MASSACHUSETTS
DEPARTMENT OF
ENERGY RESOURCES

# DOER Peak Potential Study

## Using load management to empower consumers and reduce energy costs

Public Webinar

Presented by
**Charles Dawson**

# Our Mission

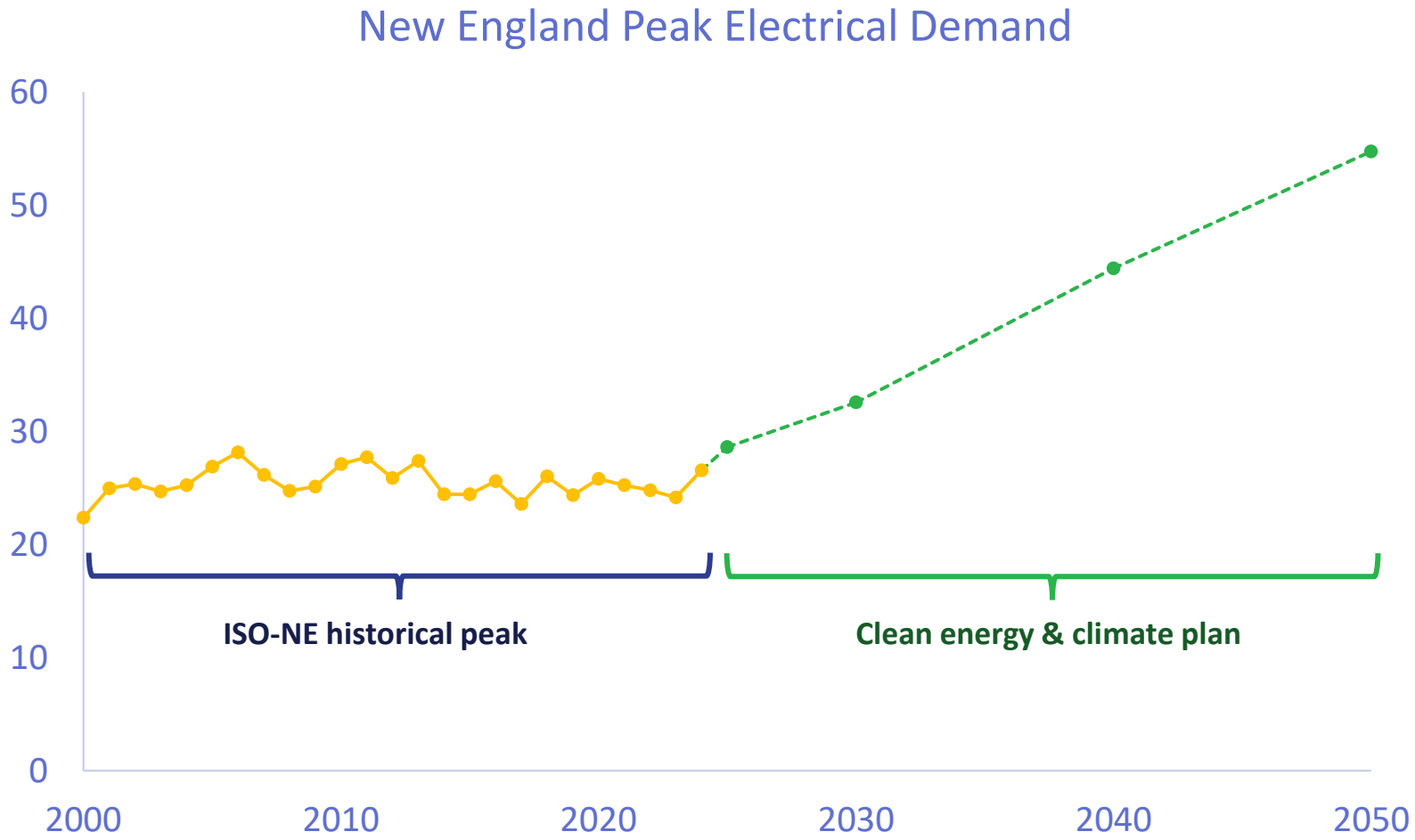
**The Department of Energy Resources' (DOER) mission is to create a clean, affordable, resilient, and equitable energy future for all in the Commonwealth.**

- ***Who We Are**: As the State Energy Office, DOER is the primary energy policy agency for the Commonwealth. DOER supports the Commonwealth's clean energy goals as part of a comprehensive Administration-wide response to the threat of climate change. DOER focuses on transitioning our energy supply to lower emissions and costs, reducing and shaping energy demand, and improving our energy system infrastructure.*
- ***What We Do**: To meet our objectives, DOER connects and collaborates with energy stakeholders to develop effective policy. DOER implements this policy through planning, regulation, and providing funding. DOER provides tools to individuals, organizations, and communities to support their clean energy goals. DOER is committed to transparency and education, supporting the accessible access to energy information and knowledge.*

# Outline

- Background & motivation
- Technical potential study
  - Methodology
  - Key Findings
- Policy recommendations
- Q&A

# Massachusetts is facing growing load



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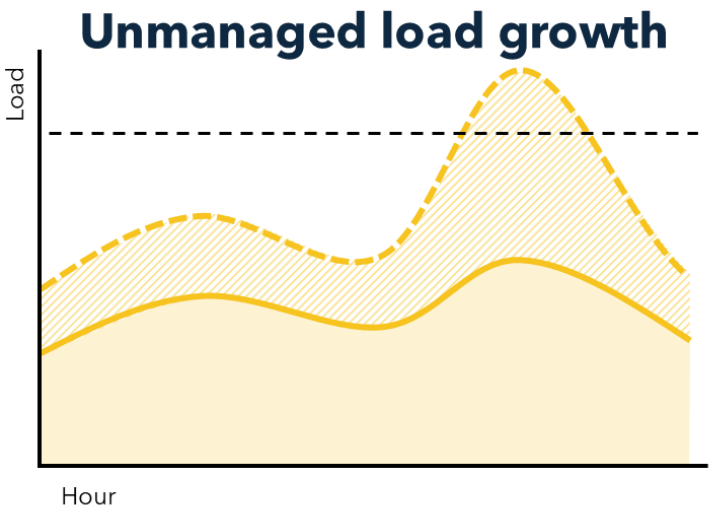
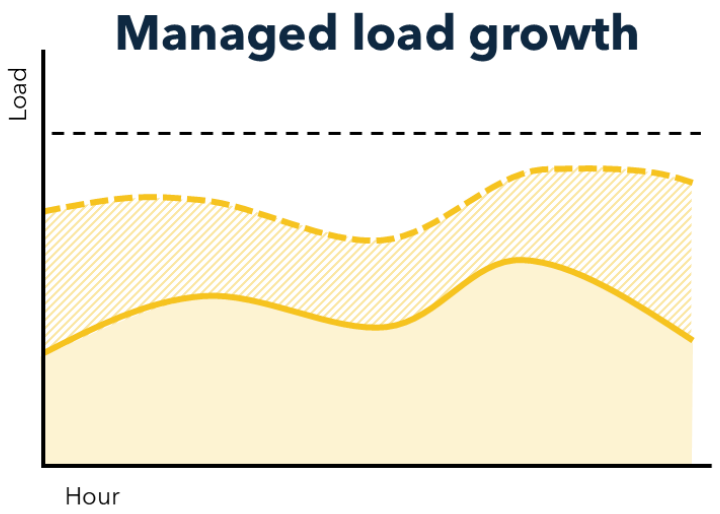
# Load growth only increases rates if unmanaged




*If peak demand increases faster than total use, it can increase rates.*




*If peak demand increases slower than total use, it can decrease rates.*

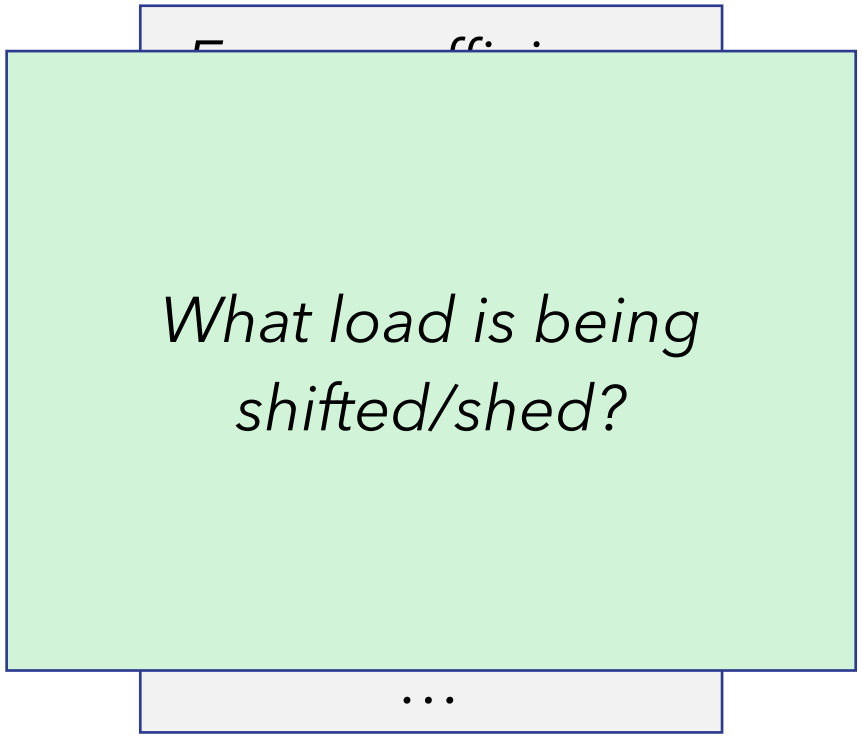
**Higher peak demand increases grid costs**

$$\text{Electricity rates} = \frac{\text{Revenue requirement (\$)}}{\text{Energy sales (kWh)}}$$

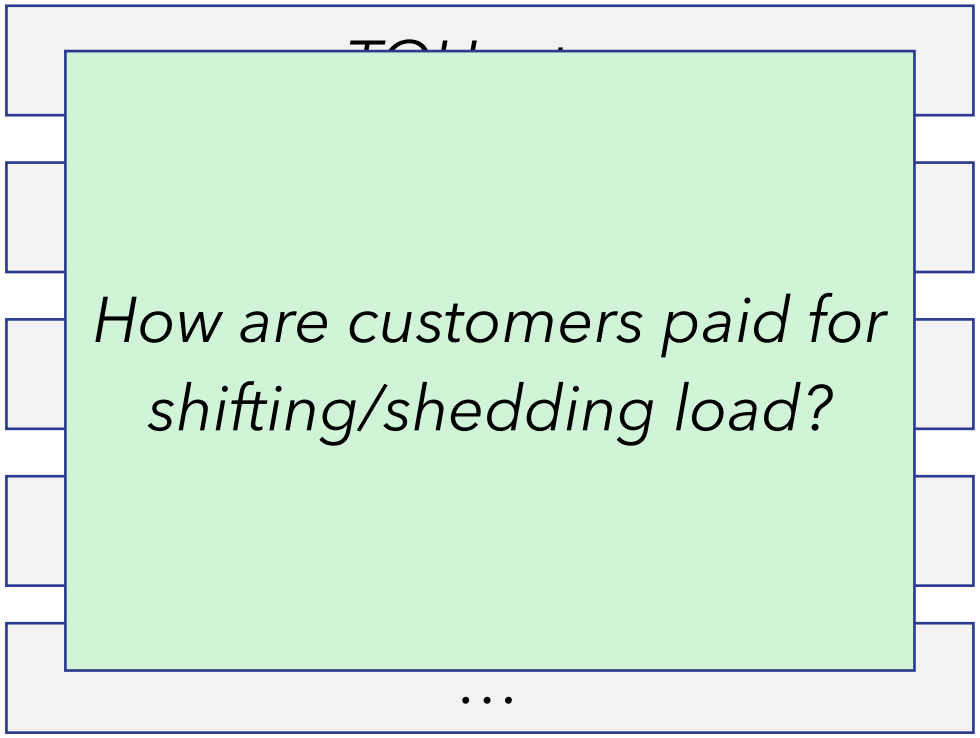
**Managed growth spreads costs over more kWh**

# Load management is a set of policies and technologies to reduce or shift demand during peak hours or in constrained regions

*Load management measures*




*Load management incentives*



# In 2025, DOER launched an effort to quantify the potential for peak load reduction and develop a load management strategy to save ratepayers money

**1. Technical Potential of Load Management Study**

- Who: E3 and AEC
- What: Quantifies the amount of peak load reduction (and costs and benefits) possible in 2030, 2040, and 2050, given the projected pace of electrification.
- How: Bottom-up modeling with review from expert advisory group and 2 public workshops

+

**2. Peak Potential Report & Recommendations**

- Who: DOER
- What: Makes policy recommendations for unlocking the benefits from load management.
- How: Input from stakeholders through two public sessions & forthcoming comment period

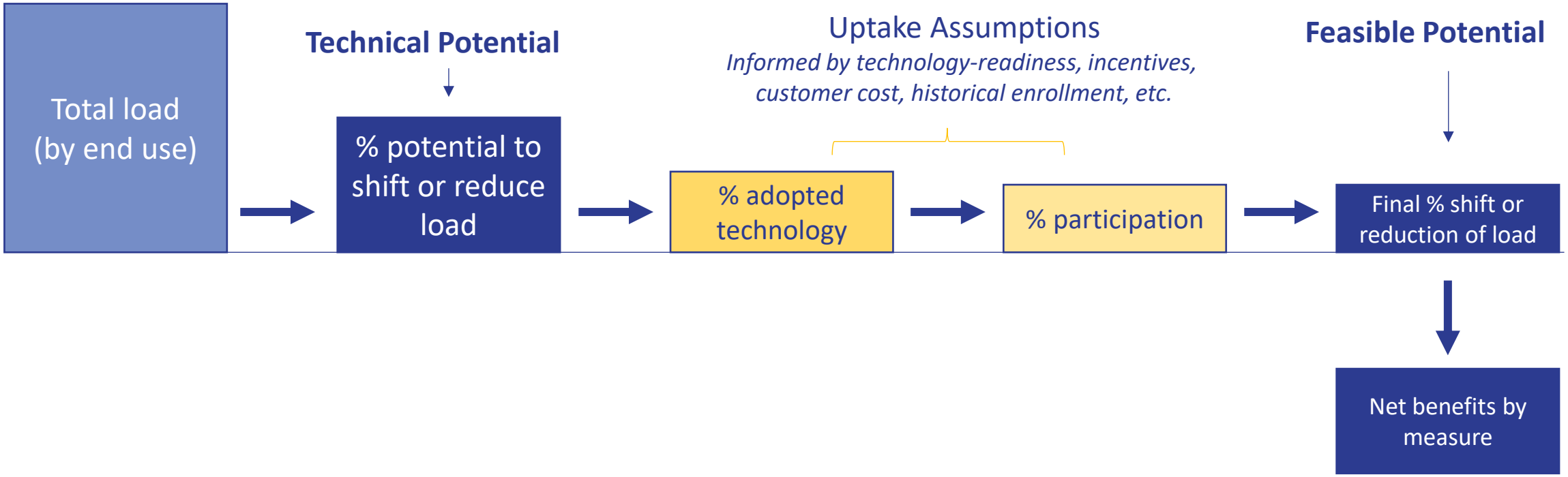
Stakeholder engagement

- Three public workshops over the summer and ongoing engagement with stakeholders.
- Public comment period through Feb 9th, 2026.

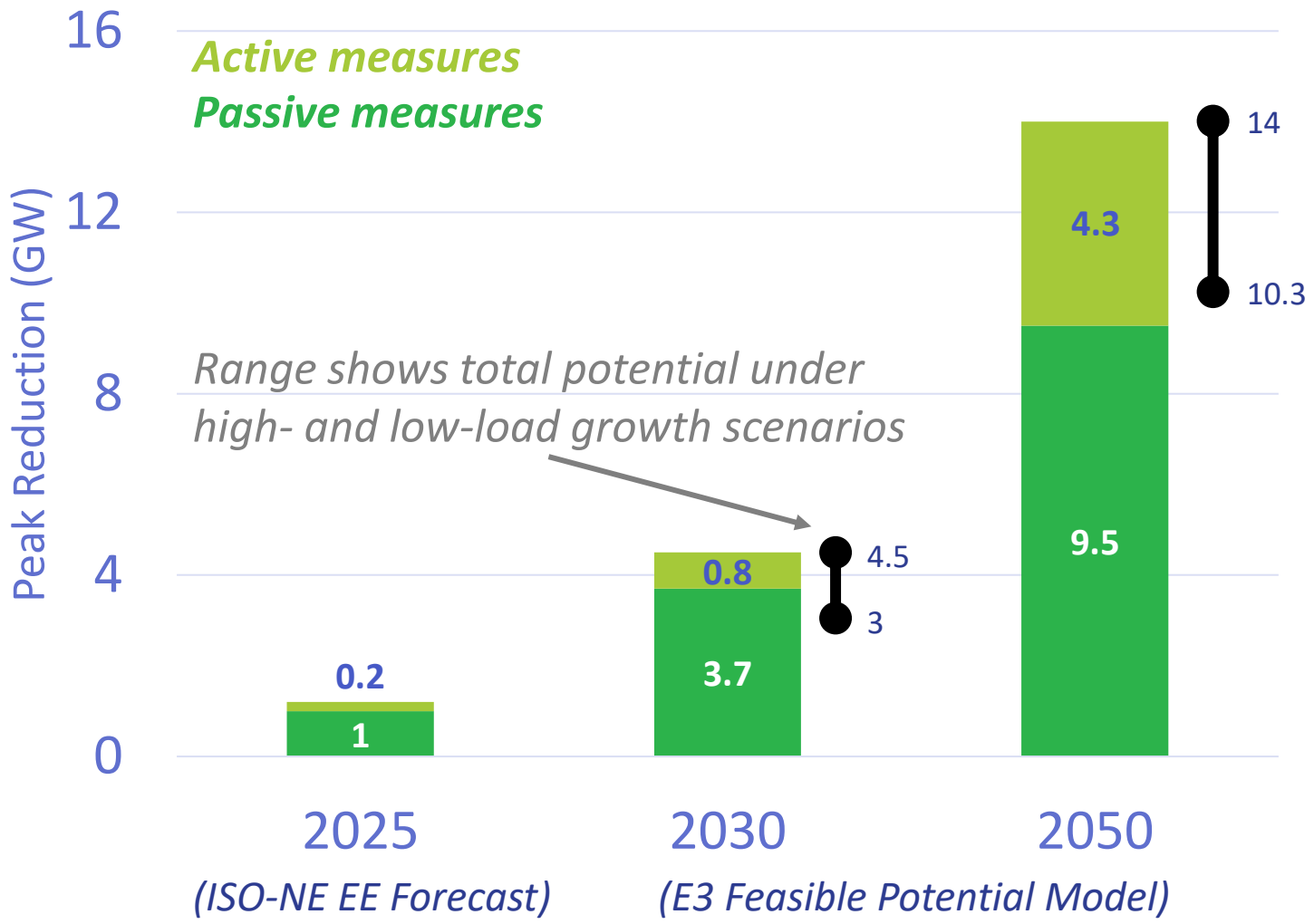
# Part 1: Technical Potential of Load Management

## Key technical findings

# Modeling approach



# Finding 1: EE, EVs, BTM storage, and heating flexibility can feasibly reduce peak by 4.5 GW in 2030 and 14 GW in 2050 (in MA)




*2030:* **4.5 GW** ($1.4 bn/yr)

*2050:* **14 GW** ($6.6 bn/yr)

Total MA peak reduction (savings)

CECP scenario w/ aggressive load management

This requires:

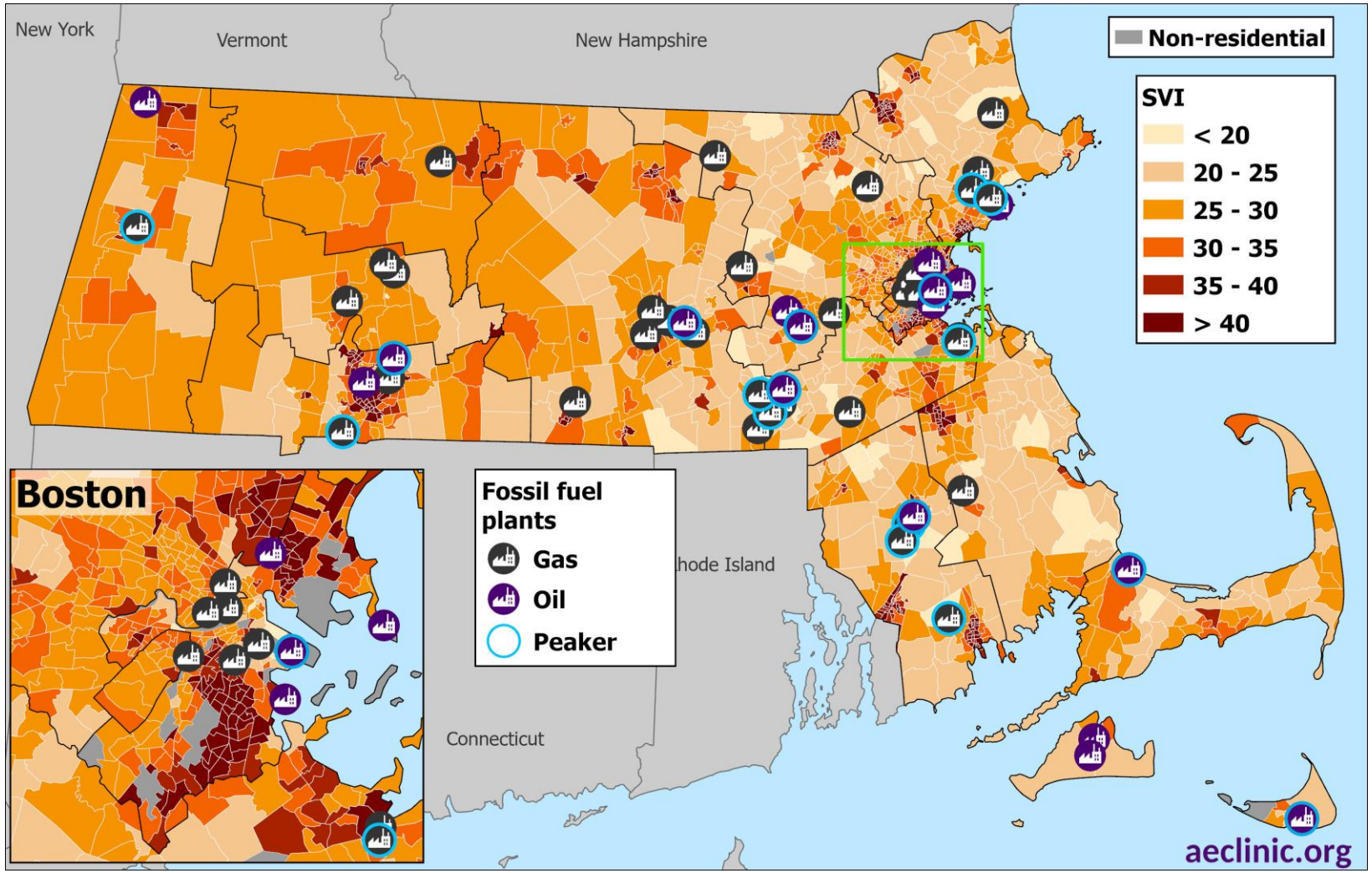
- 25% managed charging for LDEVs by 2030
  - 95% by 2050, including 50% V2G
- 200,000 new efficient housing units by 2030
  - 1.5 M by 2050 (per pathways report)
  - Sustain the current pace of retrofits
- 10% of households heating with GSHP by 2050

# Finding 2: Both passive and active measures can deliver significant benefits

| | *2030* | *2050* |
|---|---|---|
| Energy efficiency | 3.5 GW | 9.5 GW |
| EV management | 0.3 GW | 6.5 GW |
| Heating & residential appliance flexibility | 0.3 GW | 1.1 GW |

***Aggregation and cost-reflective prices can maximize benefits from active measures***

# Finding 3: Load management, with careful program design, can provide equity and resilience benefits



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# Part 2: Peak Potential Report

## Recommendations for unlocking the potential of load management

# DOER identifies 6 areas of policy action to realize this potential

***E3/AEC technical findings***

*2030:* **4.5 GW** ($1.4 bn/yr)

*2050:* **14 GW** ($6.6 bn/yr)

Total peak reduction (MA only)

(CECP scenario w/ aggressive load management)

***DOER policy recommendations***

| | |
|---|---|
| **EE** | Double-down on both retrofits and stretch codes for new construction (9.5 GW by 2050). |
| **EVs** | Active managed charging & vehicle-to-everything can deliver huge benefits (6.5 GW by 2050). |
| **Price signals** | Give customers tools to manage energy costs through TOU rates and demand response. |
| **Aggregation** | Support innovation in new technologies and products through customer-centric aggregations. |
| **Equity** | Minimize cost shift & reduce barriers to access for renters and LMI customers. |
| **Utility regulation** | Provide incentives for peak load reduction and require load flexibility in utility planning. |

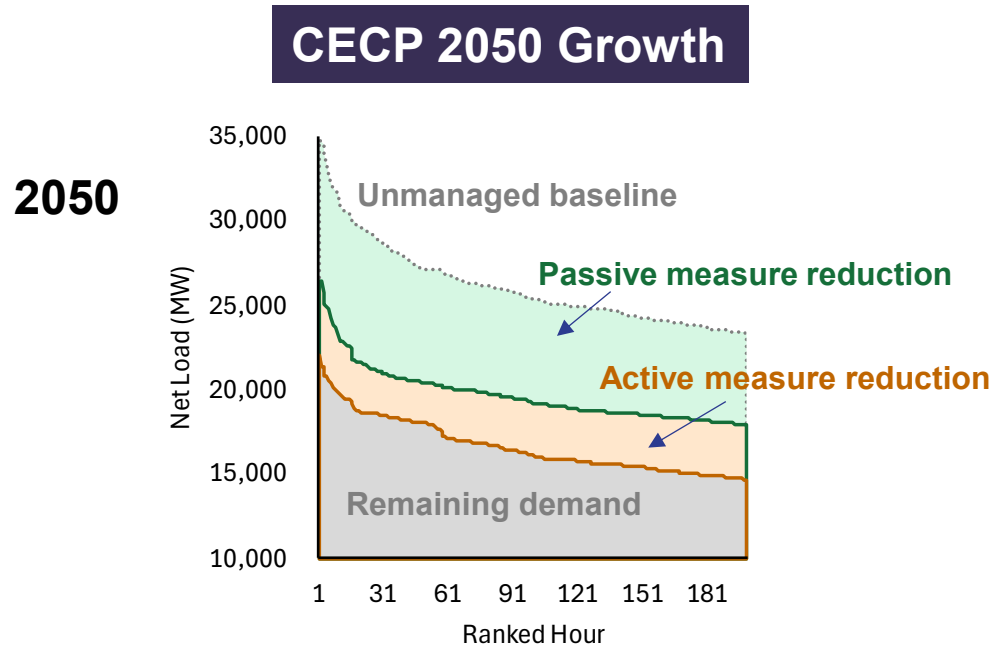
# 1: Sustain Massachusetts' lead on energy efficiency

Continue to invest in retrofits through Mass Save and efficient new construction/renovations through the stretch and specialized energy codes.

- **New Buildings**
  - Expand stretch code adoption
  - Accelerate development of efficient new buildings.
- **Existing Buildings**
  - Continue to invest in retrofits through MassSave
  - Include deep retrofits in gas-electric planning
- **Advanced heating**
  - Maintain pace of cold-climate ASHP deployment
  - Evaluate opportunities to support GSHP deployment

**Key technical finding:**
2.5-3.5 GW by 2030, 8-9.5 GW by 2050*
*From passive load management*

* Not all EE in E3's model is incremental to forecasts (e.g., stretch codes are incremental, but ccASHP are not)



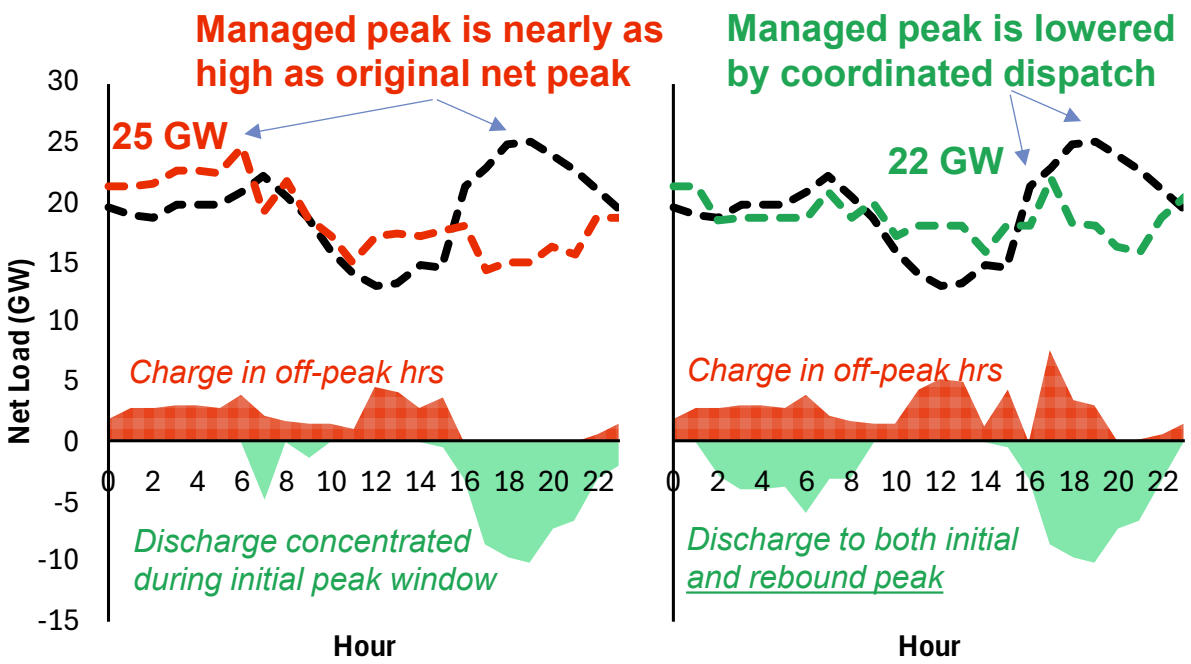
# 2: Scale EV load management as a no-regrets strategy

Invest in both managed charging (V1G) & vehicle-to-everything (V2X). Use active management to maximize benefits and minimize distribution grid impact.

- **V1G**
  - Scale residential programs (recently approved)
  - Develop programs for commercial customers
- **V2X**
  - Develop the "V2X trifecta" of interconnection, interoperability, and incentives
- **Active management**
  - Managed charging can stress the distribution grid. Existing technologies can avoid these issues, but utilities must adopt them.

**Key technical finding:**
50-300 MW by 2030, 2.5-6.5 GW by 2050**
*From **active** EV load management*

** 2050 EV potential includes both V1G and V2G/V2X

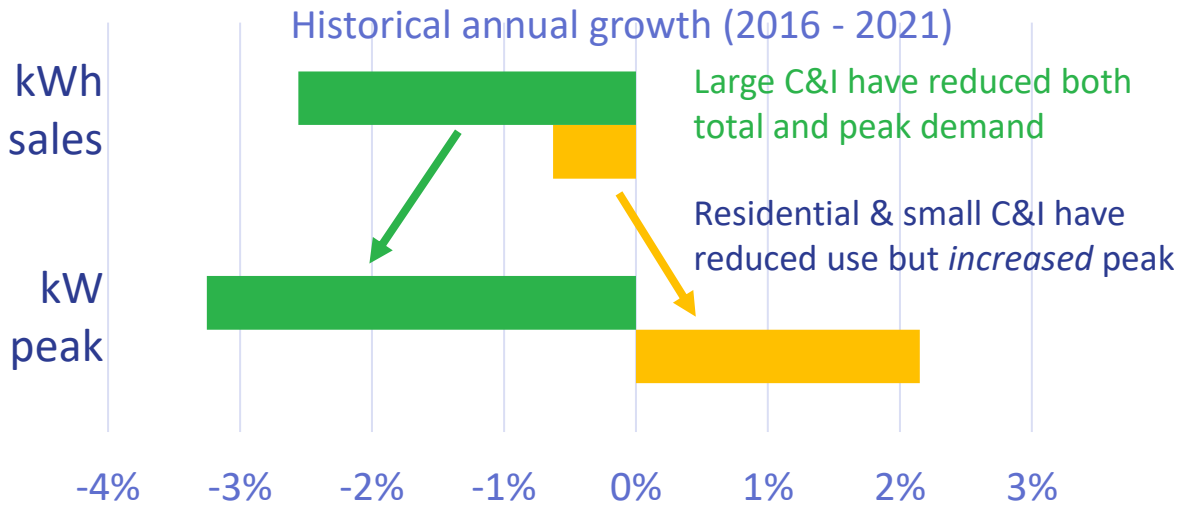


# 3: Pay customers for supporting the grid

Provide easy-to-use incentives like TOU rates and tech.-neutral demand response. Design programs to reduce friction and help customers save.

- **Default seasonal TOU rates**
  - As proposed by the Rates Task Force
- **Peak pricing & residential DR**
  - Complement TOU rates with technology-neutral incentives like whole-home demand response or CPP

**Key technical finding:**
100-250 MW by 2030, 0.75-1 GW by 2050
*From heating & non-EV residential loads*

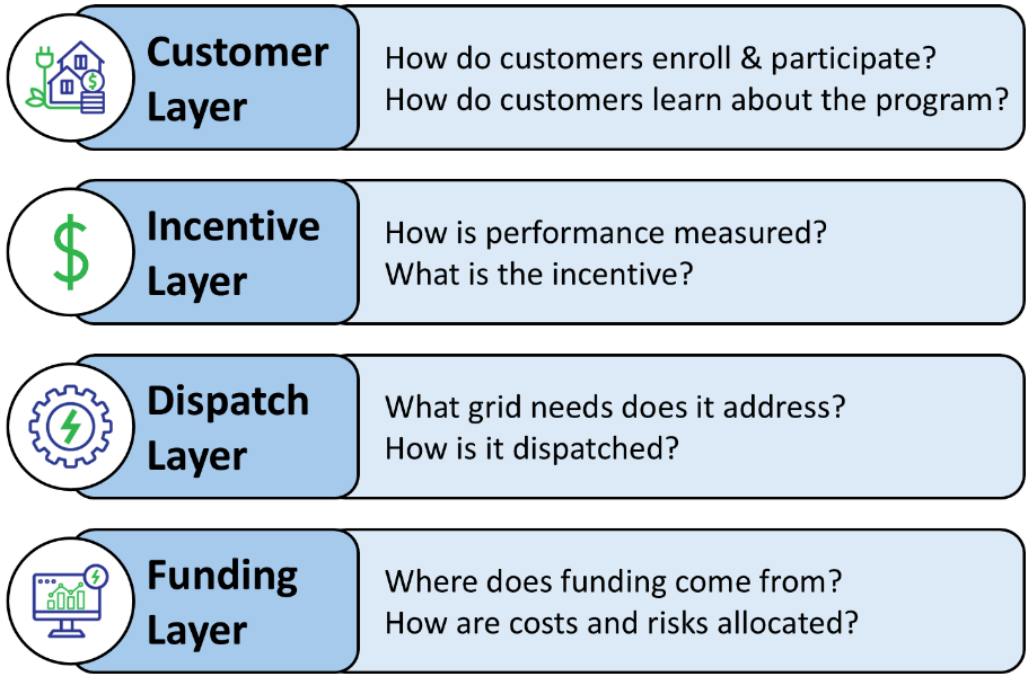


# 4: Support innovation in customer-centric aggregation

Support new load management technologies and product offerings. Leverage community-led energy innovation through the municipal aggregation model.

- **VPP-ready equipment**
  - Develop standards for flexible appliances
- **Customer-centric innovation & aggregation**
  - Support new technologies and business models to bundle load management with reduced supply costs
- **Increase retail/wholesale coordination**
  - Dispatch & operational coordination for reliability
  - Move towards increased wholesale participation

**Key technical finding:**
100-250 MW by 2030, 0.75-1 GW by 2050
*From heating & non-EV residential loads*

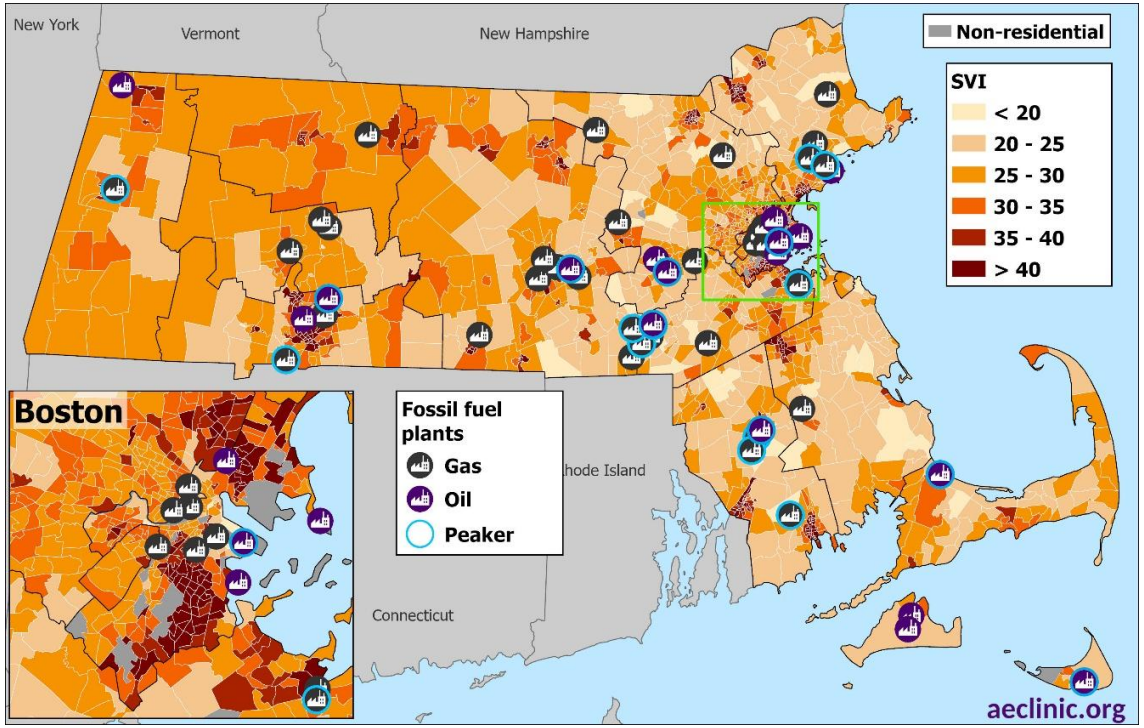


# 5: Ensure equitable access and distribution of benefits

Minimize cost shift from incentives, reduce barriers to access and DER ownership for renters and LMI customers, and focus outreach and education.

**Key technical finding:**
Rate and non-rate impacts of peak load fall heavily on low-income and EJ communities

- **Avoid cost shift**
  - Base compensation on provided benefits
- **Address barriers to participation (need for smart equipment, customer awareness and trust)**
  - Technology-neutral incentives reduce barriers for renters and LMI customers
  - Community outreach & education for new offerings can boost trust and participation
- **Support equitable distribution of benefits**
  - Up-front incentives for load management (e.g., EE, deep retrofits, storage)

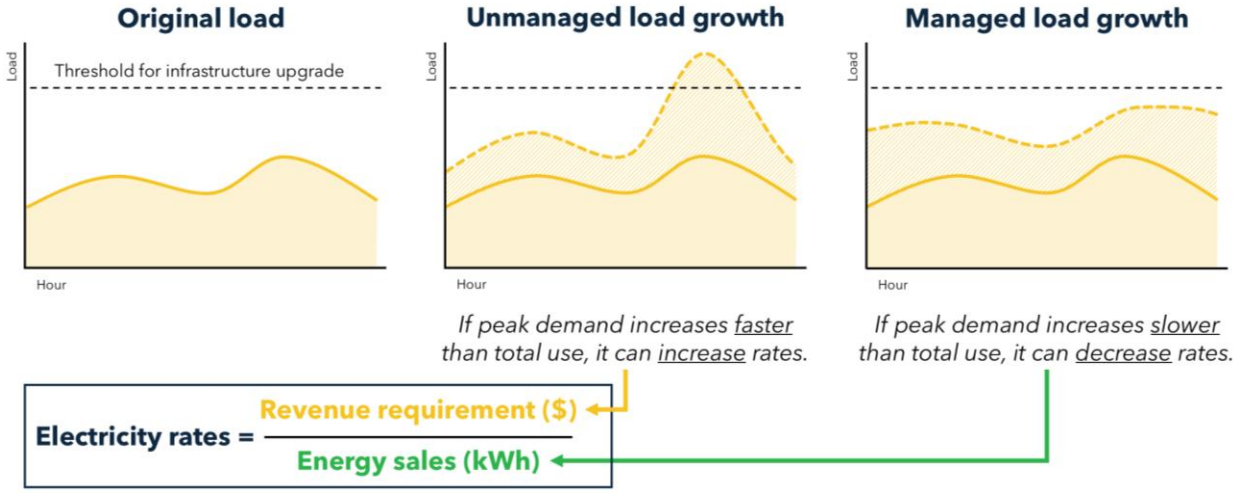


# 6: Align utility business models with load management

Design appropriate incentive mechanisms and regulatory frameworks.

**Key policy principle:**
Load growth is coming, managing it can increase throughput while decreasing peak, lowering rates.

- **Incentive mechanisms**
  - Load management PIMs in Rates Task Force straw proposal
- **Integrated planning**
  - Integrate load management into utility planning
  - Consolidate planning & cost recovery
- **Regulatory sandbox**
  - Provide a pathway to adoption for cost-saving new technologies

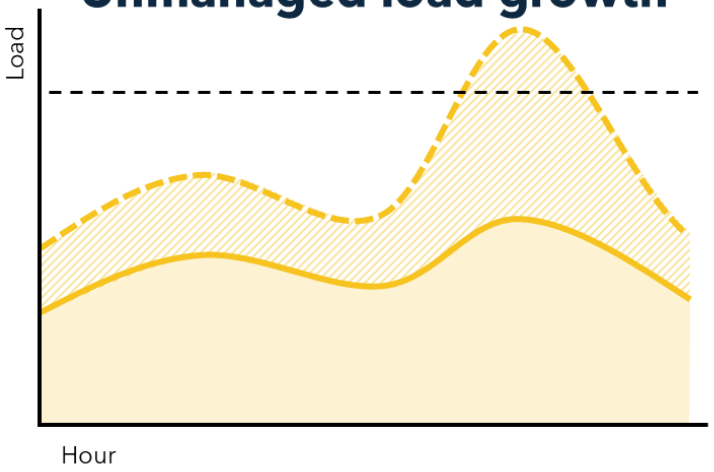


# Next steps

- DOER is accepting public comment through Feb. 9th, 2026.
- After reviewing comments, DOER will release a final report that will include a summary of stakeholder feedback.

*Please send comments to **charles.dawson@mass.gov***

## Unmanaged load growth

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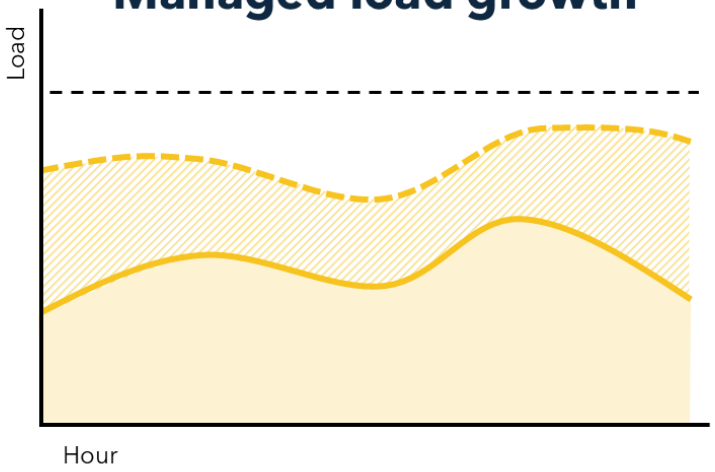
## Managed load growth

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100 Cambridge St. - 9th Floor - Boston, MA 02114

doer.energy@mass.gov
charles.dawson@mass.gov

x.com/massdoer

(617) 626-7300

https://www.mass.gov/info-details/peak-potential-load-management-for-an-affordable-net-zero-grid

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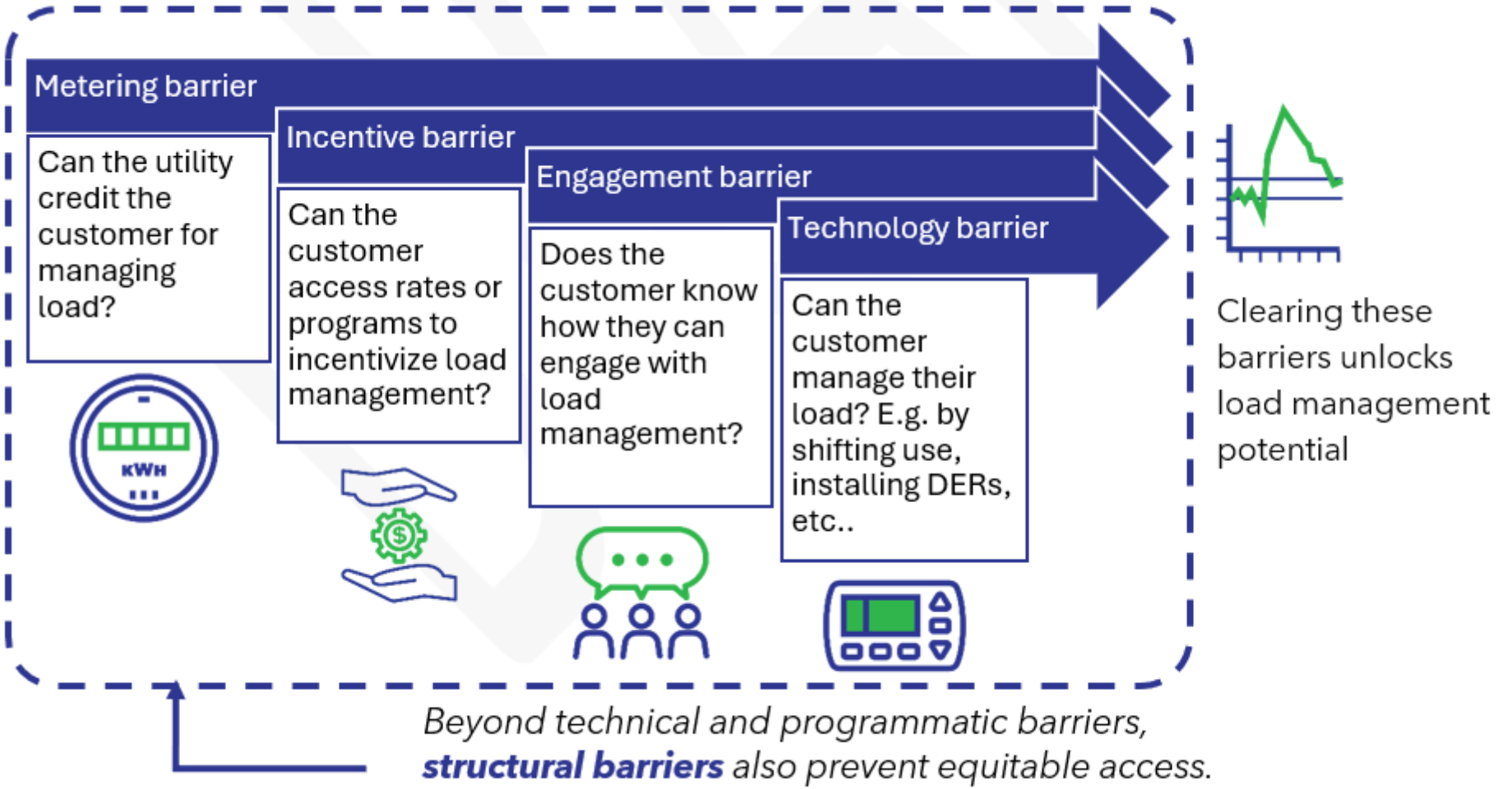
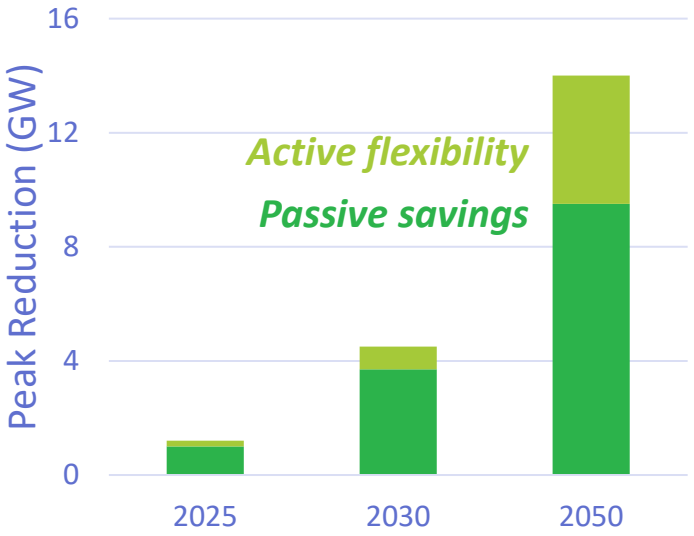
# Thank You!

**Figure 11: Barriers to load management participation in Massachusetts today.**



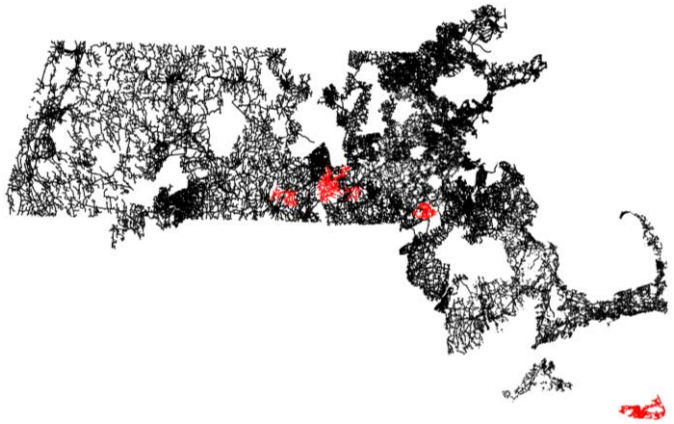
## Load management study

*How much flexibility is on the table, and how do we access it?*



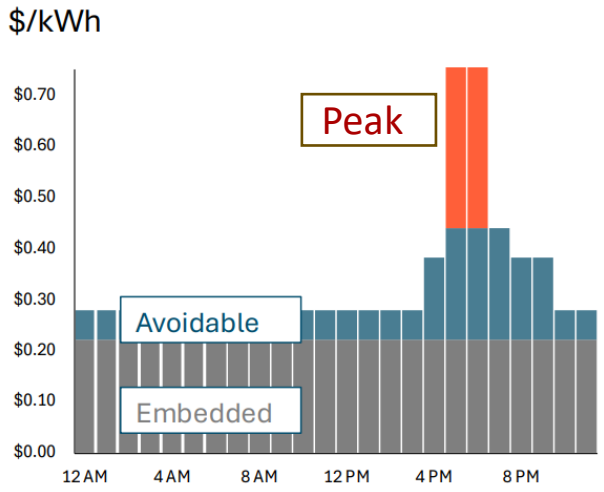

## Grid services study

*How do we value flexibility at the local level?*



## IRWG Long-term Ratemaking Study

*How should we reward customers for flexibility?*



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