

Carbon Pricing in New York's Wholesale Markets

Background and Next Steps to Evaluating Options

PRESENTED TO

NYISO Market Issues Working Group

PRESENTED BY

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THE **Brattle** GROUP

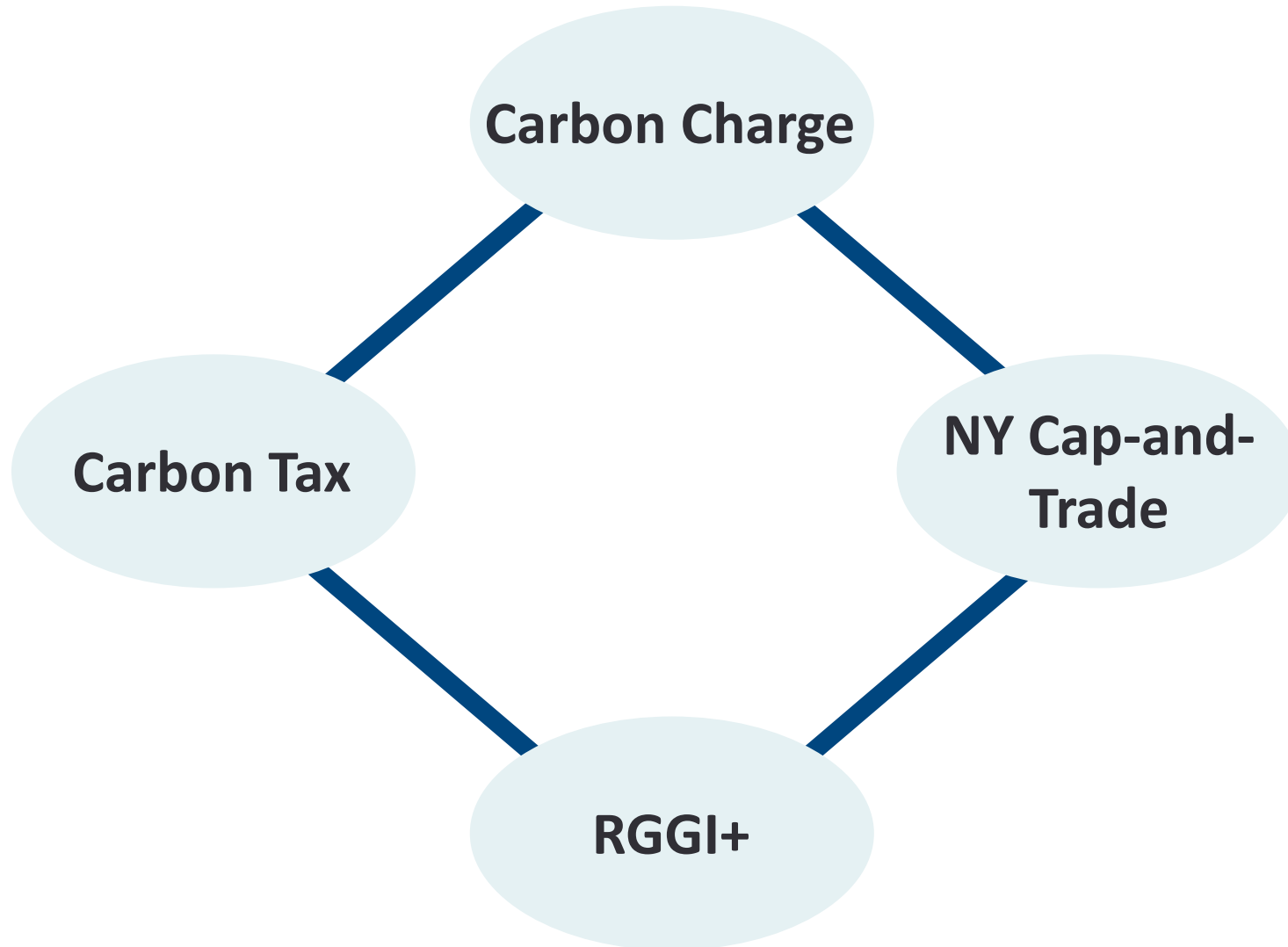
Agenda

- How carbon pricing can harmonize wholesale markets and state policy
- Carbon charges vs. alternative carbon pricing mechanisms
- Carbon pricing activity in other jurisdictions
- Market design topics for implementing carbon charges
- Discussion of any questions on the Brattle report

Carbon Pricing versus the Status Quo

	Status Quo	Carbon Pricing
Alignment with State Goals	Lacking alignment	Harmonized
Cost-Effective Abatement	Targeted measures	Additional opportunities
Wholesale Energy Prices	Prices lowered by crediting RECs/ZECs	Prices raised by charging emissions

Carbon Charge versus Alternative Mechanisms

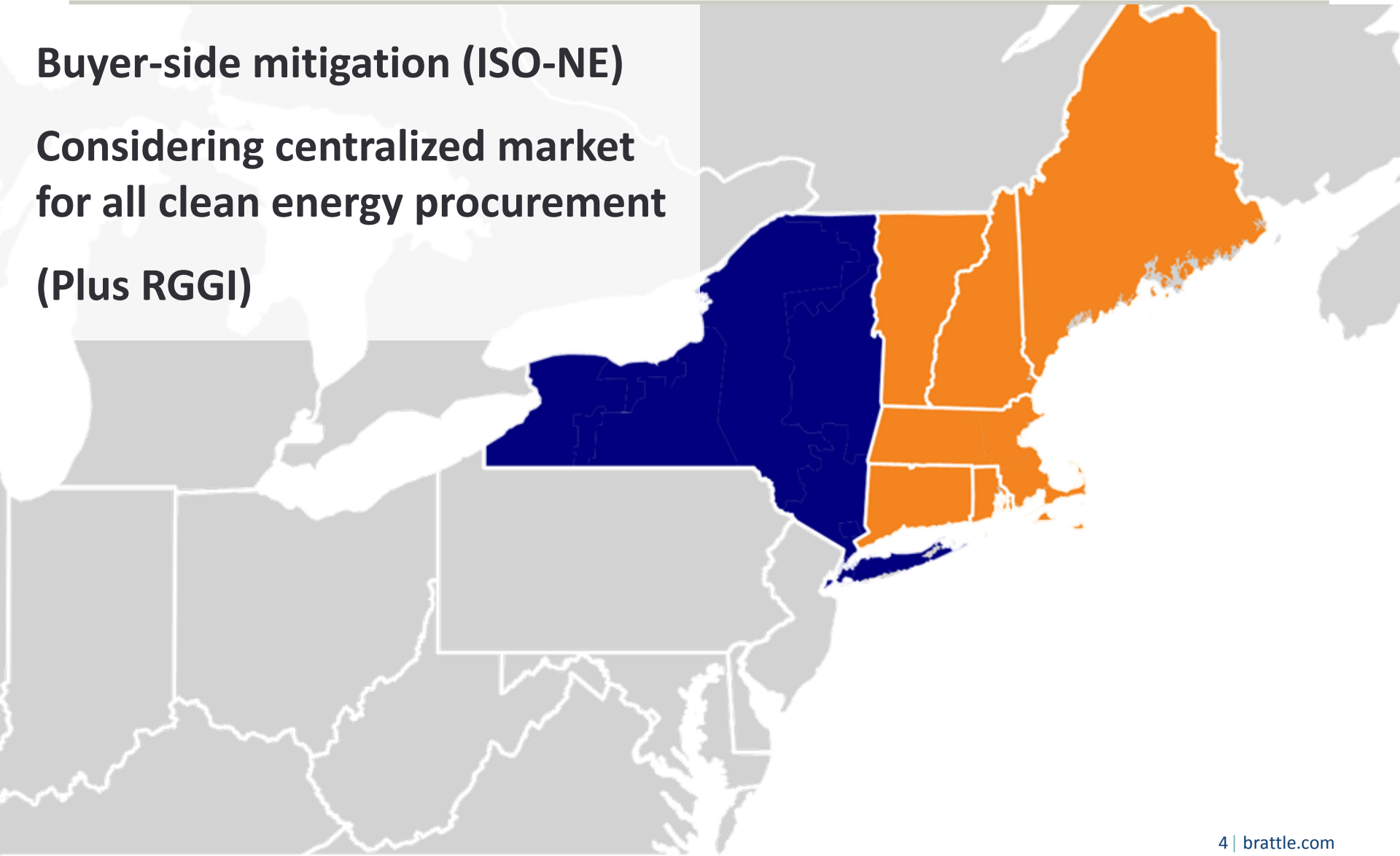


ISO-NE Processes

Buyer-side mitigation (ISO-NE)

**Considering centralized market
for all clean energy procurement**

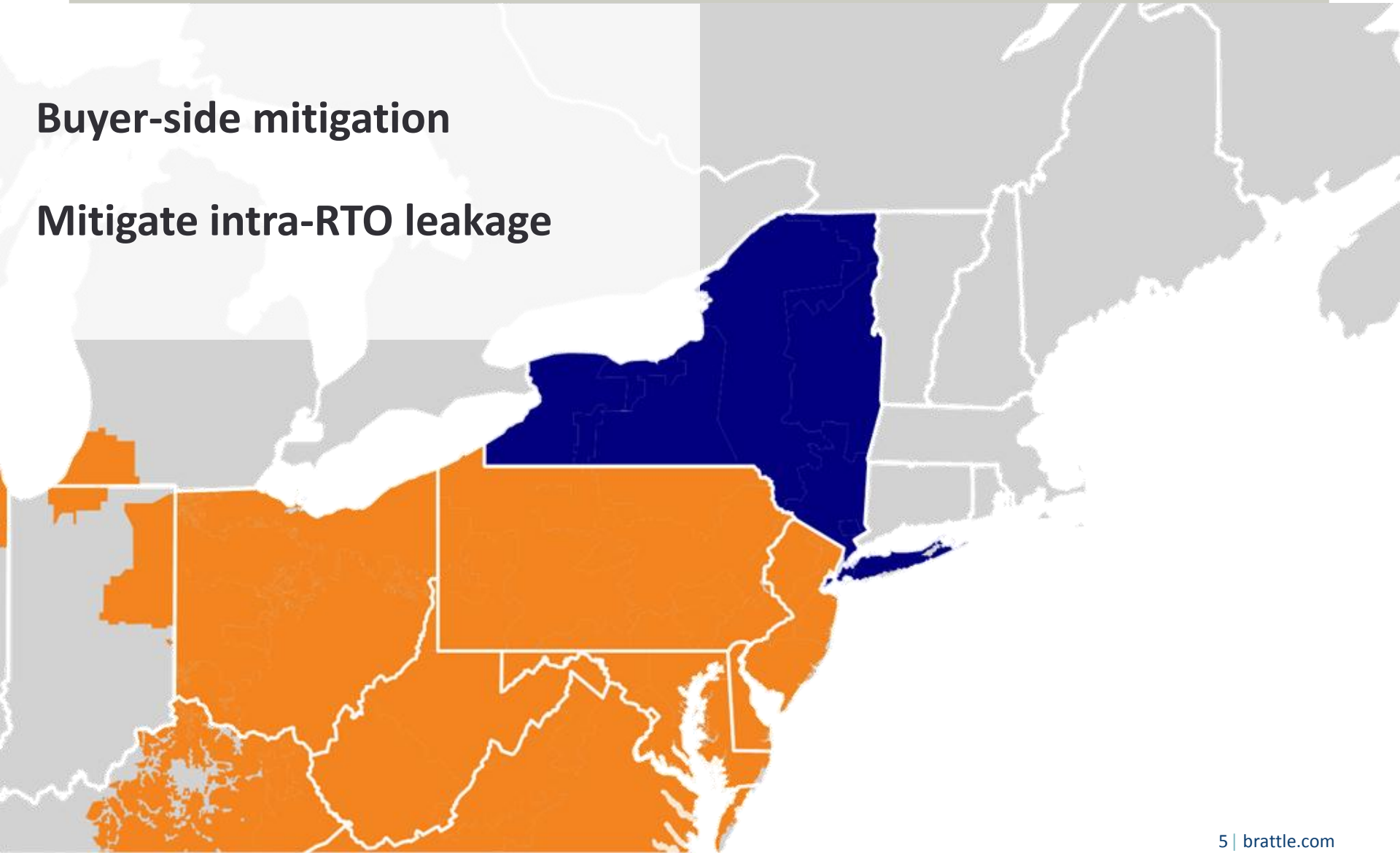
(Plus RGGI)



PJM Market Design and Public Policy Initiative

Buyer-side mitigation

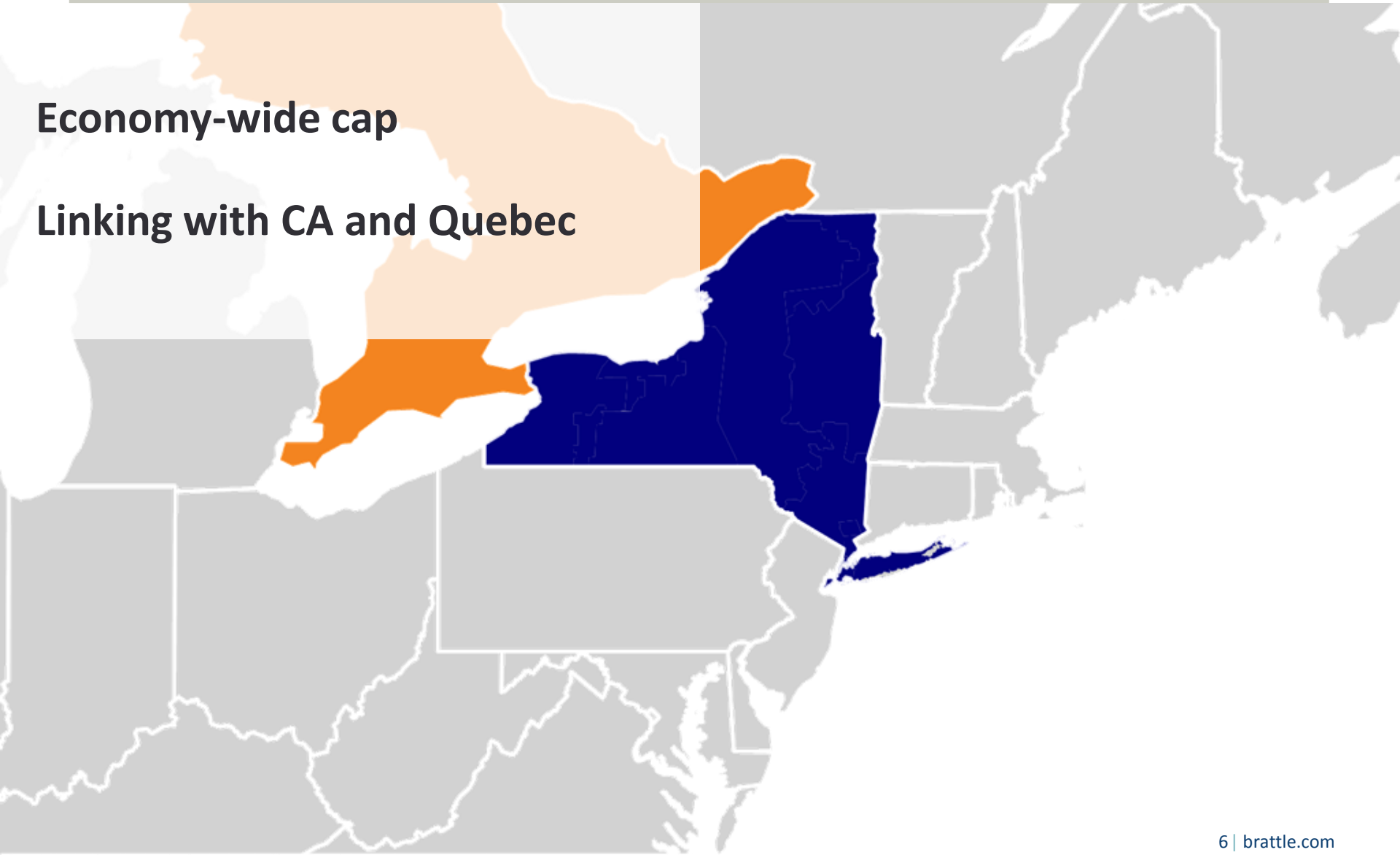
Mitigate intra-RTO leakage



Ontario Initiatives

Economy-wide cap

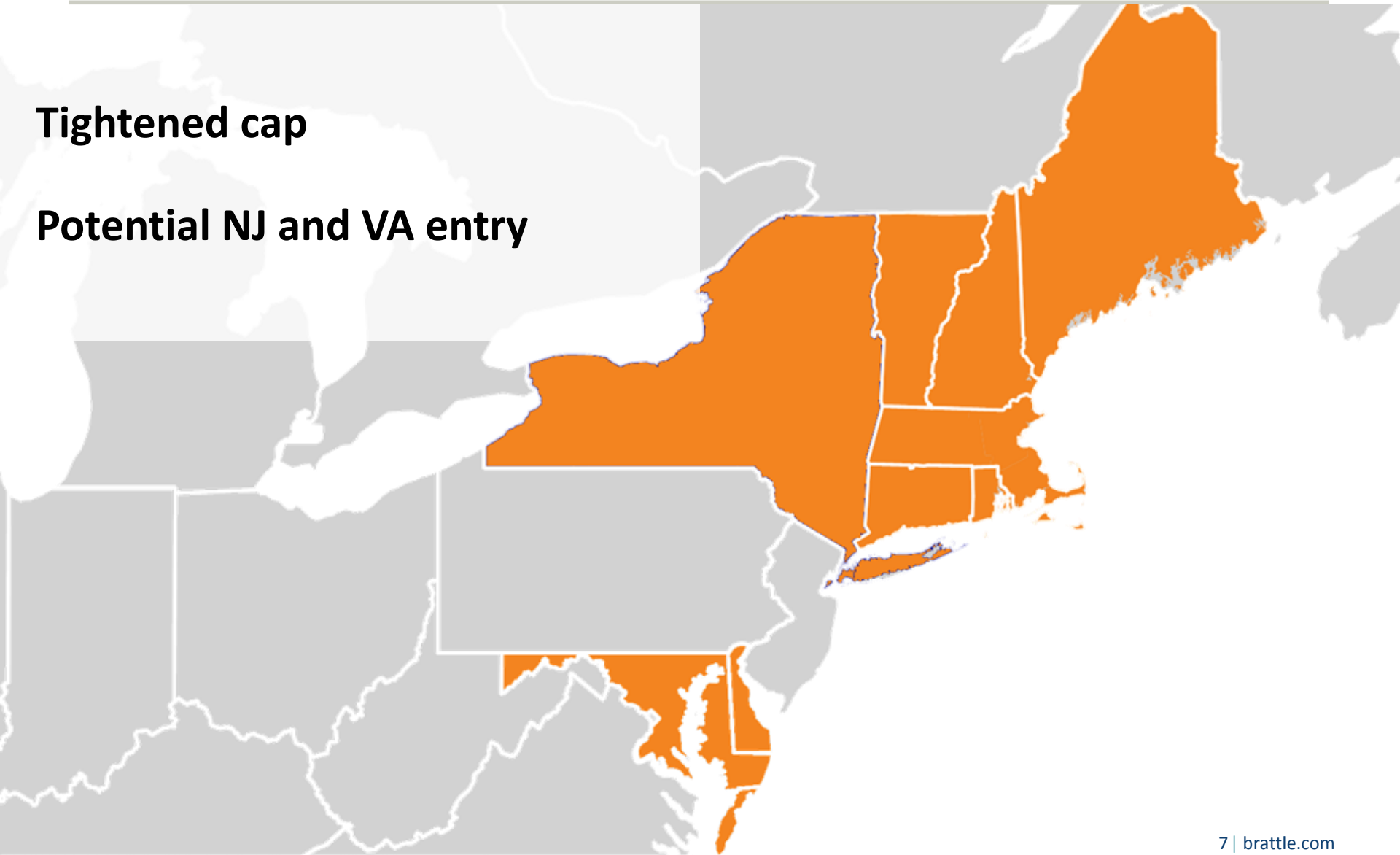
Linking with CA and Quebec



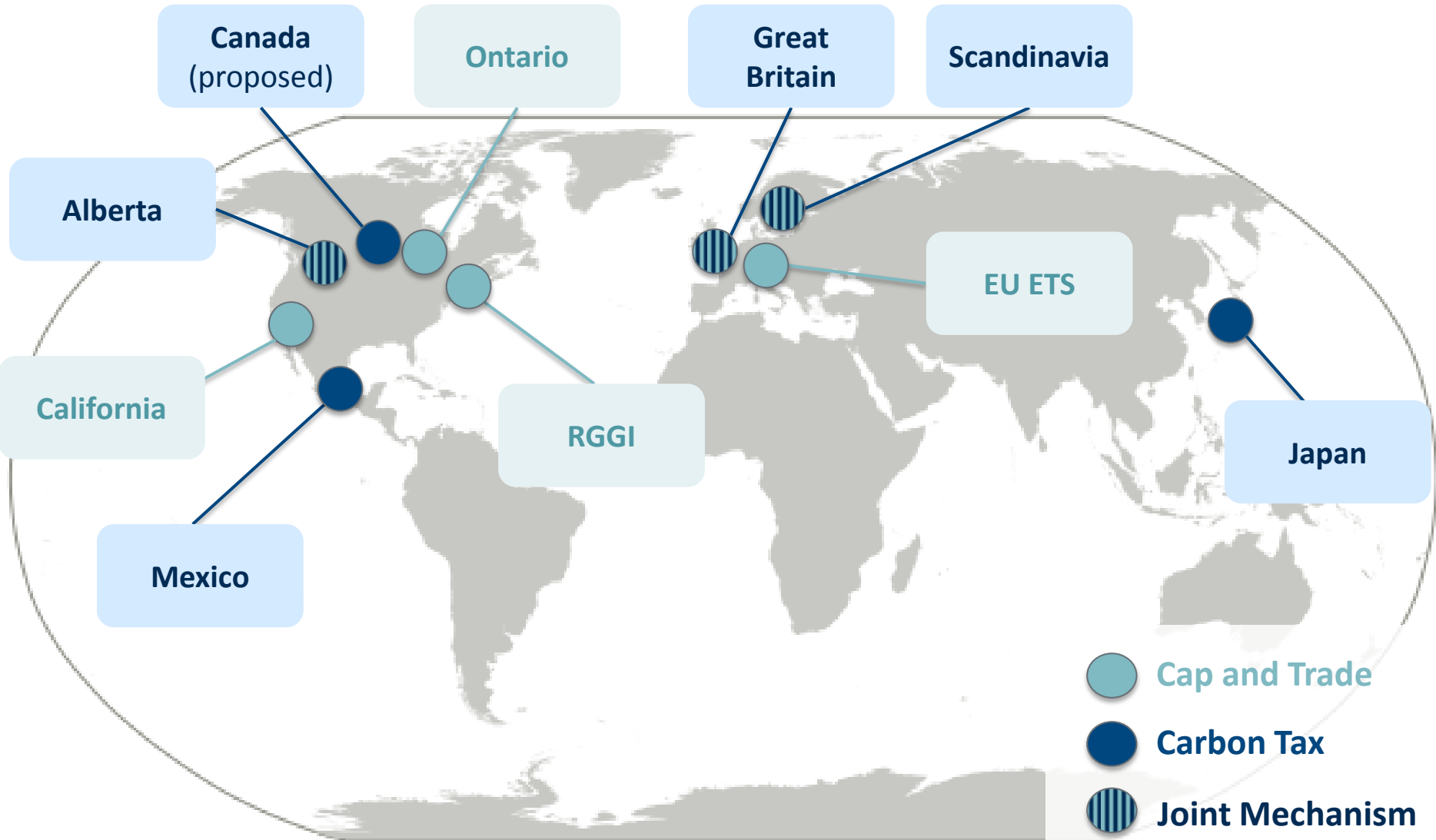
RGGI

Tightened cap

Potential NJ and VA entry



Carbon Pricing in Select International Jurisdictions



CO₂ Charge Design Topics

Allocation

#1: Allocation of Collected Funds

Energy Market Mechanics

#2: Leakage



#3: Internal Emissions Rates



#4: Special Considerations

Interaction with Other Processes

#5: Other NYISO Processes and Markets

#6: Other State Policies and Programs

Presenter Information



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Dr. Samuel Newell, a Principal of The Brattle Group, is an economist and engineer with 19 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, and a M.S. in Materials Science and Engineering from Stanford University. Prior to joining Brattle, Dr. Newell was Director of the Transmission Service at Cambridge Energy Research Associates.

The views expressed in this presentation are strictly those of the presenter(s) and do not necessarily state or reflect the views of The Brattle Group.

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Ms. Judy Chang is an energy economist and policy expert with a background in electrical engineering and 20 years of experience in advising energy companies and project developers with regulatory and financial issues. Ms. Chang has submitted expert testimonies to the U.S. Federal Energy Regulatory Commission, U.S. state and Canadian provincial regulatory authorities on topics related to transmission access, power market designs and associated contract issues. She also has authored numerous reports and articles detailing the economic issues associated with system planning, including comparing the costs and benefits of transmission. In addition, she assists clients in comprehensive organizational strategic planning, asset valuation, finance, and regulatory policies.

Ms. Chang holds a BSc. in Electrical Engineering from University of California, Davis, and Masters in Public Policy from Harvard Kennedy School, is a member of the Board of Directors of The Brattle Group, the founding Director of New England Women in Energy and the Environment, and former director of the Massachusetts Clean Energy Center.

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The Brattle Group provides consulting and expert testimony in economics, finance, and regulation to corporations, law firms, and governments around the world. We aim for the highest level of client service and quality in our industry.

We are distinguished by our credibility and the clarity of our insights, which arise from the stature of our experts, affiliations with leading international academics and industry specialists, and thoughtful, timely, and transparent work. Our clients value our commitment to providing clear, independent results that withstand critical review.

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Market Design
Natural Gas & Petroleum
Nuclear
Renewable & Alternative
Energy

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Manipulation
Antitrust/Competition
Bankruptcy & Restructuring
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Commercial Damages
Environmental Litigation
& Regulation
Intellectual Property
International Arbitration
International Trade
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Mergers & Acquisitions
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Securities & Finance
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& Transfer Pricing
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