Building Electrification

ESIG Long-Term Load Forecasting Workshop

Denver, CO

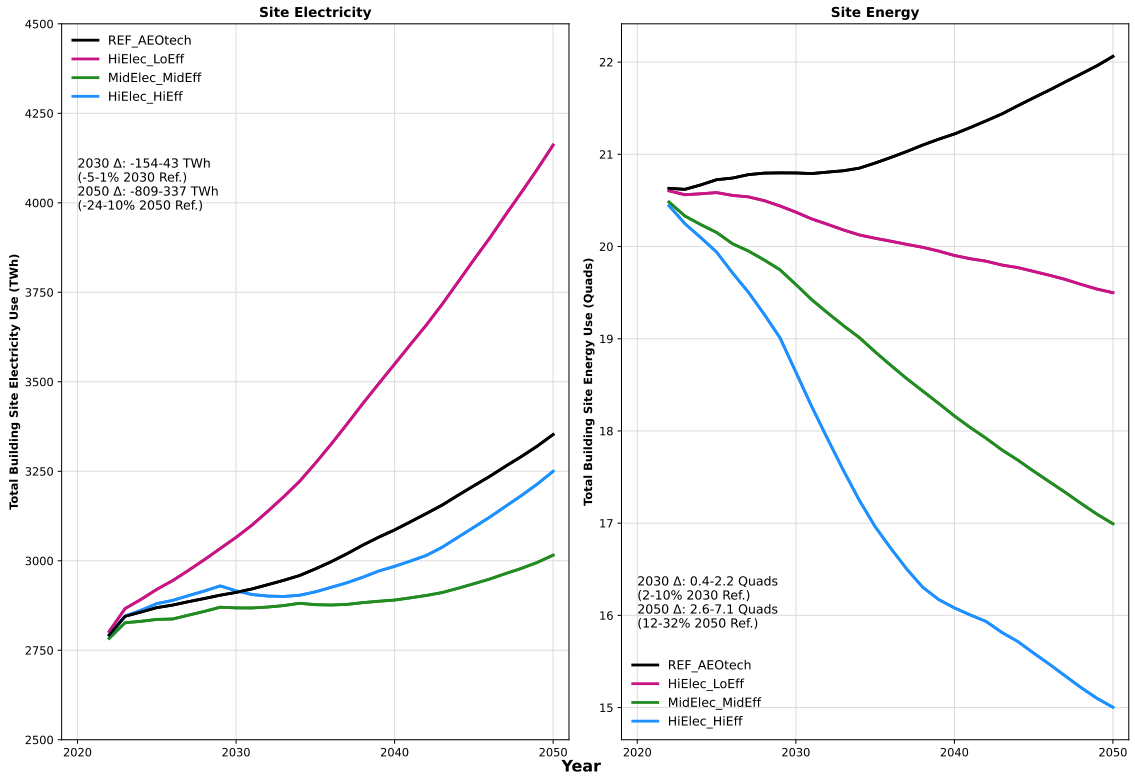
June 14, 2023

Today's panelists

- Ryan Jones, Co-Founder, Evolved Energy
- Jon Black, Manager, Load Forecasting, ISO New England
- Arthur Maniaci, Principal Forecaster, New York ISO

In Berkeley Lab simulations, potential impacts of building electrificationon electricity demand vary significantly

- Variation is due to:
  - Pace of technology adoption
  - Efficiency of electrification technologies (e.g., heat pumps) and of adjacent measures (e.g., building envelopes)



Source: Satre Meloy et al., forthcoming

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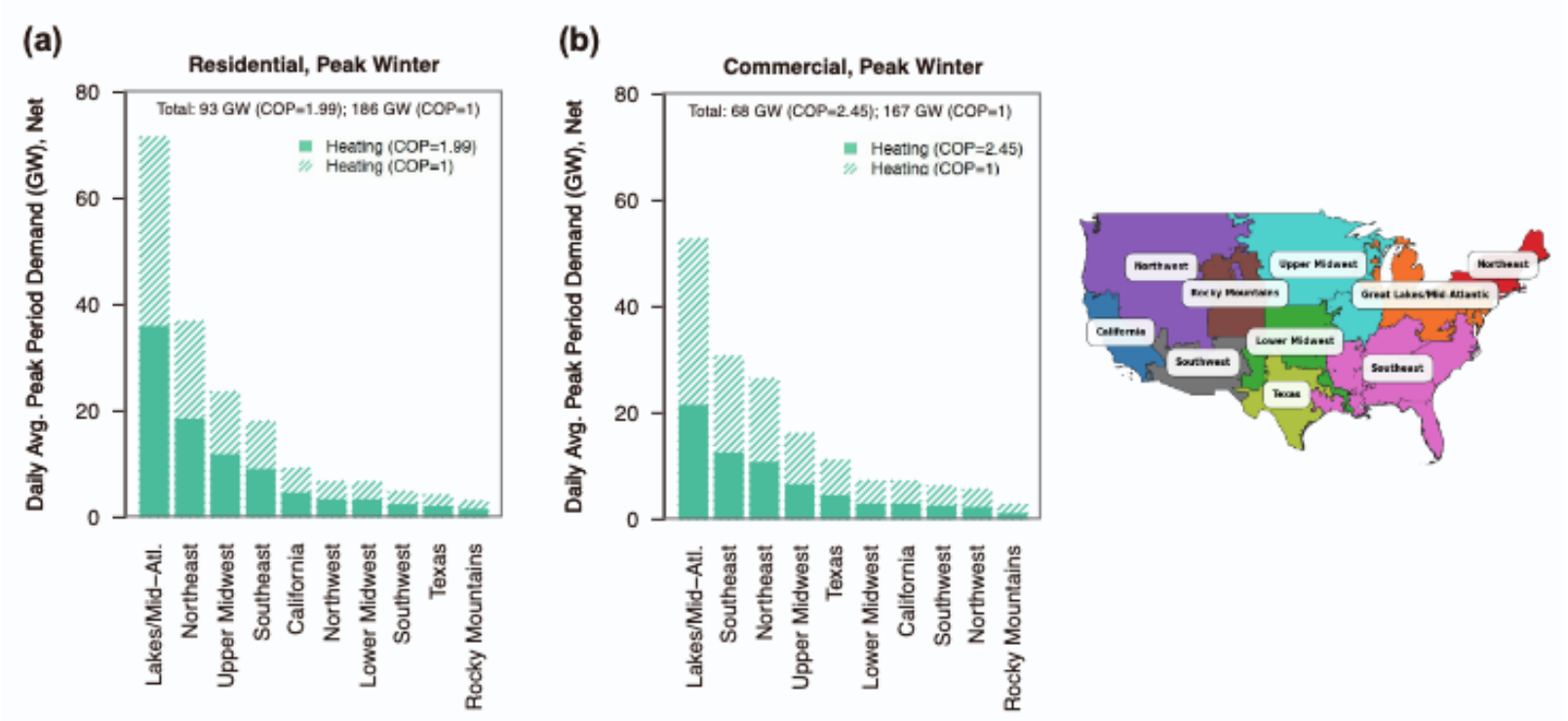

Source: Langevin et al.

In recent conversations, utility commissions identified load forecasting as one of their most pressing electrification-related concerns. Needs include:

- Understanding when systems will become winter-peaking and how peaks will relate to supply availability
- Designing electrification scenarios – especially high electrification “stress” scenarios
- Understanding diurnal load shapes under various scenarios
- Determining when penetration of electrification technologies is such that it can't be treated as generic load growth and practices need to change
- Understanding how energy efficiency can mitigate increases in peak demand from electrification
- Quantifying uncertainty