

**My team's research**

Statistical and optimization models

- California's cap-and-trade and emission leakage in the Western U.S. (2024, JAERE)

State policy interactions with regional electricity markets

Electricity market design

Optimization models

Economic experiments

Policy-oriented papers and book chapters

- Multi-settlement energy markets (2023, Energy Policy)
- Capacity markets vs. "energy only" markets with ORDCs (2025, Renewable Energy Focus)
- Implications of long-term energy contracts for short-term electricity markets (in progress)
- Multi-settlement energy markets (2025, Electricity Journal)
- Capacity markets vs. "energy only" markets with ORDCs (2025, Energy Economics)
  - Texas 2021 electricity crisis (2023, Economics of Energy & Environmental Policy)
  - Wholesale electricity market designs for the future (2025, Energy Economics)
  - IADB book on wholesale electricity markets in the presence of renewables (in progress)

Economics of widespread, long-duration power interruptions

Optimization models

Book chapters

- Sustainability and reliability of microgrids (2012, Energy)
  - Microgrid incentives in regulated electricity markets (2016, Applied Energy)
- Utility investment decisions in grid resilience-enhancing measures (2023, Risk Analysis)
- Wiley-IEEE book on advancing grid resilience under a changing climate (forthcoming)

Natural gas markets

Optimization models

Economic models

Policy-oriented papers

- Gas contracts between power plants and industrials to enhance grid reliability (2025, IEEE Transactions on Energy Markets, Policy and Regulation)
- Use of LDC-owned LNG storage to enhance grid reliability (in progress)
- Welfare impacts of a natural gas pipeline expansion (2019, Energy Systems)

Economic models

- Synchronization of the Baltics' grid with Continental Europe (2024, Energy Policy)

Panels and workshops

- Geopolitics of electricity trade (2023, CSIS panel)
- The geopolitics of cross-border electricity grids (2024, PSU workshop)

Geopolitics and energy security

Electricity market manipulation

Statistical models

- Market power in California (2015, Energy Journal)

Optimization models

- Virtual bidding and FTRs in two-node systems (2019, IEEE Transactions on Power Systems)
- Virtual bidding and FTRs in larger networks (2019, Energy Policy)

Economic and statistical models

- Cross-market manipulation (2019, Energy Journal)

H<sub>2</sub> integration with other energy systems

Policy-oriented papers

- Hydrogen pipeline regulation (in progress)

Optimization models

- Wind-hydrogen integration for grid reliability (in progress)