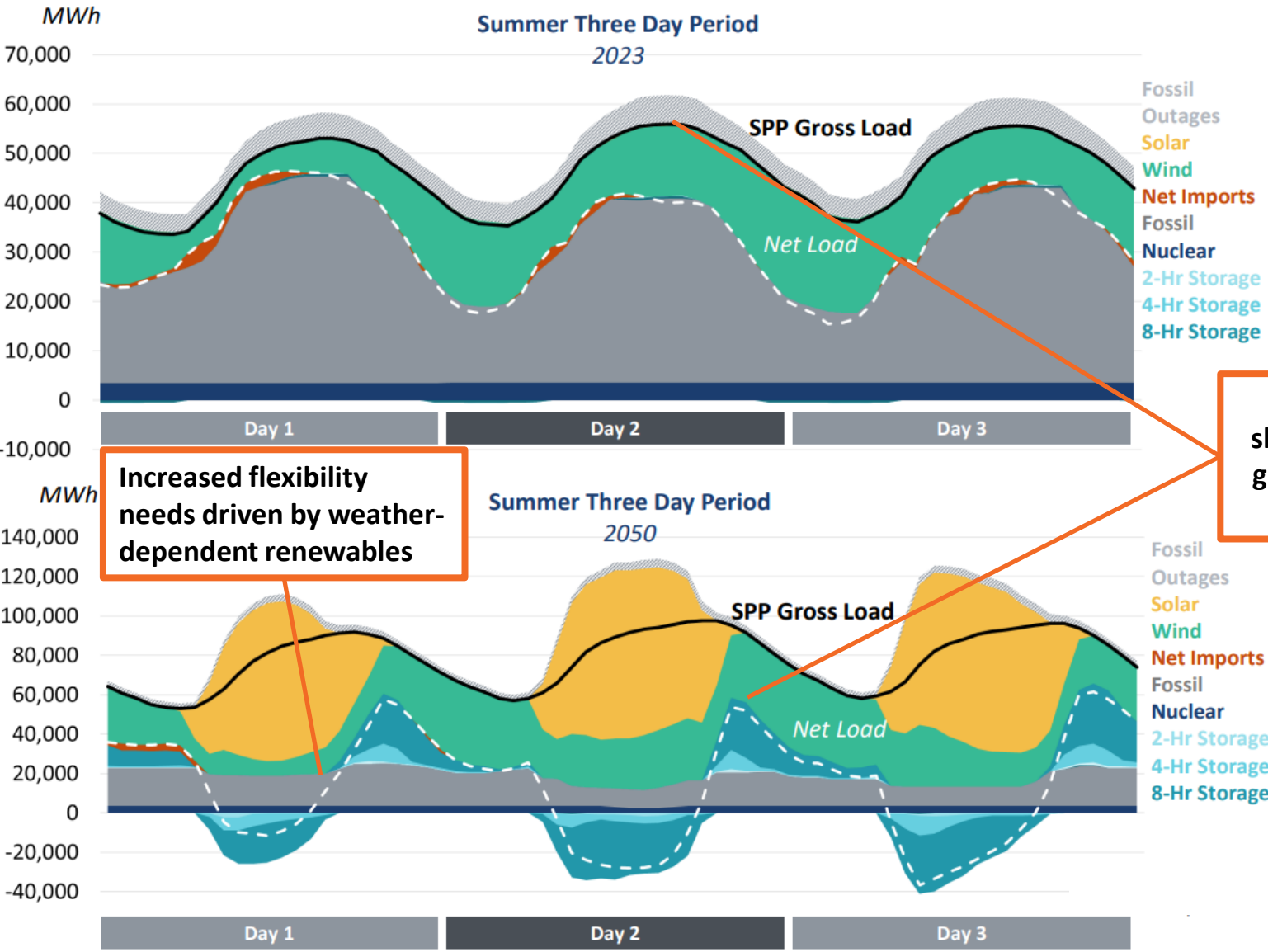
MAY 21, 2025



Resource adequacy is ensured in different ways in North America



Evolving reliability risks require new ways of planning

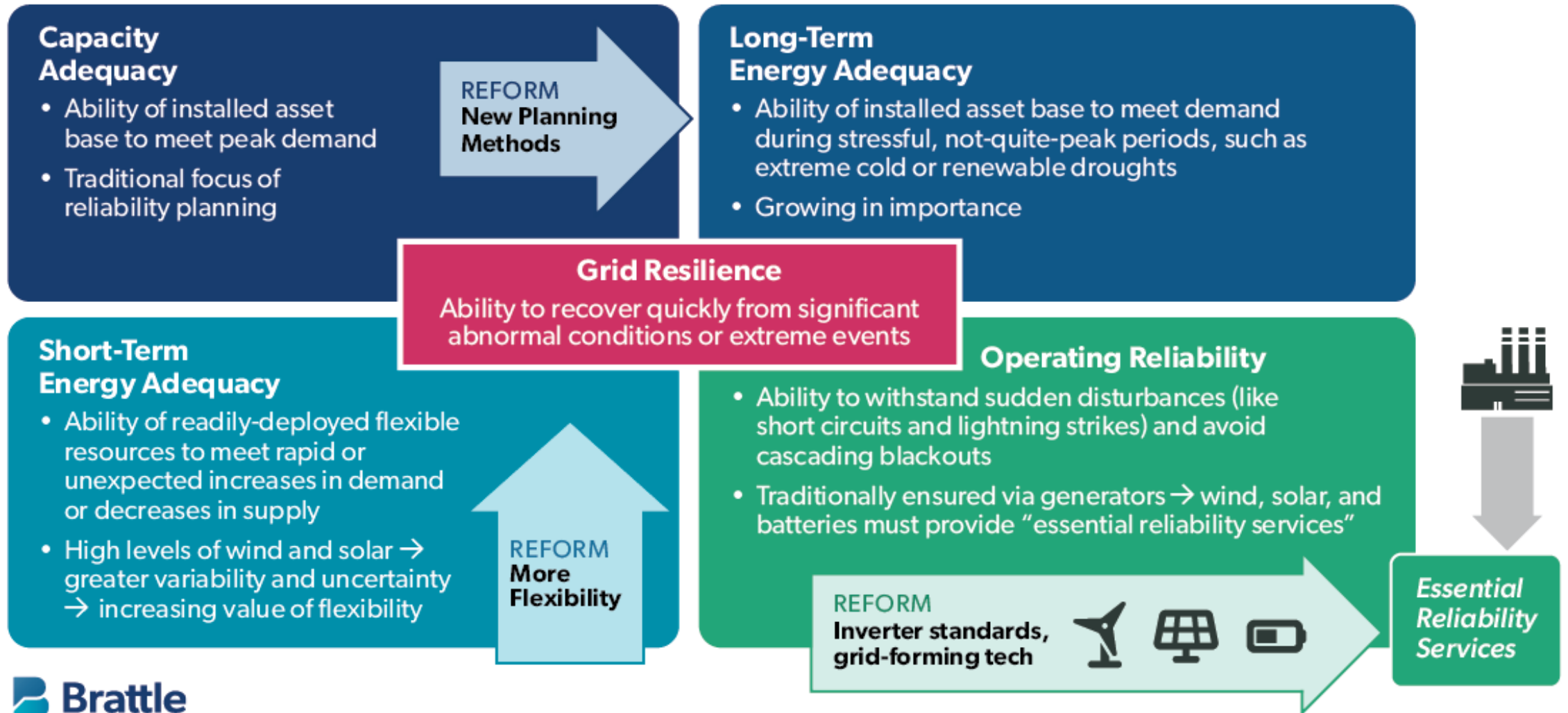


Adequacy risk is shifting from peak gross load to peak net load hours....

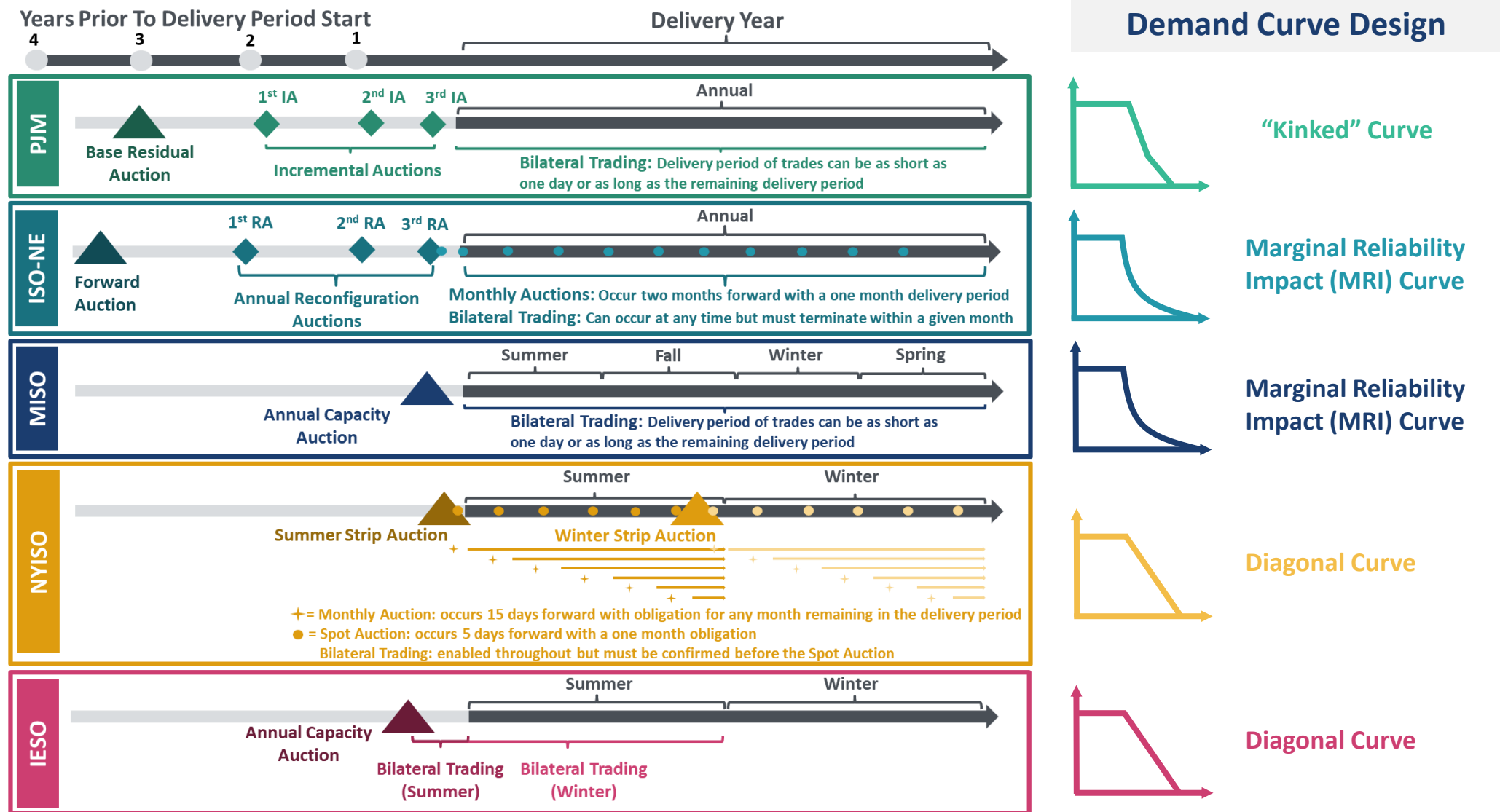
....and from summer months into winter months

Greater modeling sophistication needed to better capture resource contribution to reliability across all hours of the year and in extreme weather years

Planning approaches are undergoing reform...



...which are impacting capacity (and other) market designs



Additional Reading

- Spees, Newell, Thompson, [Sixth Review of PJM's Variable Resource Requirement Curve](#), April 2025
- Pfeifenberger, et. al., [Future Energy & Resource Needs Study \(FERNS\)](#), February 2025
- Celebi, Levitt, Thompson, Sreenanth, [Bulk System Reliability for Tomorrow's Grid](#), December 2023
- Newell, Spees, Levitt, Higham, [MISO Reliability Attributes "Solution Space"](#), October 2023
- Newell, Spees, Higham, [Capacity Resource Accreditation for New England's Clean Energy Transition](#), June 2022
- Spees, Newell, [Efficiently Managing Net Load Variability in High-Renewable Systems: Designing Ramping Products to Attract and Leverage Flexible Resources](#), February 2022
- Newell, Spees, et al., [ERCOT Investment Incentives and Resource Adequacy](#), June 2012
- Pfeifenberger, Spees, [A Comparison of PJM's RPM with Alternative Energy and Capacity Market Designs](#), September 2009

About the speaker



Andrew W. Thompson

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Dr. Andrew W. Thompson is an energy economist with a background in electrical engineering and expertise in wholesale electricity market design, regulatory economics, and policy analysis of network industries, particularly in the energy sector.

He supports electricity system operators, energy regulators, governments, clean energy advocacy groups, market participants, institutional investors, utilities, and other clients in several international jurisdictions including PJM, ERCOT, CAISO, MISO, NYISO, ISO-NE, Non-ISO/RTO United States, Ontario, Alberta, The United Kingdom, Ireland, Spain, Colombia, Saudi Arabia, Australia, and New Zealand.

Dr. Thompson has published thought leadership on energy policy and market reforms to integrate emerging resources (renewables, battery storage, long-duration energy storage, distributed energy resources, and flexible load); the regulation of the energy sector; the evolving hydrogen economy; and the economic implications of lithium-ion battery degradation for energy storage and electric vehicle technologies.

He received a Ph.D. in Economics from the Université Paris-Saclay (France), an MS in Energy Economics from the Pontificia Universidad Comillas (Spain), an MSc. in Engineering and Policy Analysis from TU Delft (The Netherlands), and a BSc. in Electrical and Computer Engineering from Rowan University (USA).

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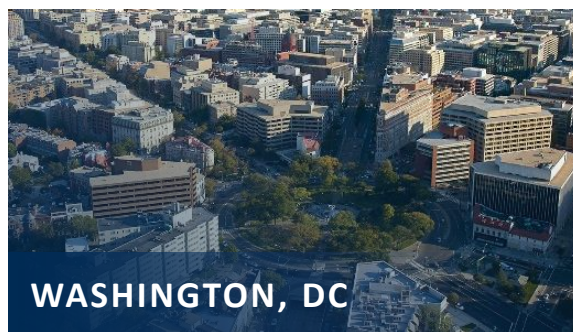
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