

# Rate Design to Support and Utilize Transportation Electrification

December 13, 2024



Energy+Environmental Economics

Andrew DeBenedictis, Director

# About E3 & the Interagency Rates Working Group (IRWG)

130+ full-time consultants

30+ years of deep expertise

Engineering, Economics, Mathematics, Public Policy...



San Francisco



New York



Boston



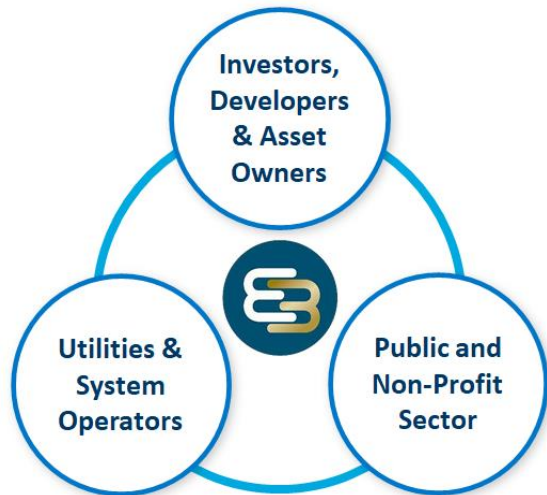
Calgary



Denver

## E3 Clients

250+ projects per year across our diverse client base



## IRWG Work products

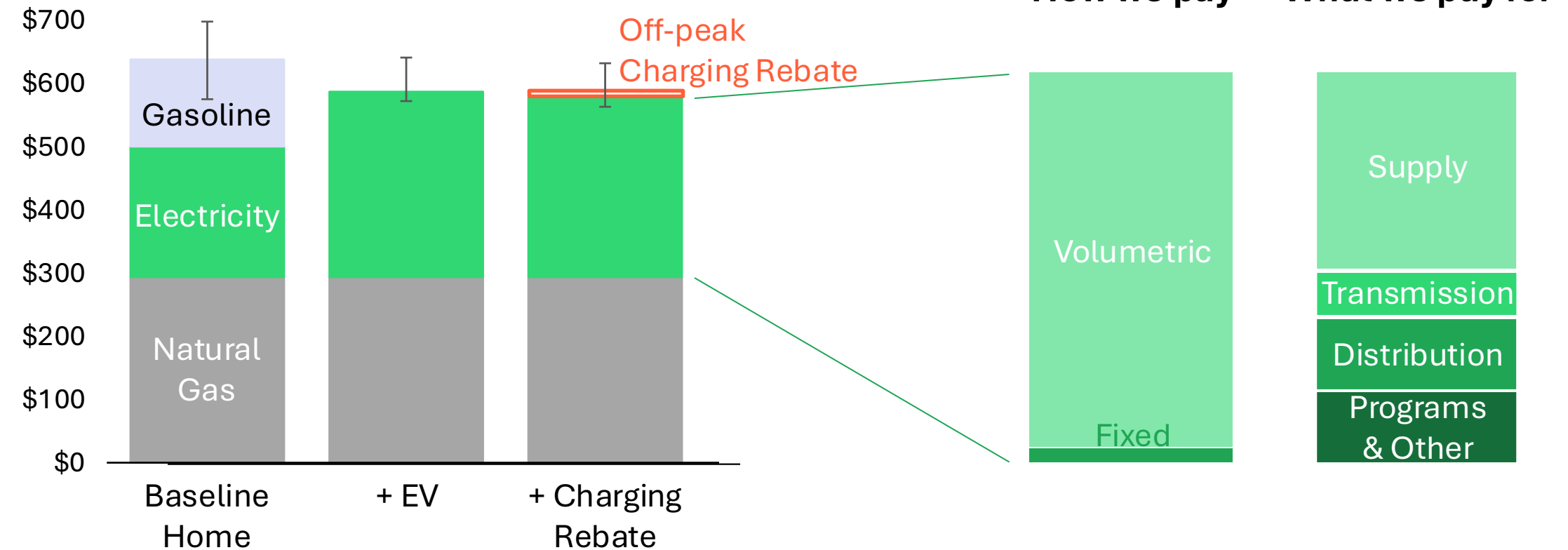
- Factsheet: [What is in an Electric Rate and What Does it Do?](#)
- [MA Electricity Rates Database](#)
- Rates Affordability Memo
- E3 Near-Term Rate Strategy Report and IRWG Recommendations
- E3 Long-Term Ratemaking Study and IRWG Recommendations



# Current all-volumetric rates do not guarantee operating cost savings for EV owners

## Monthly Average Energy Expenditure, Example Home (Household + Personal Transportation)

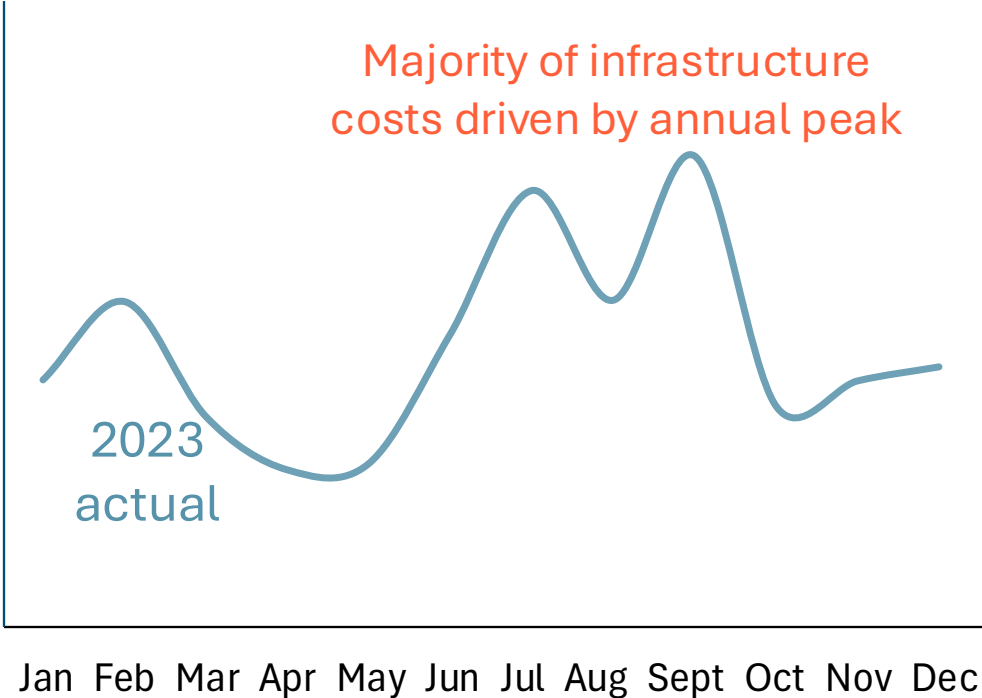
\$/month



# Annual and daily load shapes indicate times during which adding load does not add to utility costs

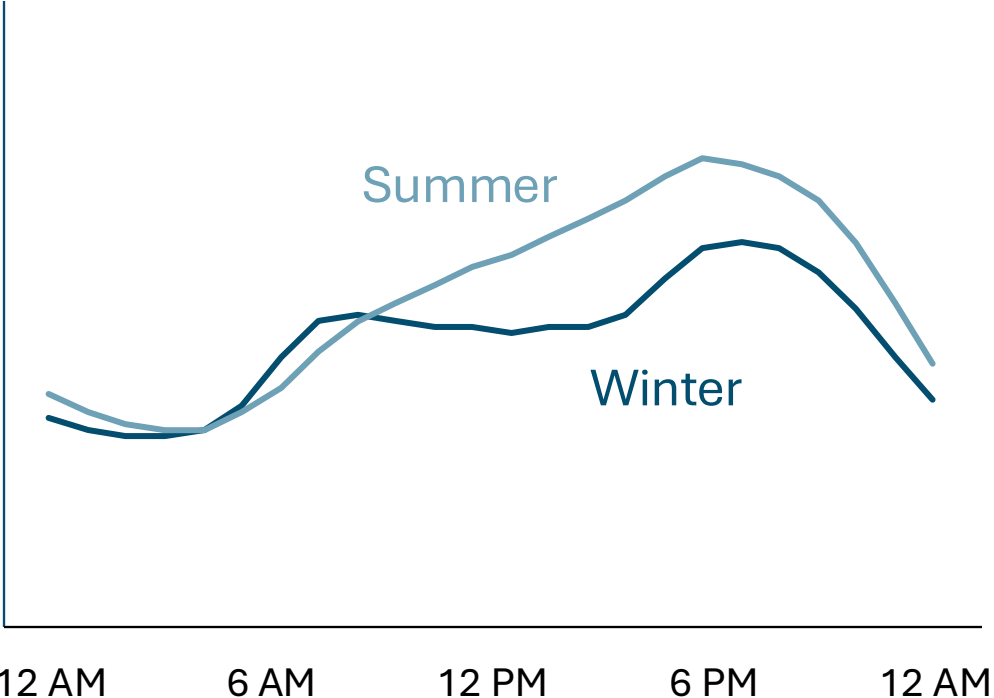
Annual ISO-NE Gross Load

Normalized MW



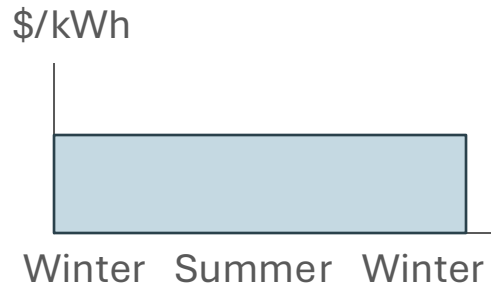
Daily ISO-NE Gross Load, 2023

Normalized MW

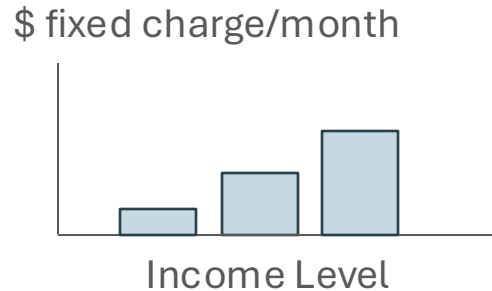


# Multiple options can improve near-term electrification economics

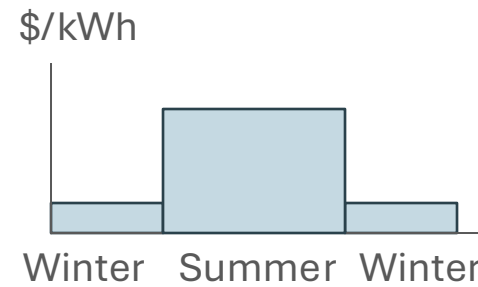
Existing Rate



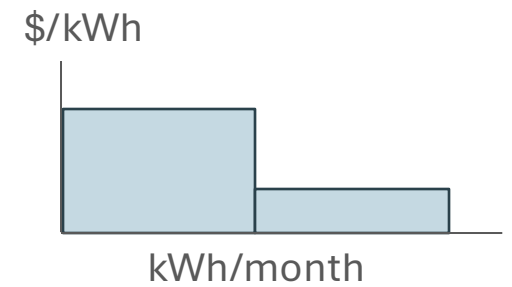
Higher Fixed Charge



Seasonal



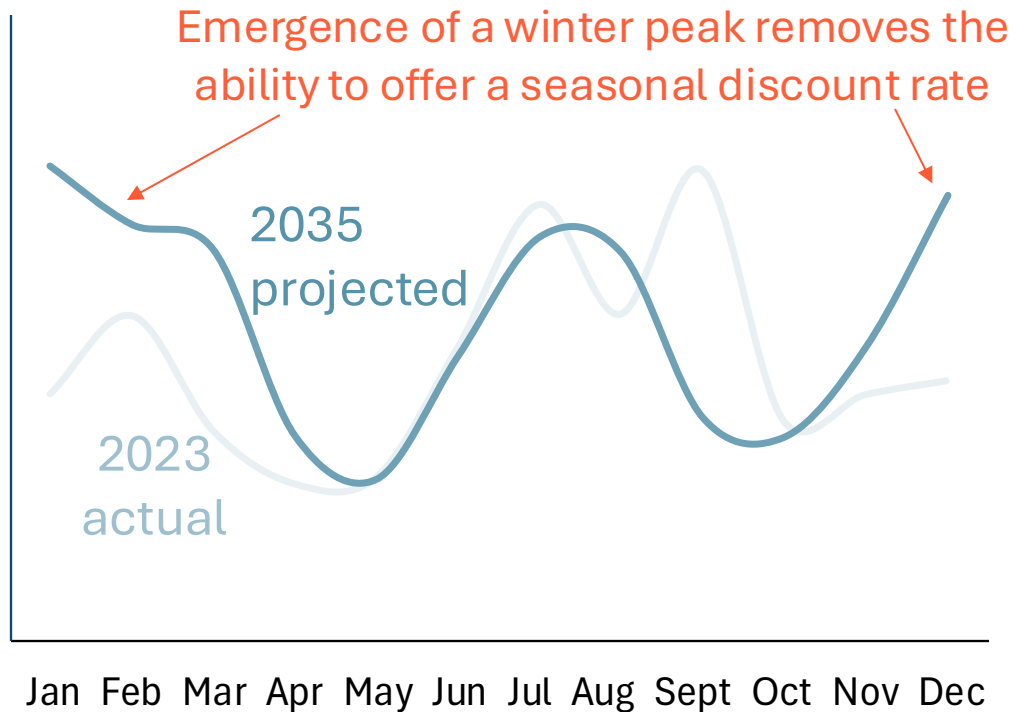
Declining Block



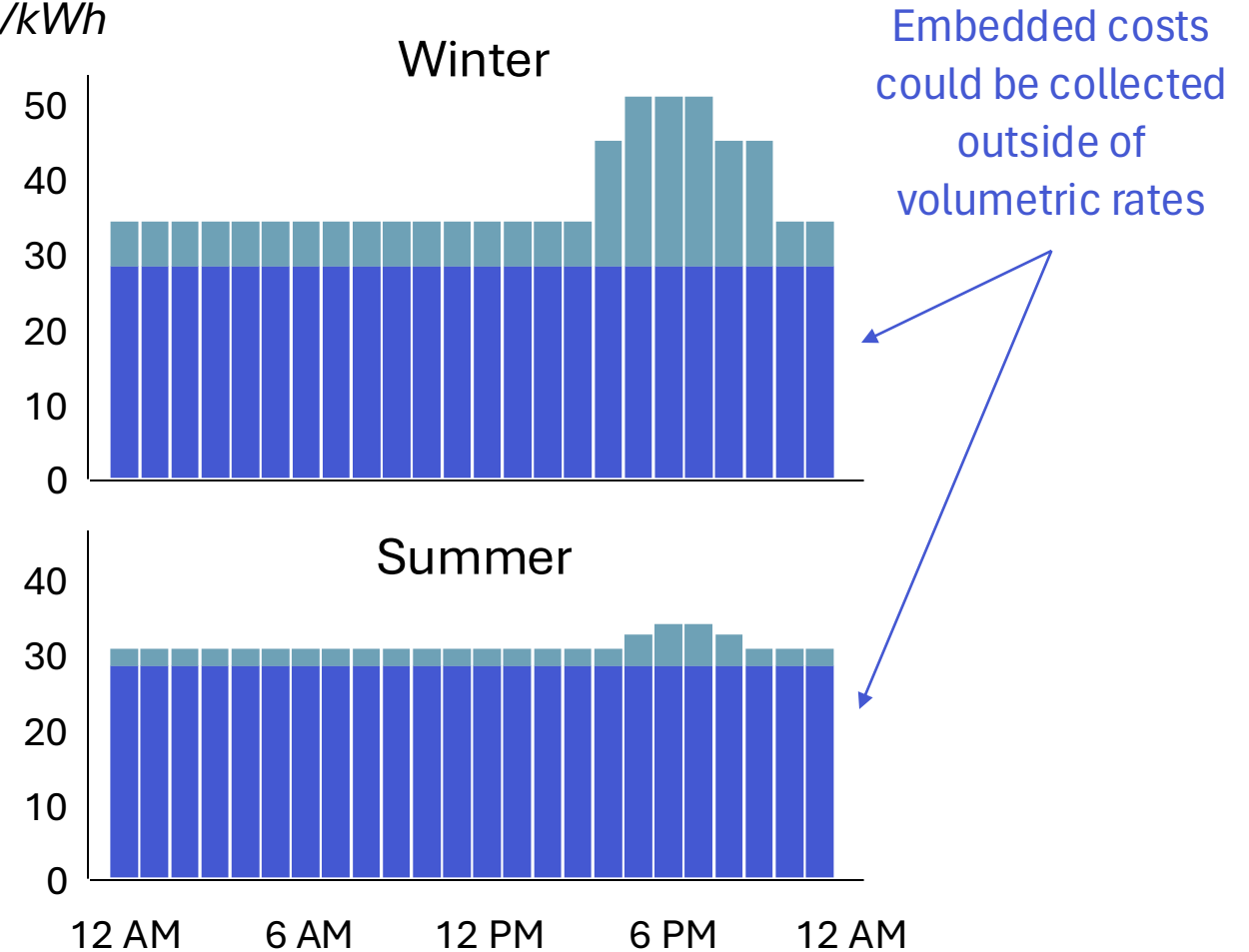
	Existing Rate	Higher Fixed Charge	Seasonal	Declining Block
Supports Transportation Electrification	✗	✓	✗	✓
Supports Building Electrification	✗	✓	✓	✓
Indicates Timing of Low Grid Costs	✗	✗	✓	✗

# As a winter peak forms, intraday EV load shifting will be the most reliable way to limit utility cost growth

Annual ISO-NE Gross Load  
Normalized MW

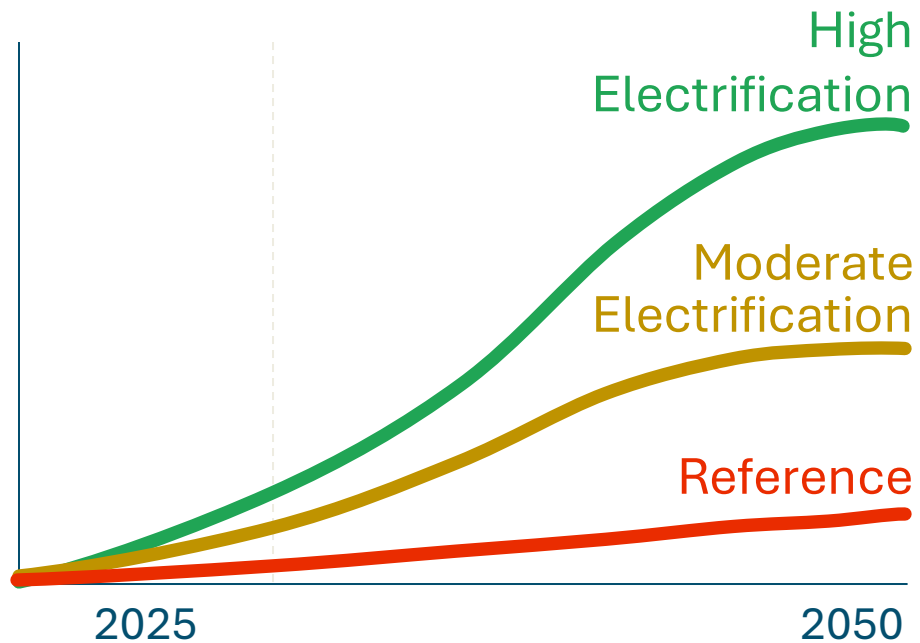


Illustrative Volumetric Time-of-Use Rate  
¢/kWh

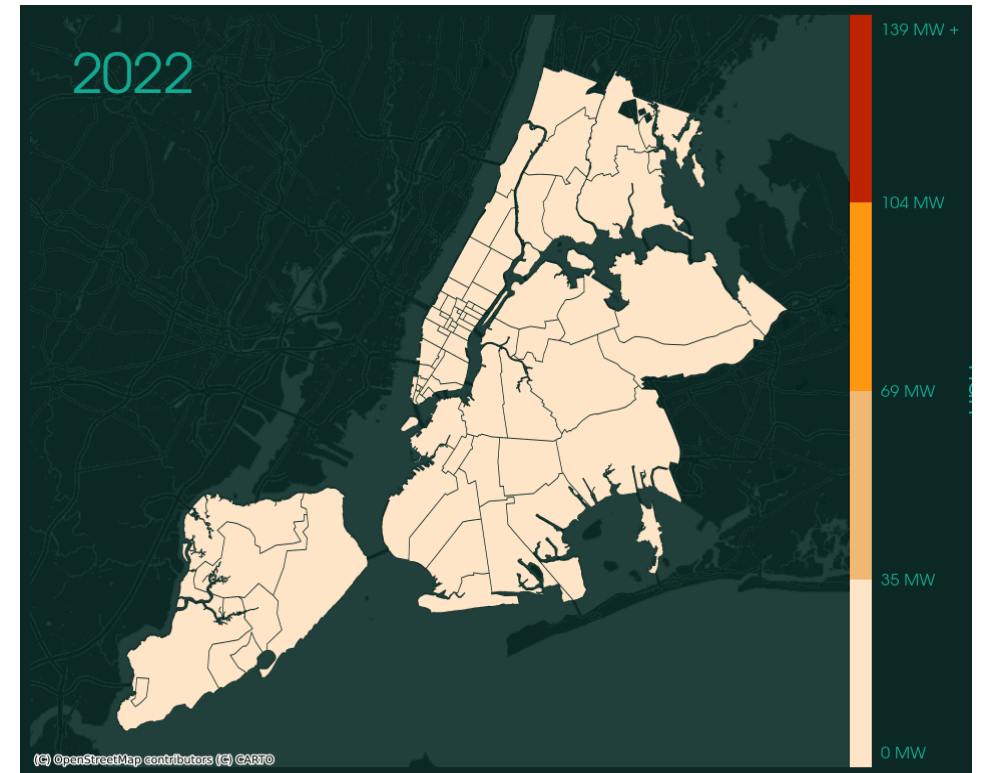


# Policy-compliant geospatial electrification adoption forecasting promotes system efficiency through improved planning

Incremental EV Peak Load  
MW



Incremental EV Peak Load  
MW





# Thank You

[andrew@ethree.com](mailto:andrew@ethree.com)

## Relevant Links:

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- [MA Electricity Rates Database](#)
- Rates Affordability Memo (Coming Dec 2024)
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