

Transmission Costs and Opportunities in New England

PREPARED BY

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PRESENTED AT



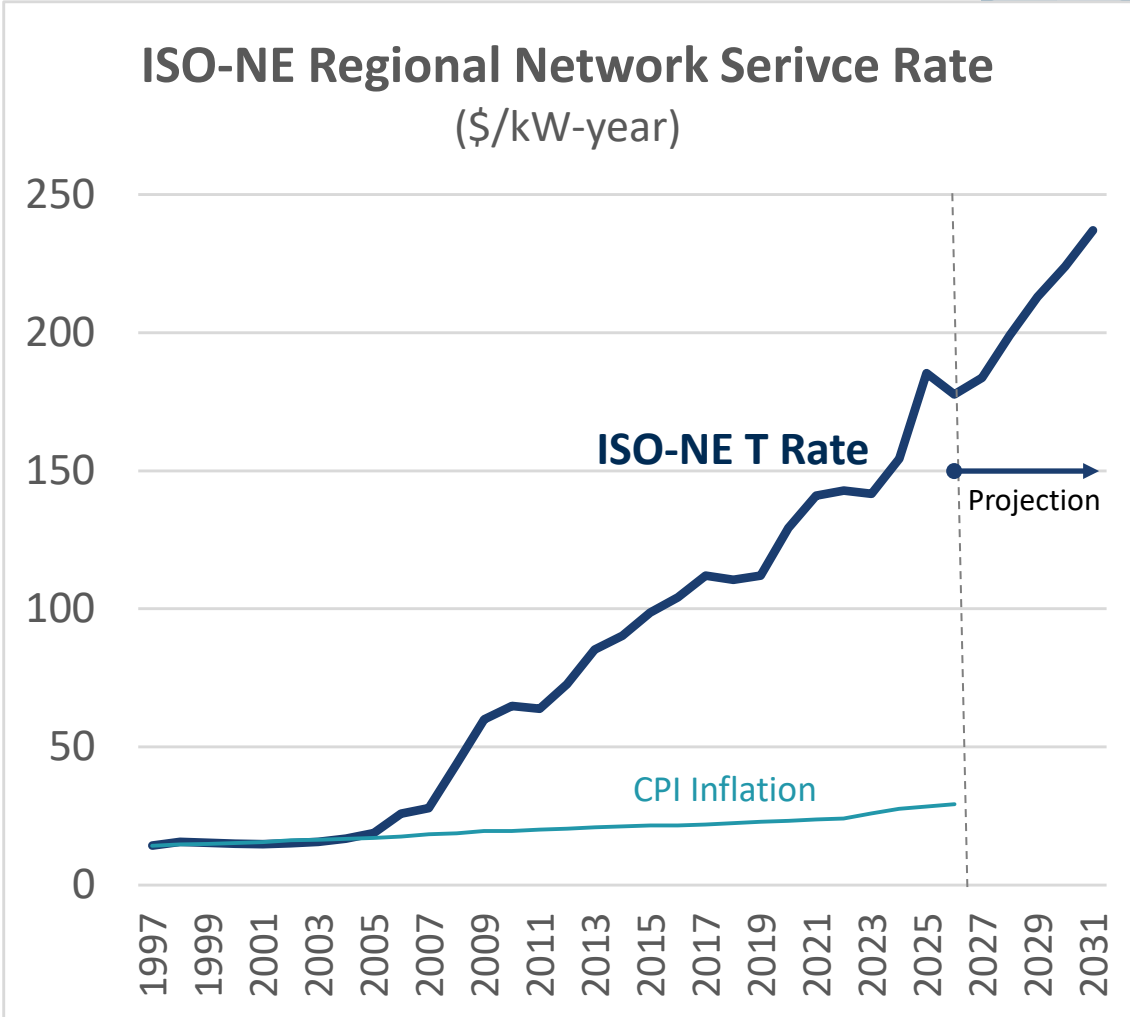
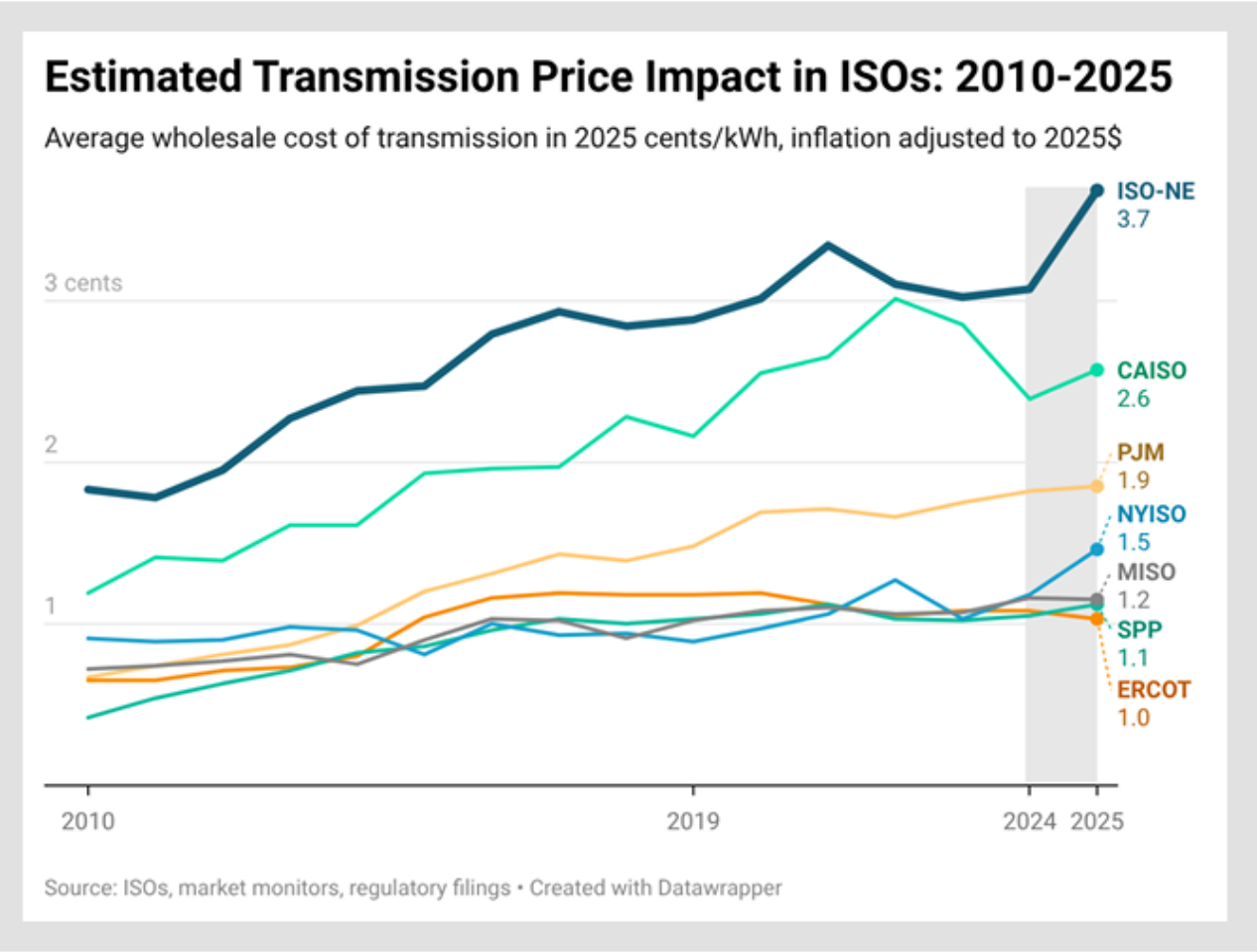
Panel Discussion

Boston, MA

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ISO-NE transmission rates: highest in US; increase = 6x Inflation



Sources: Comparison [LBNL-Brattle, Electricity Price Trends, 2026 Update](#)
Projection https://www.iso-ne.com/static-assets/documents/100038/a2.8_pac_rns_rate_forecast.pdf
2013-2027 <https://www.iso-ne.com/markets-operations/settlements/tariff-rates>
1997-2013 <https://www.iso-ne.com/static-assets/documents/2015/12/section2-rate-summary.xls>

Transmission in New England: Opportunities Created (and Lost)

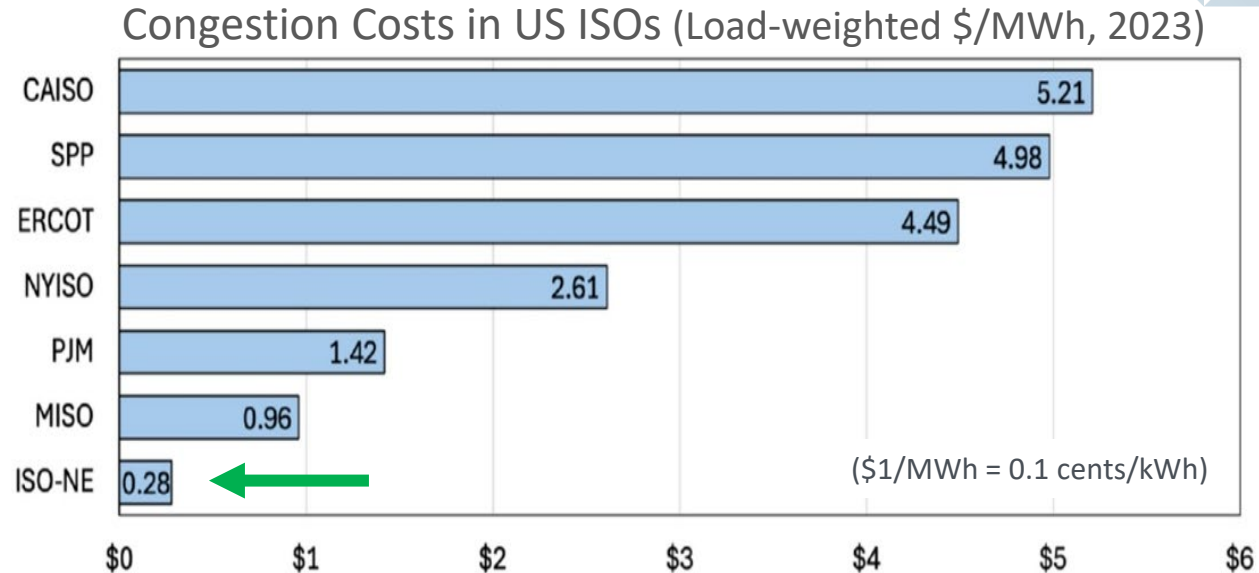
The significant investments made means opportunities have been both lost and created:

- **Opportunities Lost**

- The investments, had they been planned holistically, could likely have been used to address substantially more public policy and interconnection capacity needs
- Upsizing options (e.g., 2-3x the capacity at only 25% added costs) were likely not realized due to siloed, piecemeal planning

- **Opportunities Created**

- An almost congestion free New England grid offers opportunities to substantially increase grid utilization and create interconnection headroom for new resources
 - ▶ More realistic interconnection studies, shared interconnection service, advanced grid controls (incl. remedial action schemes), grid-enhancing technologies, rightsizing of aging infrastructure
- Build on 2050 study and take advantage of aging infrastructure refurbishment needs through more proactive, holistic planning and procurements of future grid upgrades



Source: <https://www.energy.gov/documents/national-transmission-needs-study-draft-july-2026>

Transmission: options for achieving more affordable outcomes



Achieving more cost-effective outcomes requires a multi-faceted approach to transmission planning and investments:

1. More proactive and holistic transmission planning

- Improve local and reliability planning decisions by looking holistically to longer-term needs
- Multi-driver planning (incl. for generator interconnection) to find lower-total-cost solutions
- Least regrets planning to mitigate risk and costs of both over-building and under-sizing

2. “Loading order” for transmission planning that prioritizes lower cost/impact options

- Optimize existing grid → upsize existing lines → add new lines

3. Cost control incentives

- Broad-based PBR, targeted incentives, soft/hard caps, shared savings/overruns, more competition

4. Enhanced competitive solicitations

- Improve RFP process, focus on more holistic solutions with cost-control (and schedule) incentives

5. Efficiency, demand flexibility, co-located loads and generation

- To reduce transmission, distribution, generation, and resource-adequacy costs

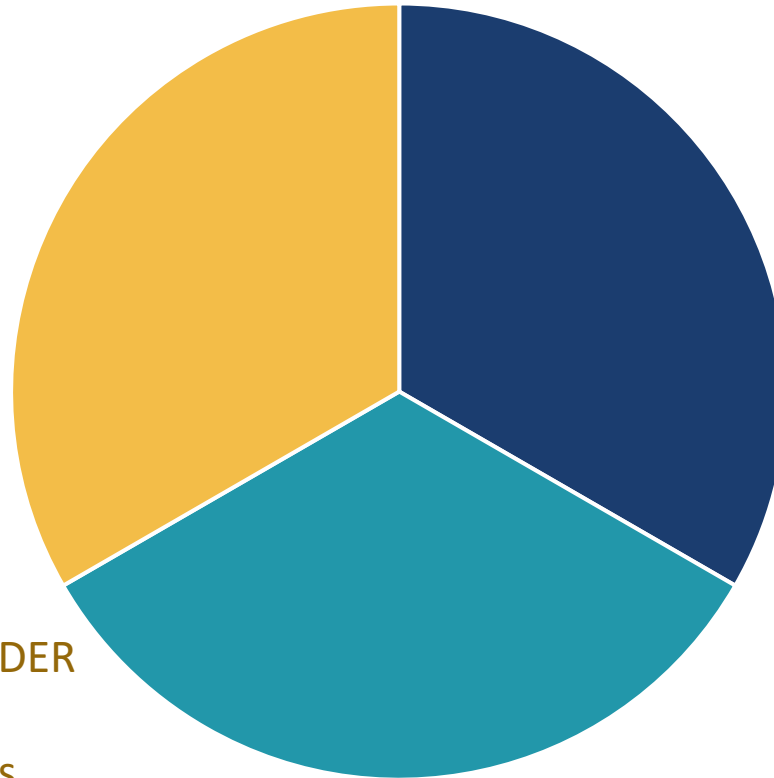
A “Loading Order” can expand transmission capacity and interconnect resources and loads more quickly and cost-effectively

1. Advanced, grid enhancing technologies (< 2 years)

- Remedial action schemes
- Dynamic line ratings
- Flow control devices
- Topology optimization
- Grid-optimized storage and DER
- Grid-forming inverters
- Flexible and co-located loads

2. Upgrades of existing lines (2-5 years)

- Advanced conductors
- Rebuild aging lines at higher voltage
- Conversions to HVDC



3. New transmission (5-10 years)

- Highway/railroad corridors
- ROW-efficient AC designs
- HVDC transmission
- Submarine/underground
- New greenfield overhead

Loading Order Examples:

Priority order required by the German “NOVA Principle”

MA CETWG Report: Loading Order and ATT/GETs recommendations

UK NESO, Beyond 2030 Report, 2024, p. 26 (optimize existing grid before new infrastructure)

About the Speaker



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Johannes (Hannes) Pfeifenberger, a Principal at The Brattle Group, is an economist with a background in electrical engineering and over twenty-five years of experience in wholesale power market design, renewable energy, electricity storage, and transmission. He also is a Visiting Scholar at MIT's Center for Energy and Environmental Policy Research (CEEPR), a former Senior Fellow at Boston University's Institute of Sustainable Energy (BU-ISE), a IEEE Senior Member, and currently serves as an advisor to research initiatives by the U.S. Department of Energy, the National Labs, and the Energy Systems Integration Group (ESIG).

Hannes specializes in wholesale power markets and transmission and has worked on these matters in SPP, MISO, PJM, New York, New England, ERCOT, CAISO, WECC, the Southeastern US, and Canada.

He received an M.A. in Economics and Finance from Brandeis University's International Business School and an M.S. and B.S. ("Diplom Ingenieur") in Power Engineering and Energy Economics from the University of Technology in Vienna, Austria.