Amped Up: Factors Impacting Retail Electricity Prices in the United States

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Image source: OpenAI DALL-E

Objectives and Scope of Study

Context: Retail electricity prices have recently increased nationally in concert with economy-wide inflation, but with significant differences among states

Goal: Add nuance to current discussions about the "national electricity affordability crisis" and the scapegoating that often occurs when identifying causes of that "crisis"

STUDY SCOPE

Summarize recent retail electricity price trends

- National- and state-level price trends, since 2010 and 2019

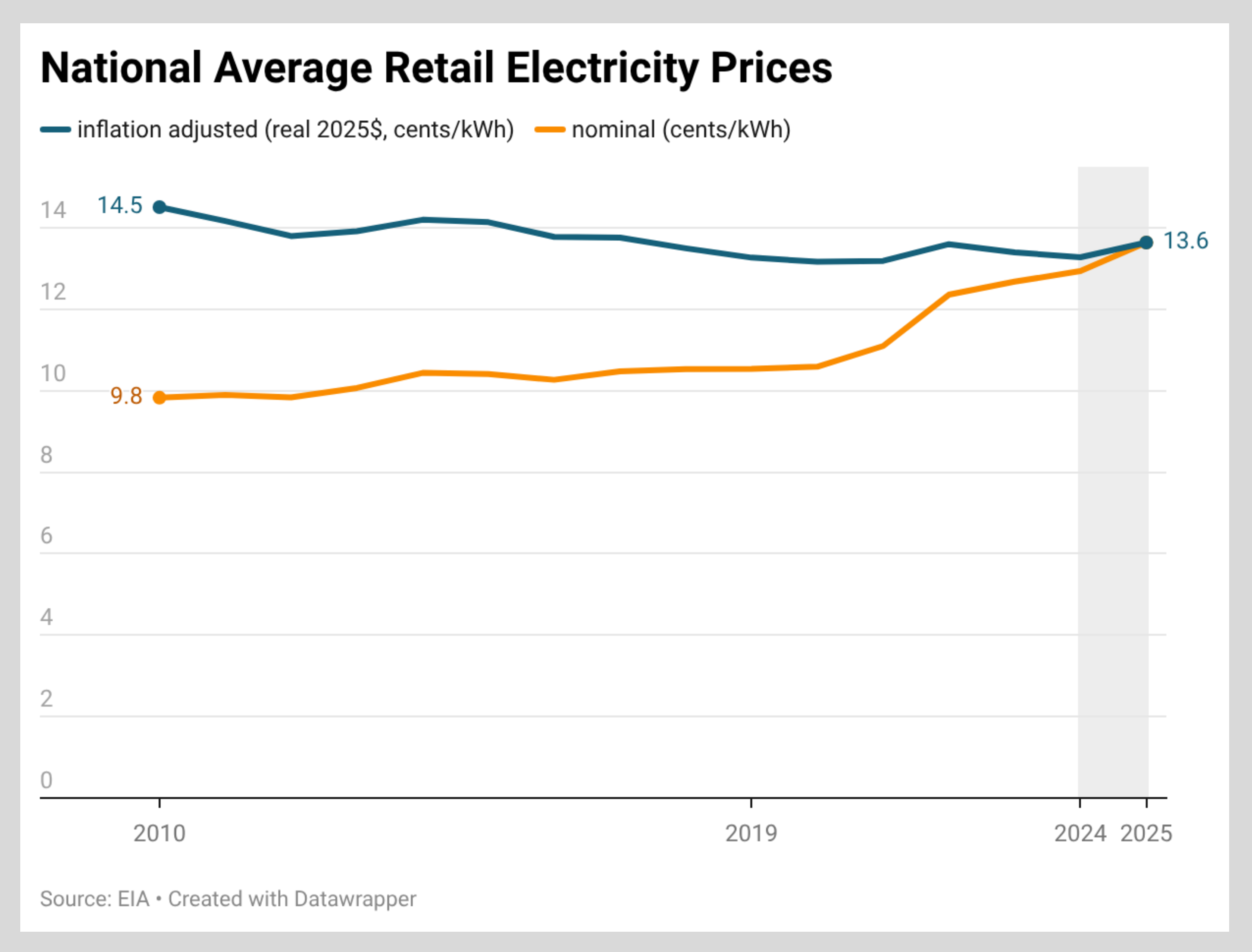
Assess drivers of recent retail electricity price changes

- Most-likely drivers of state-level price changes, 2019 to 2024; + some 2025

Trends – *Level-setting on historical data*

National-average nominal retail prices have spiked in recent years, though the increases have largely tracked inflation… but with a bump 2025

- All-sector average retail prices increased in 2025 relative to 2024:
  - **5.3%** (nominal)
  - **2.6%** (inflation adjusted)
- On a longer-term basis:
  - Nominal: average prices increased **29%** from 2019 to 2025, **39%** since 2010
  - Adjusting for inflation: average prices increased **3%** from 2019 to 2025, but were **6% lower** in 2025 than 2010

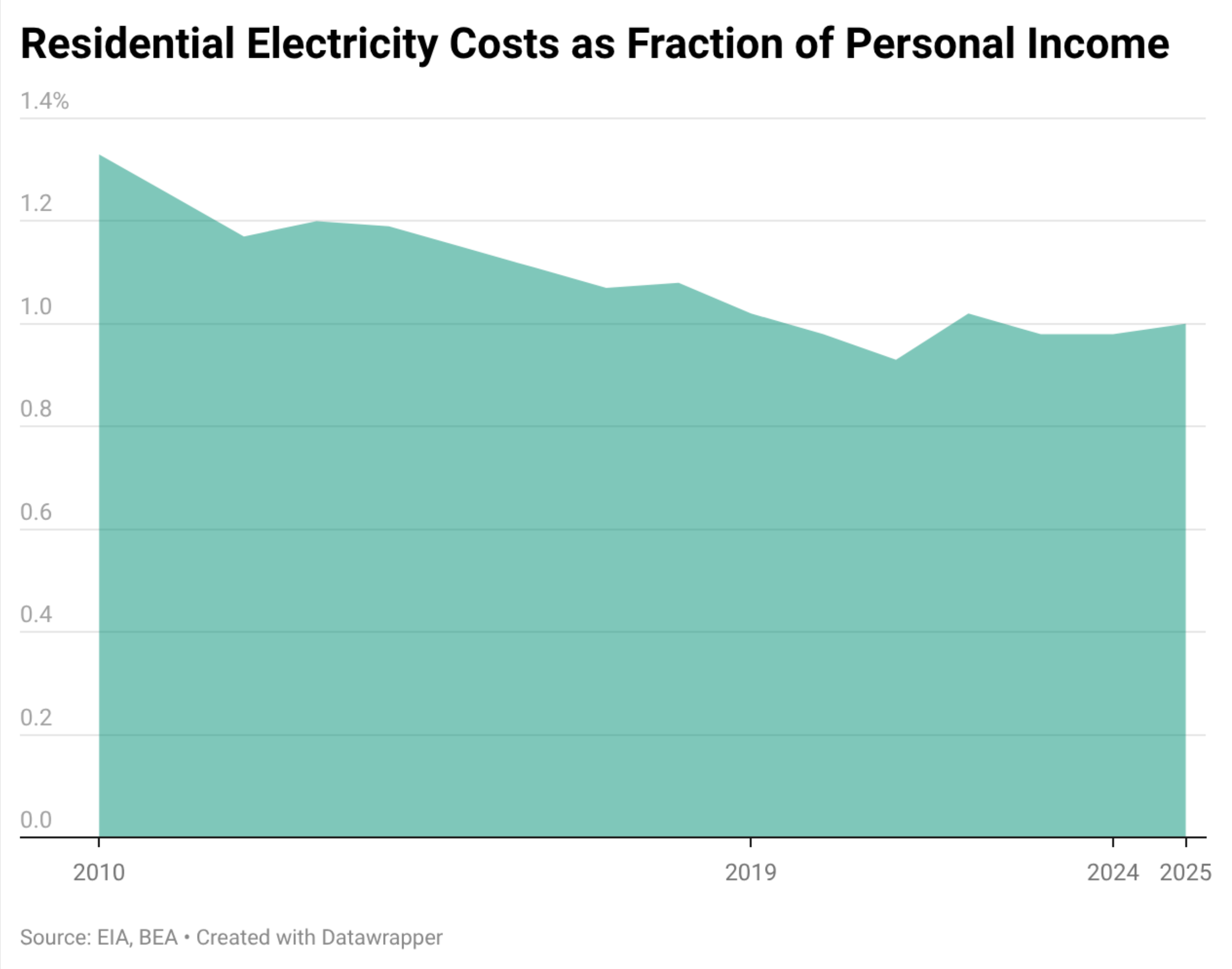


National residential electricity costs as a fraction of personal income trended down for decades, but increased slightly in 2025

- Total national residential electricity costs as a fraction of total income has trended down for decades

- The fraction increased in 2025, to 1%, but the 2025 value remains (slightly) below the 2019 value

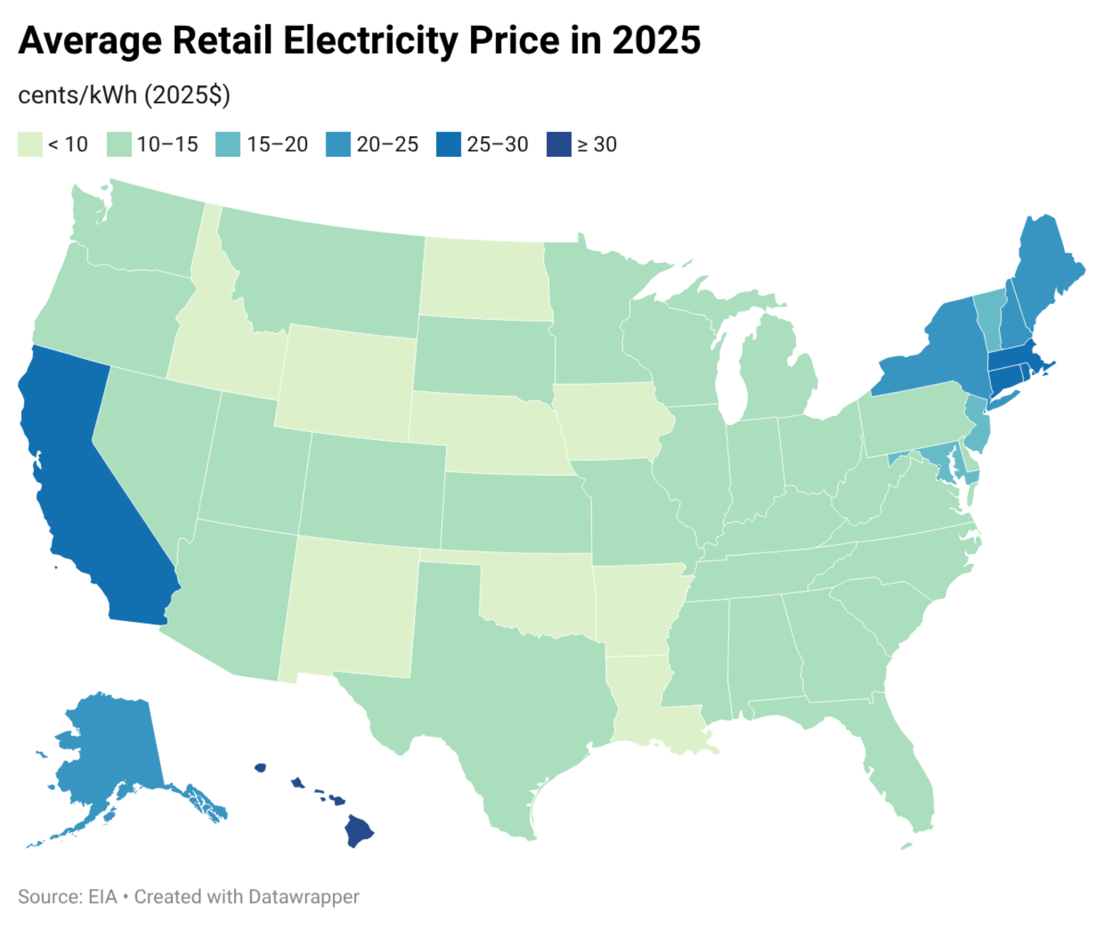
Note: Costs as a percent of income use personal income estimates from the Bureau of Economic Analysis, which are generally larger than household income estimates reported in the U.S. Census for reasons described in Katz.



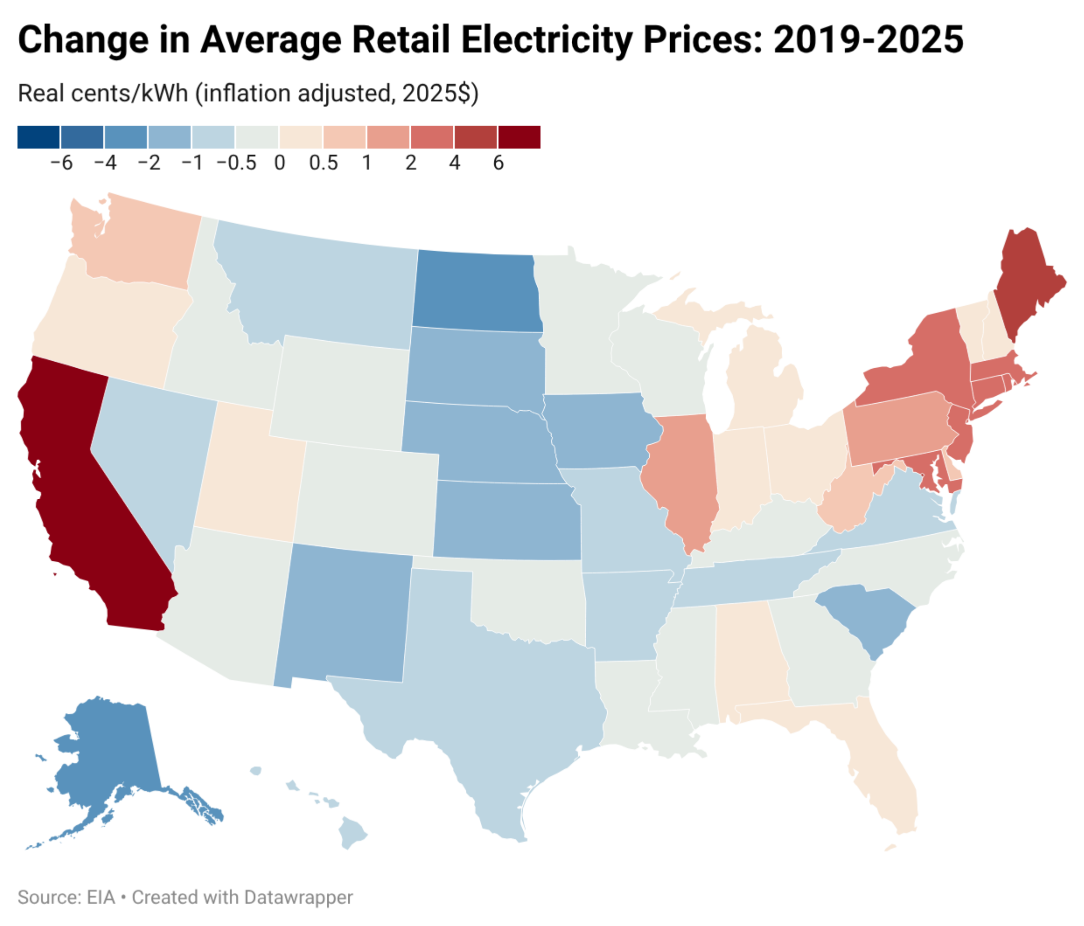
Data for 2025 are not final

Challenges with electric affordability are hidden behind national averages: New England has high average retail prices, and price changes since 2019

Average price in 2025



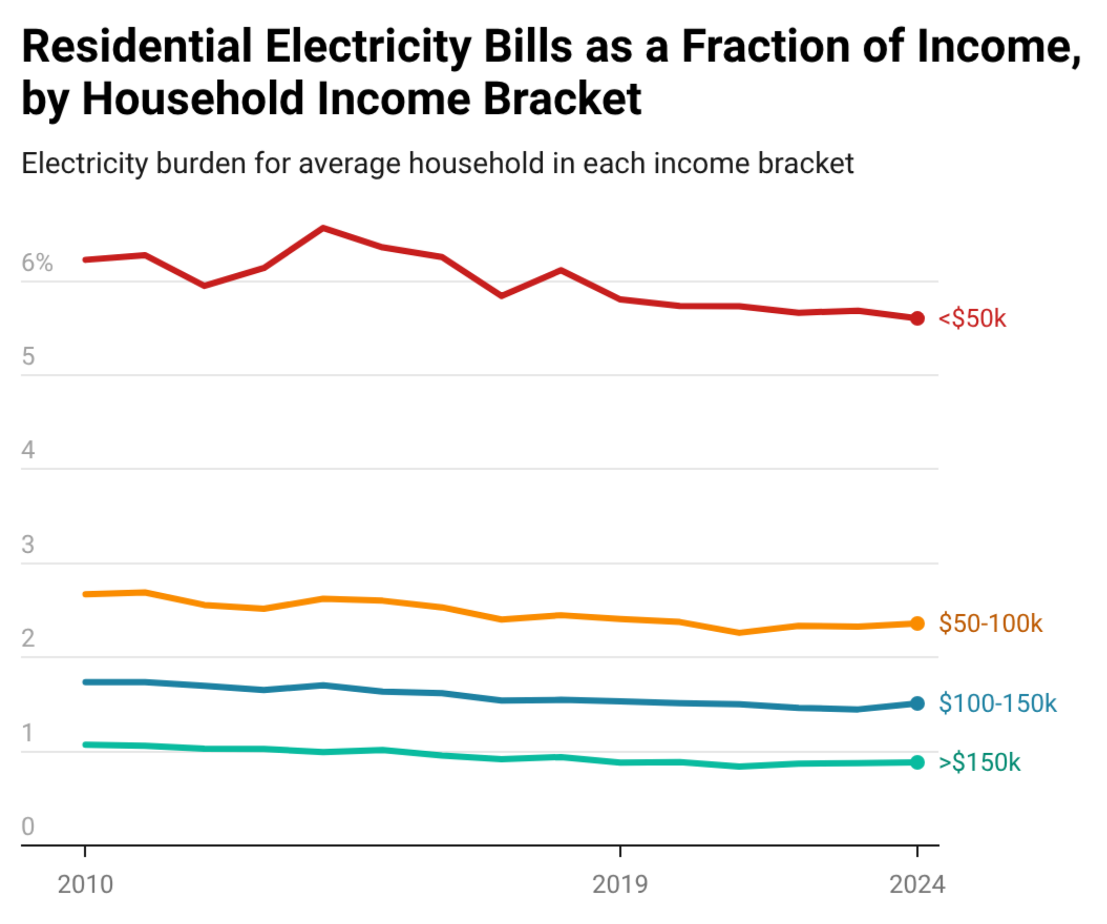
Change in prices: 2019 to 2025



Challenges with electric affordability are hidden behind national averages: Naturally, the largest challenges face lower-income households

- **Nationally**, residential bills as fraction of income have generally declined through 2024 (latest year available)
- Regardless of time trends, average electricity burdens are <u>> 5% for lower-income households</u> *(~1/3 of all households have incomes <$50k)*
- **In New England**, bill assistance in the wake of COVID helped, but over the last few years it appears as if <u>electricity burdens</u> and <u>utility disconnections</u> have risen (though they may not have yet reached pre-pandemic levels)

Electricity burden

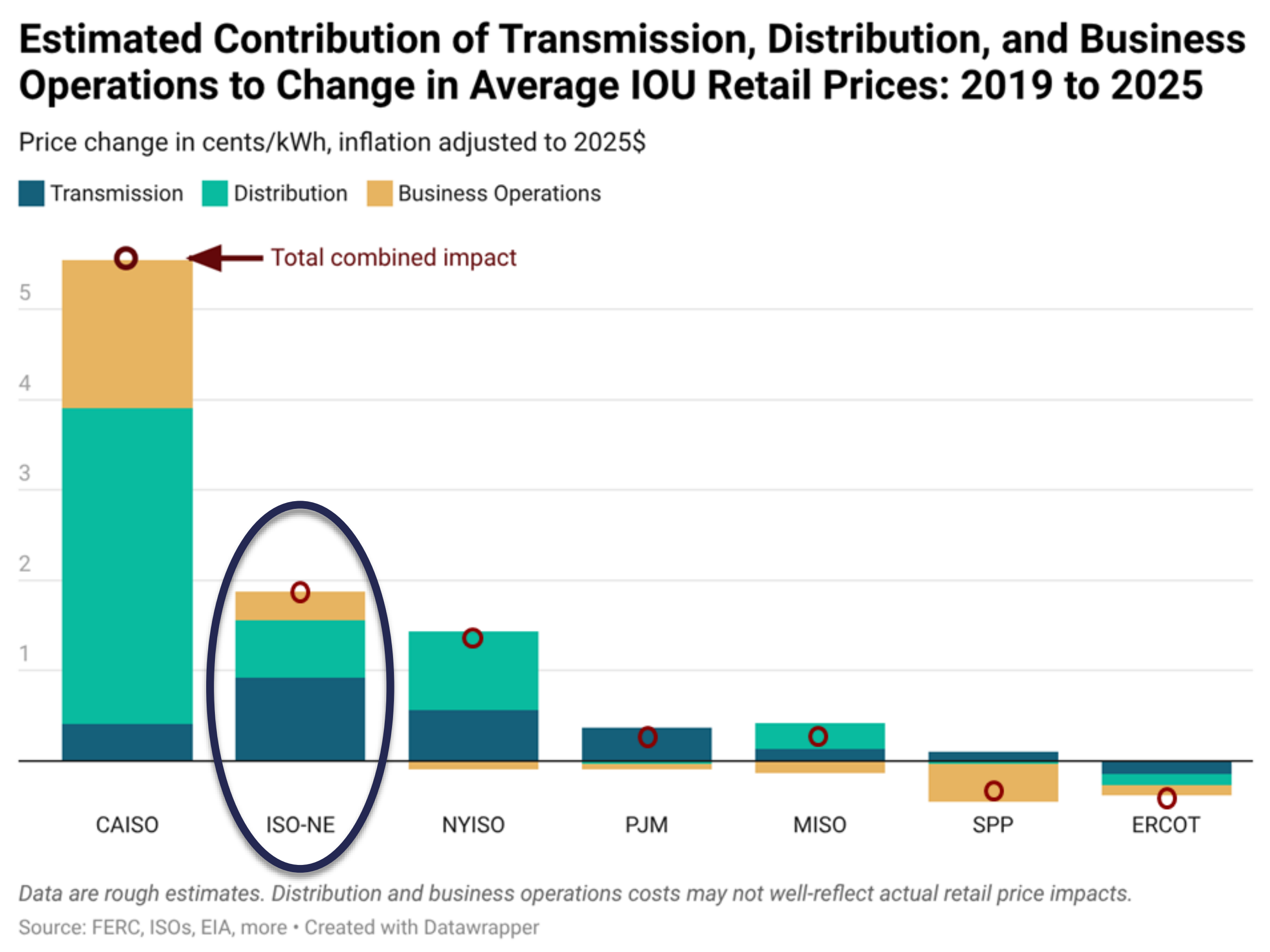


Data for 2025 are through November

Drivers – *Understanding state variation, 2019-2024(5)*

Distribution and transmission expenditures were significant contributors to retail price increases in the regions that experienced those increases

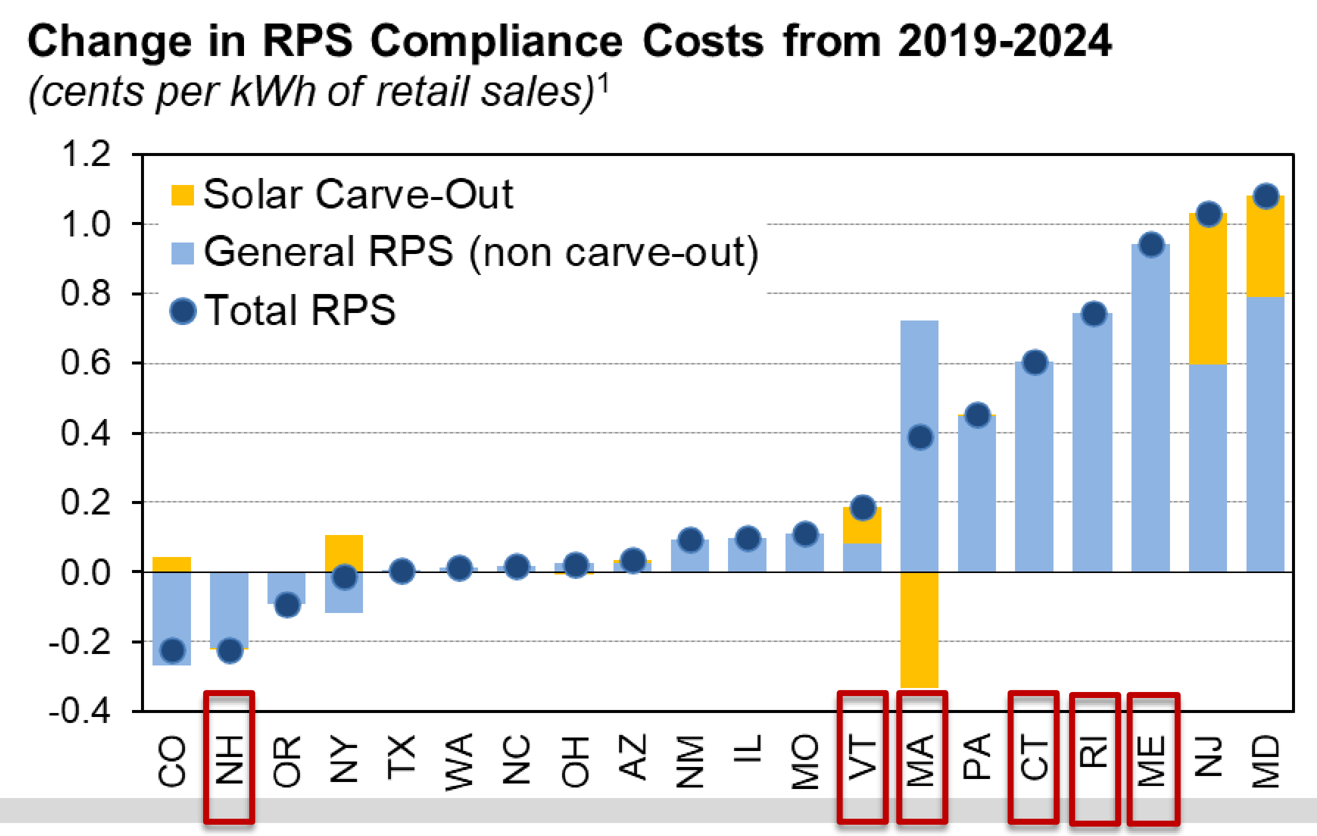
- Major drivers of these trends:
  - Aging assets
  - Equipment hardening
  - Storm cost recovery
  - Wildfire mitigation
  - And some expansion
- Price impact exacerbated by:
  - Elevated equipment costs
  - Low growth / load contraction
- Note also the significant role of business operations
  - In CA, reflects wildfire insurance

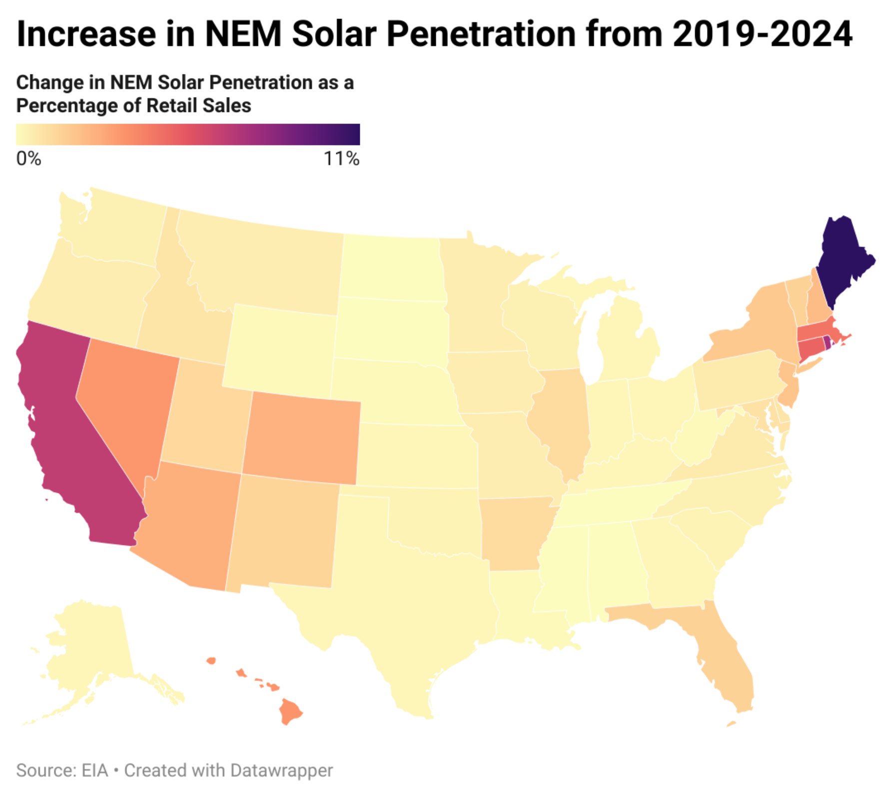


State policies to require or encourage wind and solar deployment above what the competitive market would deliver have often increased prices

State RPS: Average impact ~0.25 ¢/kWh; in some states >1 ¢/kWh

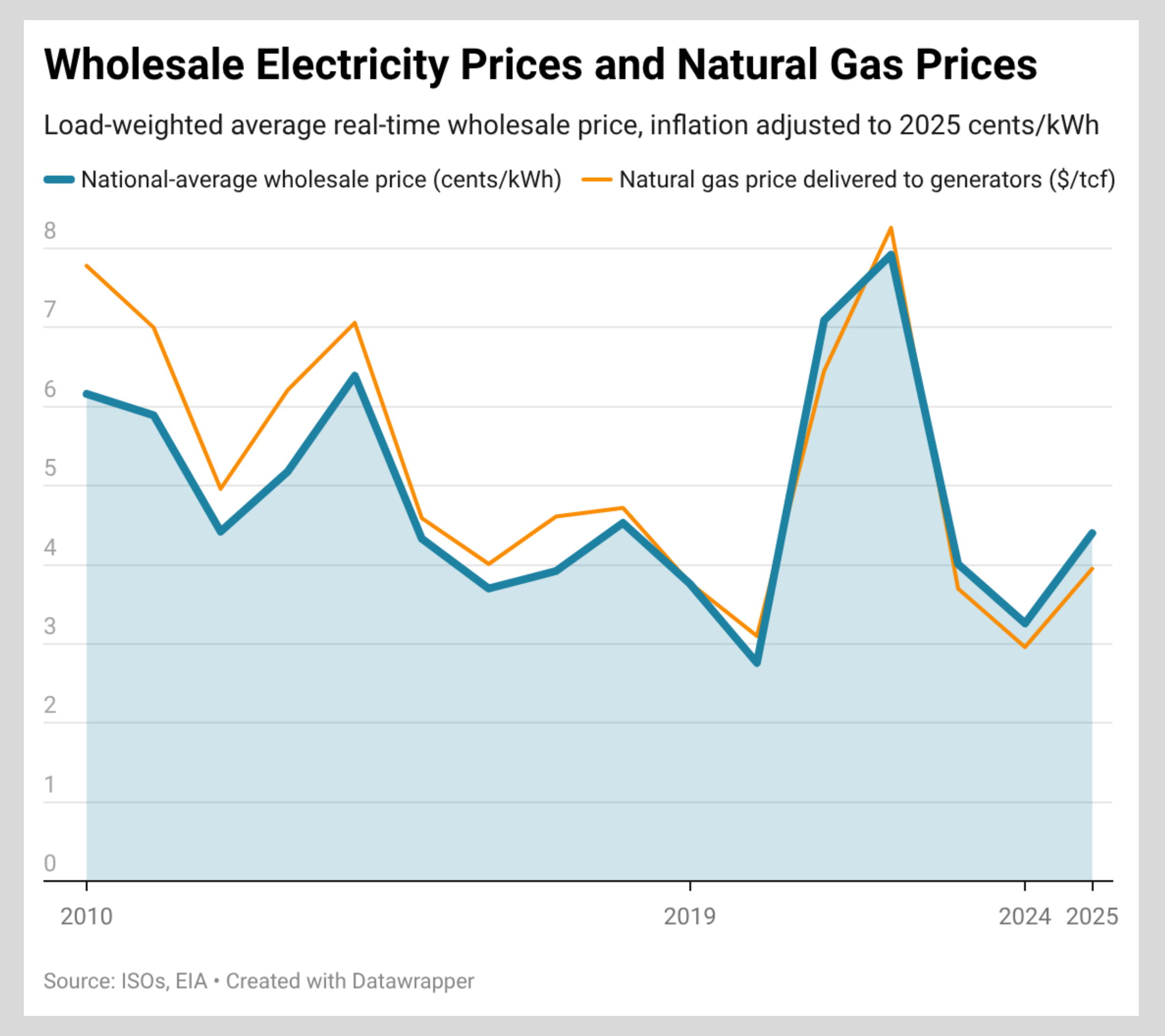
Net Metering: Effects highly variable, as high as ~2 ¢/kWh in CA





The availability of low-cost natural gas has historically placed downward pressure retail rates – but greatly impacts price variability

- Advancements have resulted in a long-term decline in inflation-adjusted natural gas prices, and therefore also wholesale prices
- Natural gas is also a driver of year-to-year volatility in wholesale (and retail) prices
- **New England is more exposed than other regions**: >4 ¢/kWh at onset of Ukraine / Russia war, ~2.9 ¢/kWh in 2025 vs. 2024



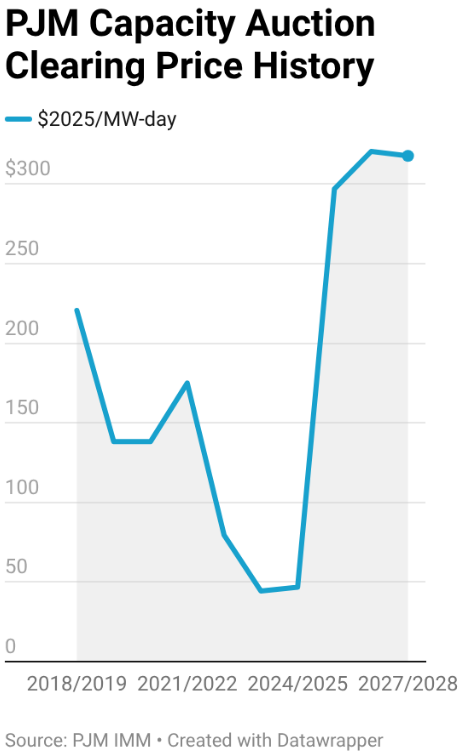
Load growth at the state level has (historically) been associated with decreased prices… and load contraction with price increases

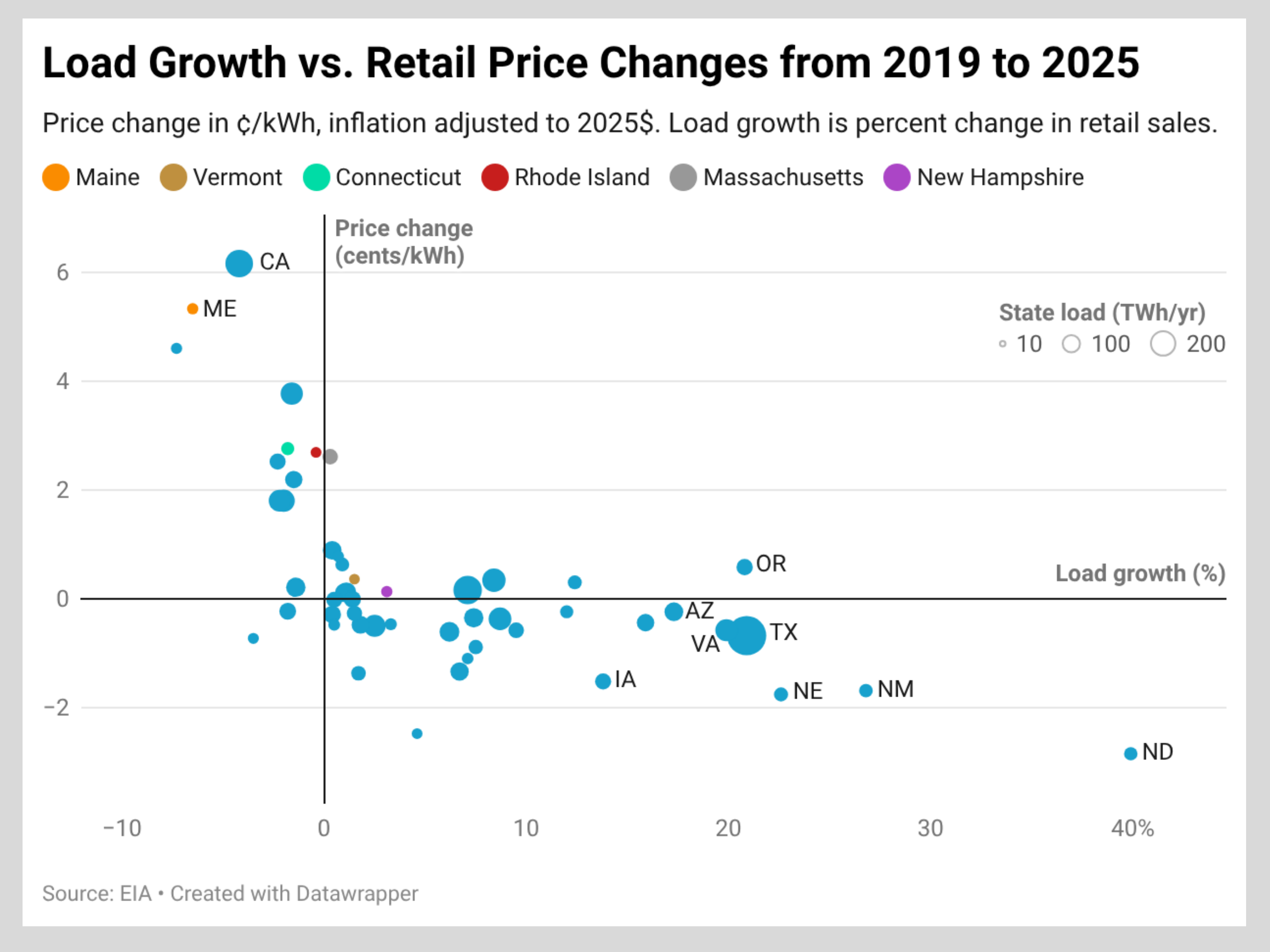
- Cost growth mostly driven by T&D in recent years and incremental supply was relatively inexpensive

- And yet…

  …there is

  …**PJM**





Data for 2025 are not final

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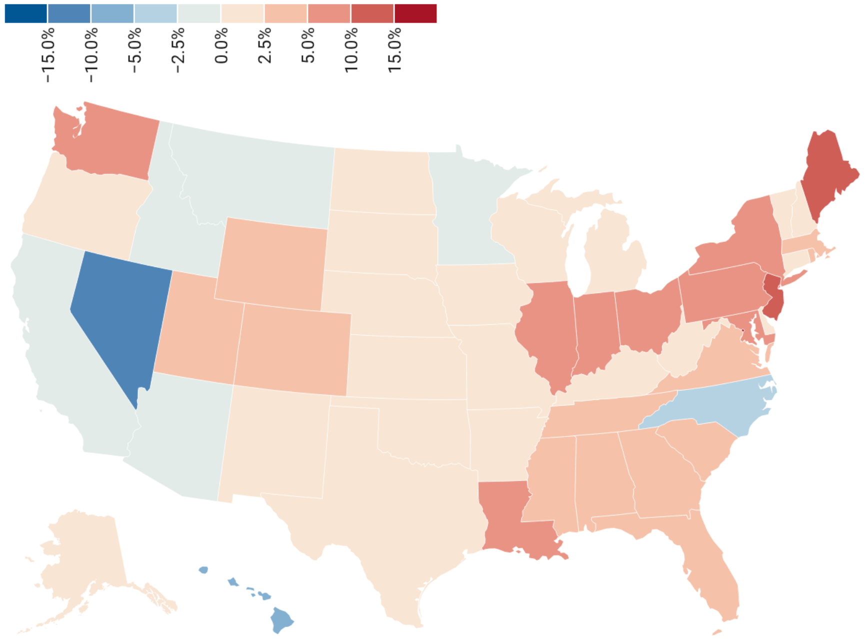
2025 & beyond – *What’s coming down the pike*

May get worse before it gets better – without strong intervention

Prices Rising > Inflation

Percentage Change in All-Sector Retail Electricity Prices: 2024 to 2025

Percentage change, adjusted for inflation in 2025$

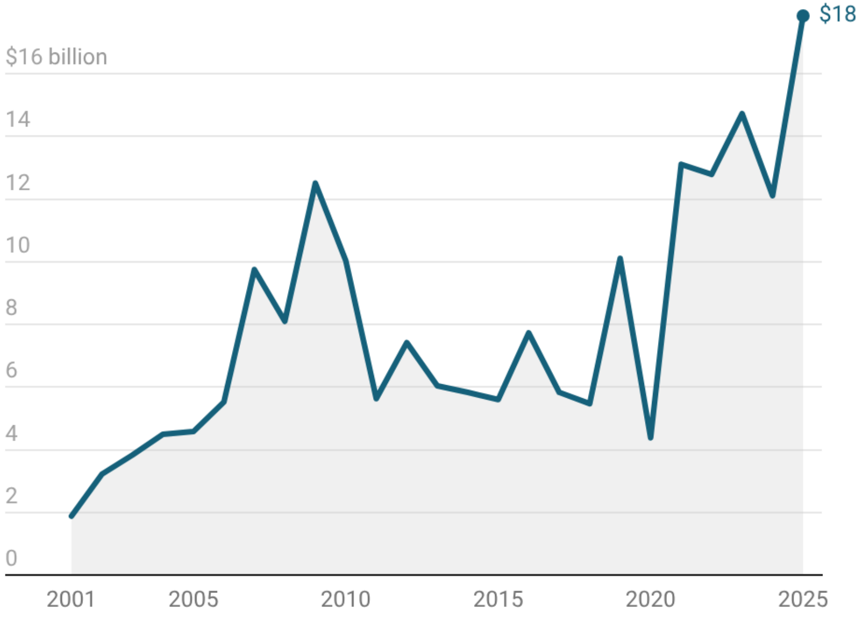


Source: EIA • Created with Datawrapper

High Rate Requests & PUC Acceptance

Investor-Owned Utility Rate Change Requests

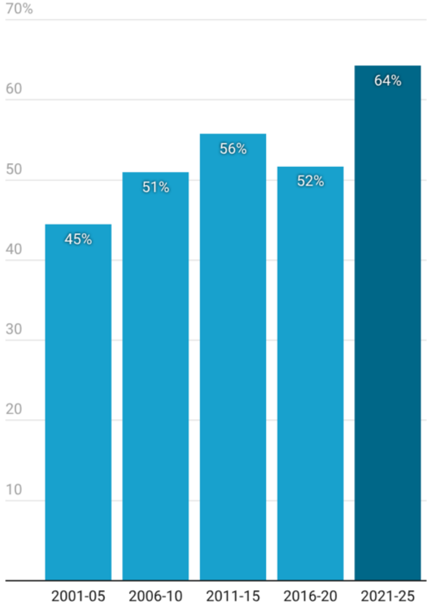
Billion $, inflation-adjusted to 2025



Source: S&P Global • Created with Datawrapper

Regulatory Acceptance Levels for IOU Rate Increase Requests

Approval as % of request



Source: S&P Global • Created with Datawrapper

In New England, average PUC acceptance levels from 2021-2025 were **over 75%,** up from 63% from 2011-20, 47% from 2001-10)

For more information

This Overall Project Currently Includes Multiple Products

For more information, contact: Ryan Wiser (rhwiser@lbl.gov)

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Peer-reviewed journal article	Data visualization tool	Detailed presentations
Highlights a subset of the trends, with a focus on statistical analysis of broad drivers	Allows users to explore some of the data that underpins the journal article	Summarizes the article and provides additional material beyond that included here

These products can all be found at: https://eta-publications.lbl.gov/publications/factors-influencing-recent-trends

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