MASSACHUSETTS INTERAGENCY RATES WORKING GROUP

A Collaboration to Advance Near- and Long-Term Rate Designs that Align with the Commonwealth's Decarbonization Goals

NEAR-TERM RATE STRATEGY REPORT DRAFT PRESENTATION – AUGUST 12, 2024

Executive Office of Energy and Environmental Affairs

MASSACHUSETTS CLEAN ENERGY CENTER®

DOER Massachusetts Department of Energy Resources

Office of the Attorney General Commonwealth of Massachusetts

AGENDA

I. IRWG Introduction & Background (15 minutes)

II. Presentation from E3 (45 minutes)

III. Public Comment (30 minutes)

CONTEXT & PURPOSE OF IRWG'S WORK

- Existing electric rates jeopardize the Commonwealth's clean energy goals as they remain a barrier to building and transportation electrification
- Massachusetts Interagency Rates Working Group (IRWG) was formed to **advance near- and long-term electric rate designs that align with the Commonwealth's decarbonization goals** by prioritizing the reduction of energy burden while incentivizing transportation and building electrification
  - Includes representatives from the Executive Office of Energy & Environmental Affairs (EEA), the Massachusetts Clean Energy Center (MassCEC), the Department of Energy Resources (DOER), and the Attorney General's Office (AGO)
  - The IRWG will determine appropriate next steps to support implementation; IRWG member organizations intend to advocate for implementation of electric rate designs aligned with their recommendations

OBJECTIVE AND PURPOSE OF NEAR-TERM RATES STRATEGY

- **Objective:** Address barriers to near-term electrification through rate design offerings available before electric consumers receive advanced metering infrastructure (AMI) meters
- **Purpose:** Intended to provide immediate benefits and incentives to consumers and accelerate the transition towards electrification
- **Focus:** Development and implementation of rate design strategies that can be deployed quickly to encourage electrification, with a focus on equitable and practical solutions to overcome existing barriers to electrification without waiting for widespread deployment of AMI meters

IRWG PROCESS

I. Near-Term Rates Strategy (May – Dec)

- Collect stakeholder feedback (May-June)
- E3 presents Near-Term Rates Strategy Draft Report (Aug 12)
- Collect stakeholder feedback on Near-Term Rates Strategy Draft Report (Aug)
- IRWG member organizations draft Near-Term Rates Strategy Recommendations (Aug-Dec)

II. Long-Term Ratemaking Study (Oct – Dec)

- Collect stakeholder feedback (Sept)
- E3 presents Long-Term Ratemaking Draft Study (Oct 28)
- Collect stakeholder feedback on Long-Term Ratemaking Draft Study (Oct-Nov)
- IRWG member organizations draft Long-Term Rates Study Recommendations (Oct-Dec)

III. Interagency Rates Working Group Recommendations (Dec 31)

- IRWG releases Near-Term Rates Strategy and Long-Term Ratemaking Study (E3) and accompanying Recommendations (IRWG member organizations), to include appropriate next steps to advocate for implementation of its recommendations in the Commonwealth

STAKEHOLDER ENGAGEMENT OPPORTUNITIES

IRWG will release recommendations at the end of the year; please register for engagement opportunities at IRWG's website

AUGUST

M	T	W	TH	F
			1	2
5	6	7	8	9
12 E3 Presentation of Draft Near-Term Rate Strategy Report (NTRSR)	13	14	15	16
19 EDC/MLP/ Supplier Workshop (NTRSR)	20	21	22 Consumer & Advocacy Workshop (NTRSR)	23 DG/DER Workshop (NTRSR)
26	27	28	29	30

SEPTEMBER

M	T	W	TH	F
2 Labor Day	3	4 Synthesis Workshop (NTRSR)	5	6 Public Comment Due on NTRSR Deck
9	10	11	12	13
16	17	18	19 At-Large Long-Term Ratemaking Study Workshop (LTRS)	20
23	24 Consumer & Advocacy Workshop (LTRS)	25	26	27 EDC/MLP/ Supplier Workshop (LTRS)
30 DG/DER Workshop (LTRS)				

STAKEHOLDER ENGAGEMENT OPPORTUNITIES

IRWG will release recommendations at the end of the year; please register for engagement opportunities at IRWG's website

OCTOBER

M	T	W	TH	F
	1	2	3	4 Synthesis Workshop (LTRS)
7	8	9	10	11
14 Indigenous Peoples Day	15	16	17	18
21	22	23	24	25
28 E3 Presentation of Draft Long-Term Ratemaking Study (LTRS)	29	30	31	

NOVEMBER

M	T	W	TH	F
				1 DG/DER Workshop (LTRS)
4	5 EDC/MLP/ Supplier Workshop (LTRS)	6	7 Consumer & Advocacy Workshop (LTRS)	8
11 Veterans Day	12	13 Synthesis Workshop (LTRS)	14	15 Public Comment Due on LTRS Deck
18	19	20	21	22
25	26	27	28 Thanksgiving Day	29

INTRODUCTION TO E3 PRESENTATION

- IRWG is requesting feedback on the **Near-Term Rate Strategy Draft Report** presented by E3
- Feedback will inform the Near-Term Rate Strategy Report prepared by E3
- The IRWG is hosting a workshop series to engage in dialogue with and between stakeholders on the draft Report
- **Written comments on the Near-Term Rate Strategy Draft Report are due by September 6, 2024 to give sufficient time for consideration and should be sent to Rates.WG@mass.gov**

Interagency Rates Working Group

Near-Term Rate Strategy Report Draft

August 12, 2024

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Energy+Environmental Economics

Outline

- Reminder of Study Approach
- Household Energy Use and Energy Burden
- Near-Term Rate Design Alternatives
- Implementation Considerations and Key Takeaways

Modeling explores diversity of bills with and without electrification under current and alternative rate designs

Building

- **Housing Type**
  Single Family, Multi-family (2+ units)
- **Size**
  Small (<1600 sqft), Large (>1600 sqft)
- **Vintage**
  Pre-1970, Post-1970
- **Region**
  Western MA, Central MA, Boston Area, Fitchburg, North Shore, Cape Cod
- **Baseline Heating Source**
  Gas, Electric Resistance, Heating Oil, Propane
- **Air Conditioning**
  None, Room or Central AC

Technology

- **Efficient Building Electrification**
  None, Whole Home Electrification incl. heat pump and building insulation upgrades
- **Vehicle Electrification**
  None, Electric Vehicle
- **Distributed Energy Resources**
  None, Rooftop Solar, Storage

To be developed for long-term rate analysis

Customer

- **Occupant Status**
  Renter, Owner
- **Bill Discount Program**
  No, Yes (if available)

Guiding Questions:

- *Which households face high energy burdens today?*
- *Which customers see largest bill increases from electrification?*
- *How would customer bills change under alternate rate designs?*

Household Energy Use and Energy Burden

Energy+Environmental Economics

Electrification entails significant changes to household energy profile and efficiency

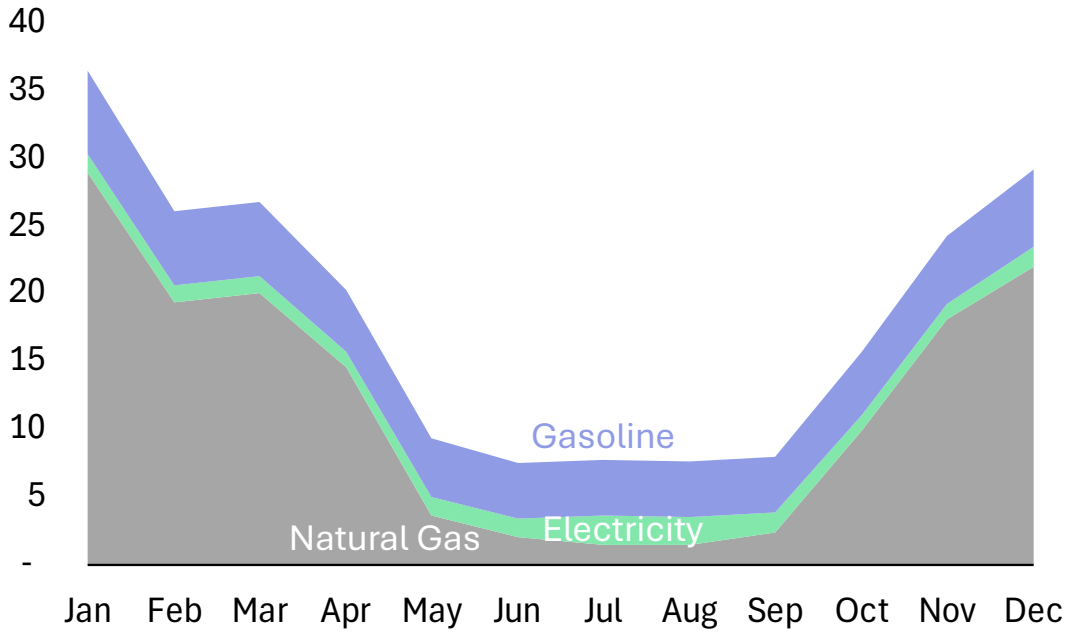
Multifamily Central MA Home - Baseline
Heated by Natural Gas, Gasoline Vehicle

Electric kWh/mo = **400 kWh***

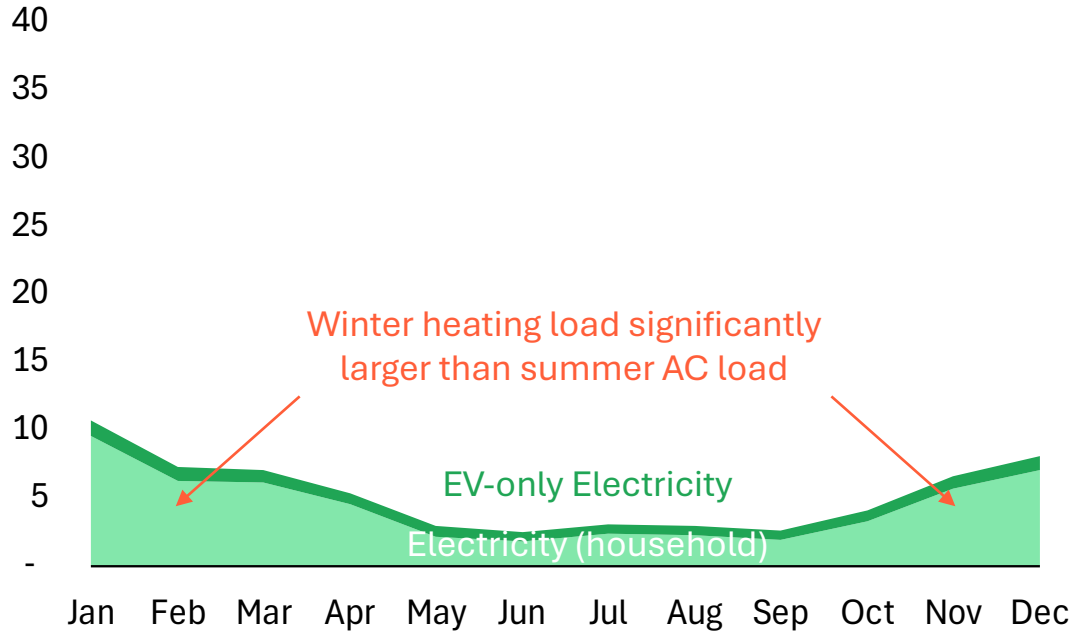
Multifamily Central MA Home - Electrified
All-Electric Home, Insulation Improvements, Electric Vehicle

Added electric kWh/mo: **850 kWh***(heat + appliances) + **250 kWh** (EV)
Total = **1,500 kWh**

Monthly Energy Consumption *(Incl. Vehicle Use)*
MMBtu/month

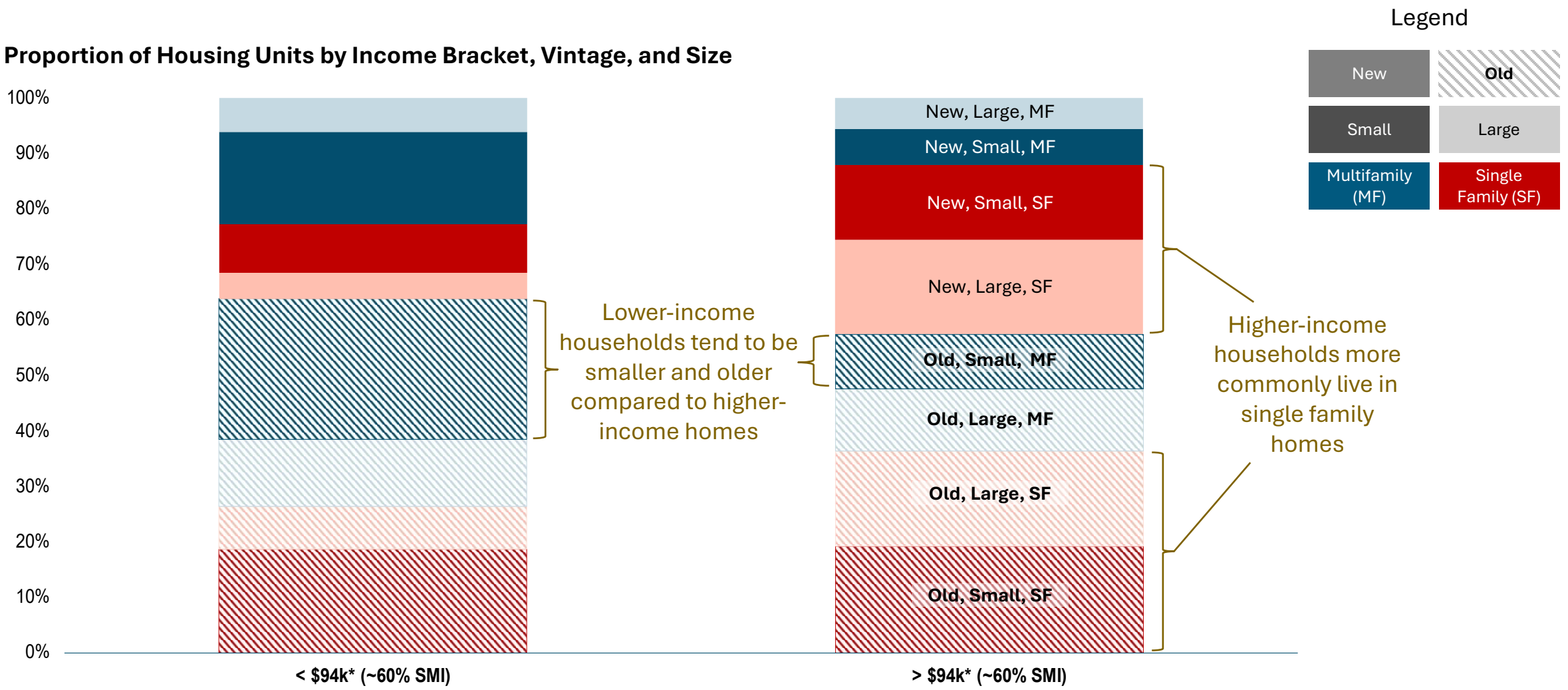


Monthly Energy Consumption *(Incl. Vehicle Use)*
MMBtu/month



*Prototype shown = 1,700 sqft home. Larger homes, incl. single family homes, have higher baseline electricity use and see proportionally higher increases with electrification.

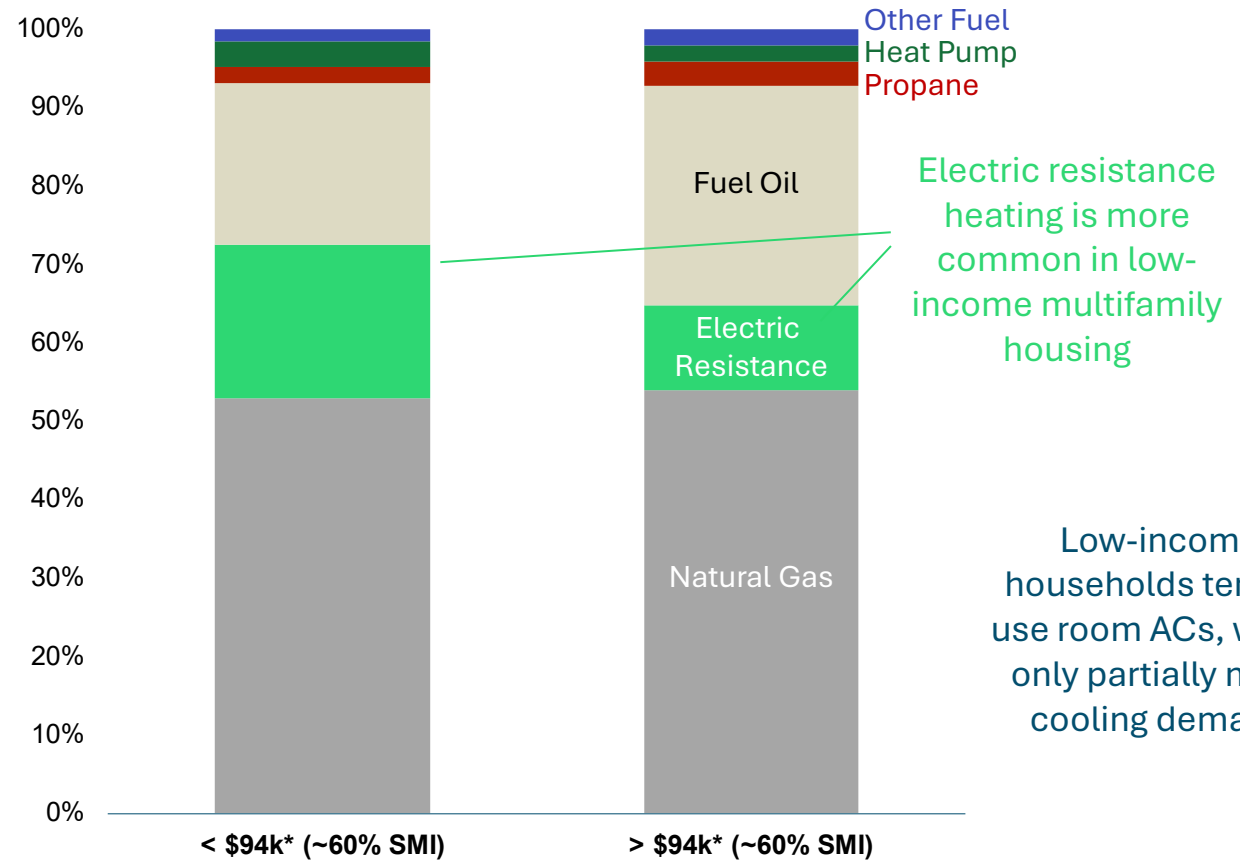
Lower income households tend to be older, smaller and in multifamily buildings



*for a four-person household

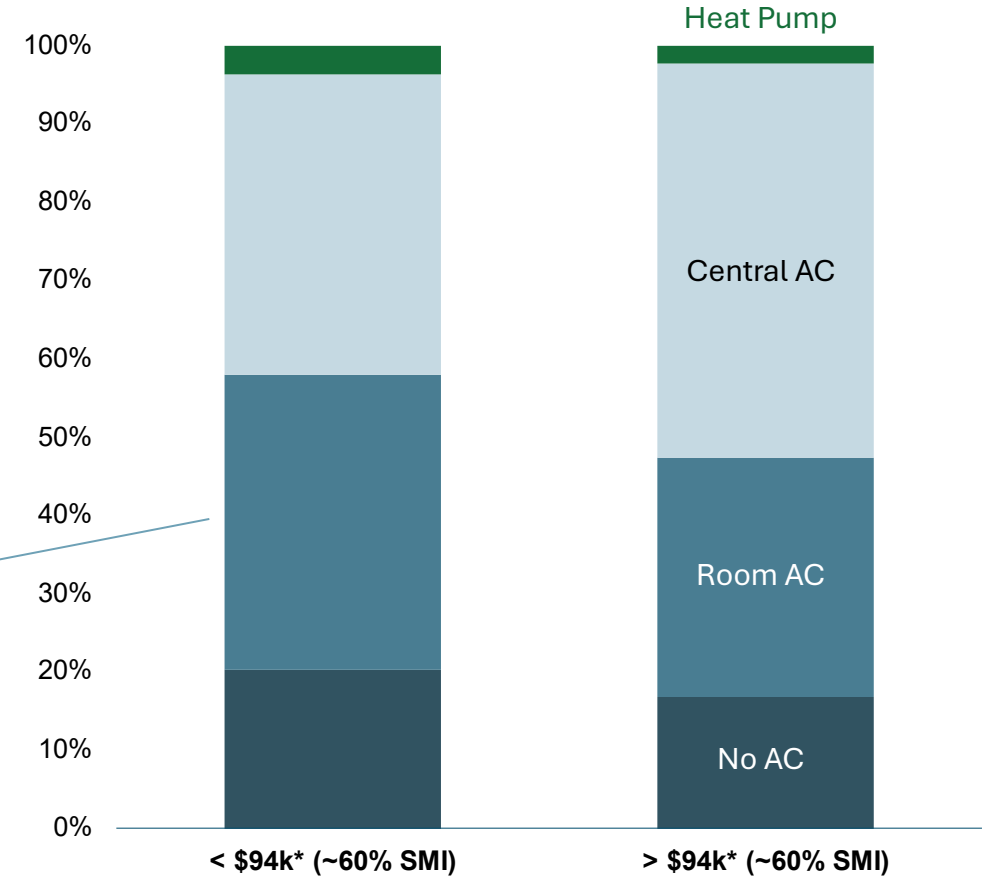
Low-income homes rely disproportionately on expensive electric resistance heating and lack central air conditioning

Heating Type Distribution by Income Level
% of households



Electric resistance heating is more common in low-income multifamily housing

Cooling Type Distribution by Income Level
% of households



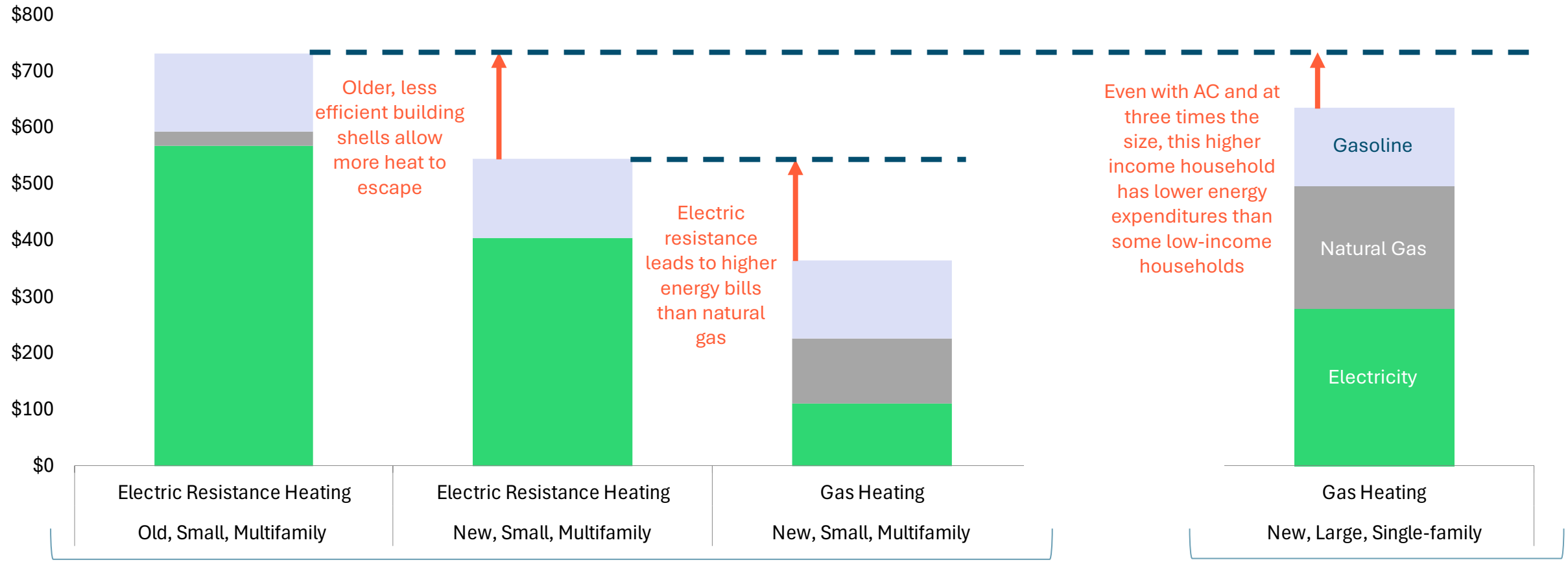
Low-income households tend to use room ACs, which only partially meet cooling demand

*for a four-person household

Older homes using electric resistance heating, common for low-income households, have higher energy costs

Average Monthly Energy Expenditures*

$/month

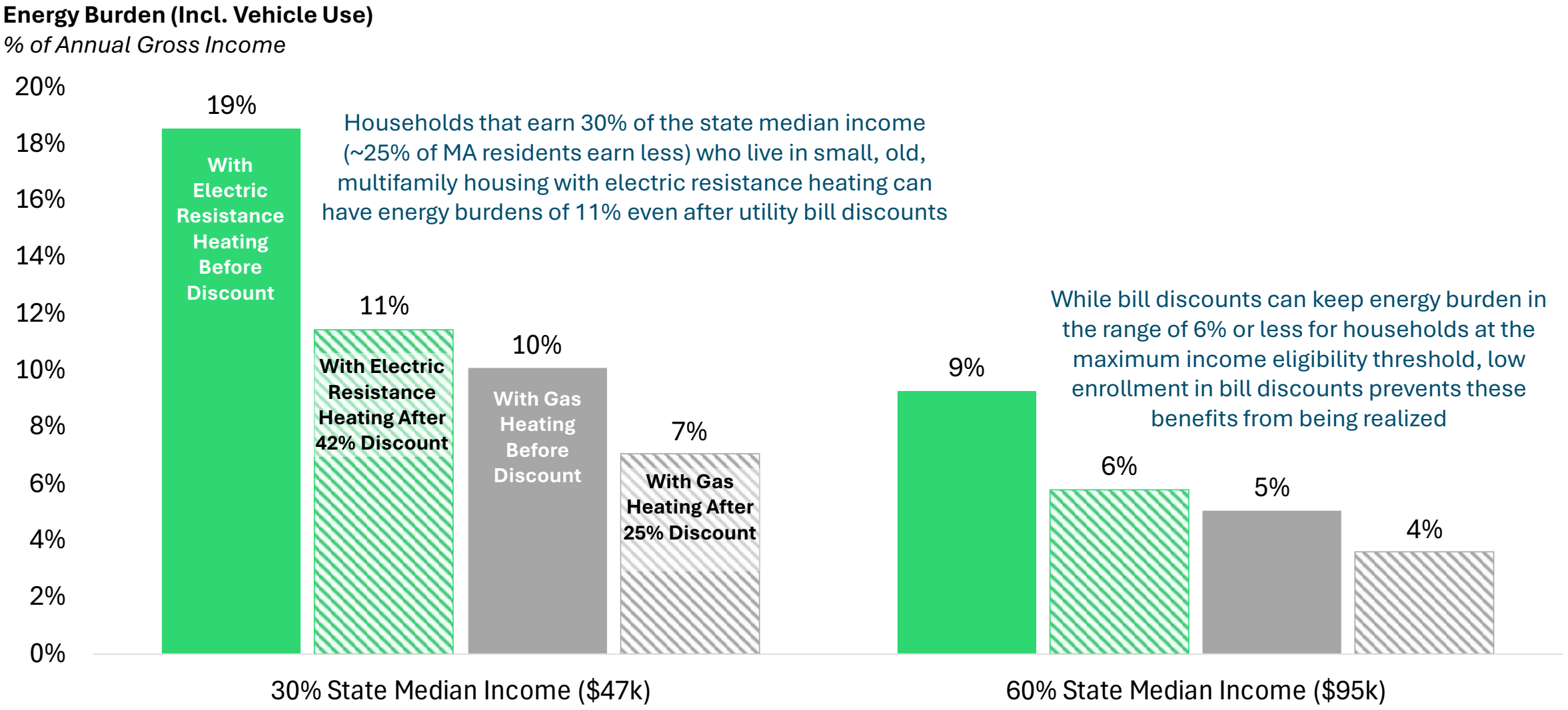


Representative low-income households, Normalized to 1,000 sq. ft and without AC

Representative higher income household, Normalized to 3,000 sq. ft and with AC

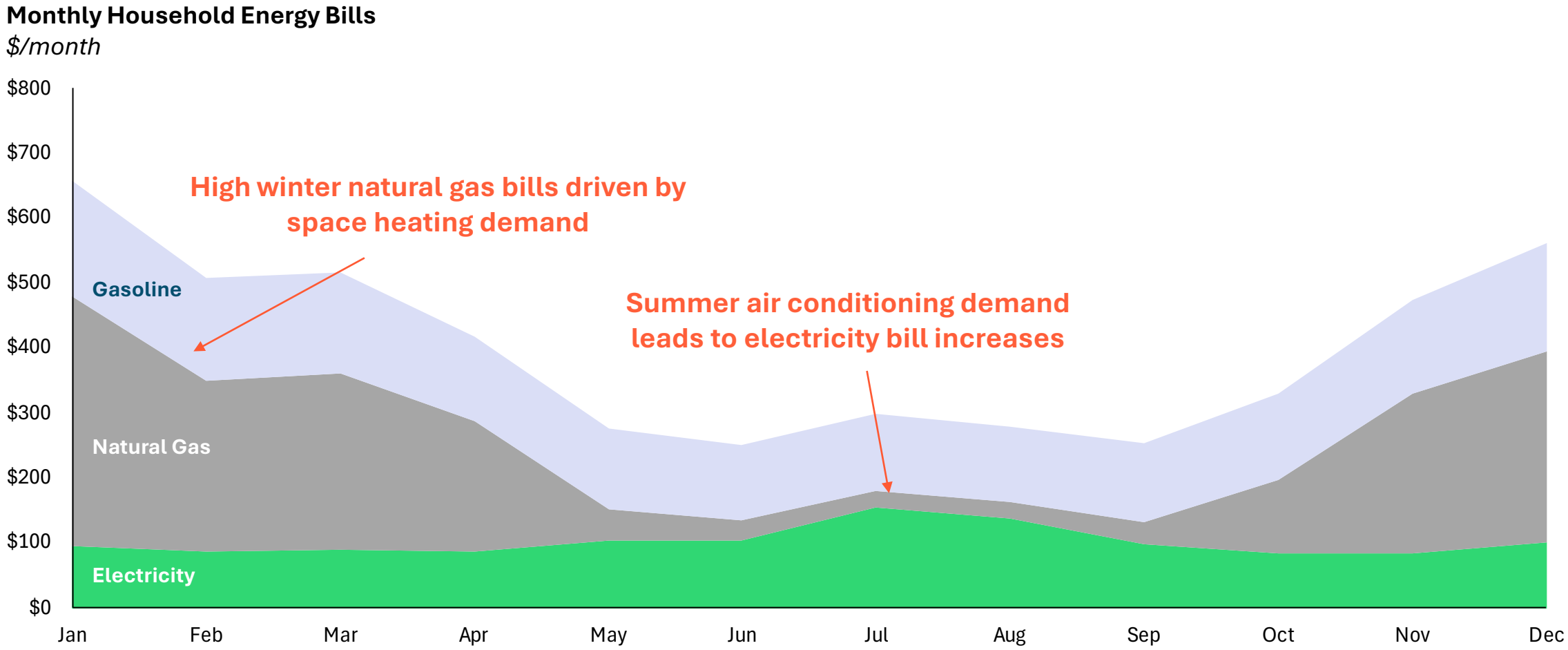
*Energy expenditures shown are before any utility bill discounts. The effect of bill discounts is shown in the next slide.

Bill discounts do not provide sufficient reduction in energy burden for lowest-income households



Seasonal volatility of energy bills presents challenge for low-income households

Low-Income Multifamily Home* with **Natural Gas Heating**
Including Bill Discounts



*1,700 sqft, Pre-1970s, Central MA, Room AC

Important considerations about low-income homes to inform rate and policy design

+ **Existing research documents low-income, Black, Hispanic, Native American, and older adult households having disproportionately high energy burdens both in the Boston metro area and nationally[1]**
  - Systemic inequities cause these factors to influence the likelihood of living in older, inefficient homes, as well as relying on electric resistance heating, all of which lead to high energy burdens
    - Additionally, these residents are more likely to rent rather than own their homes, facing high energy bills as a result since landlords have limited incentives to invest in energy efficiency
  - In addition to rate design considerations and utility programs, improving access to weatherization, energy efficiency, and housing opportunities could begin to mitigate these undue energy burdens
  - Low enrollment in bill discount programs[2] and higher participation in third party electric supply contracts (that can be more expensive than utility basic service) amongst low-income households can exacerbate energy burden
+ **Hidden energy poverty is caused by high energy costs affecting household decisions to use energy services (e.g., turning on the heat later in the season or maintaining a low thermostat setpoint in the winter)**
  - For example, black households experience a greater need for health services caused by low indoor temperatures[3]
  - Hotter summers and colder winters would exacerbate the health impacts of low-income households restricting cooling or heating energy use

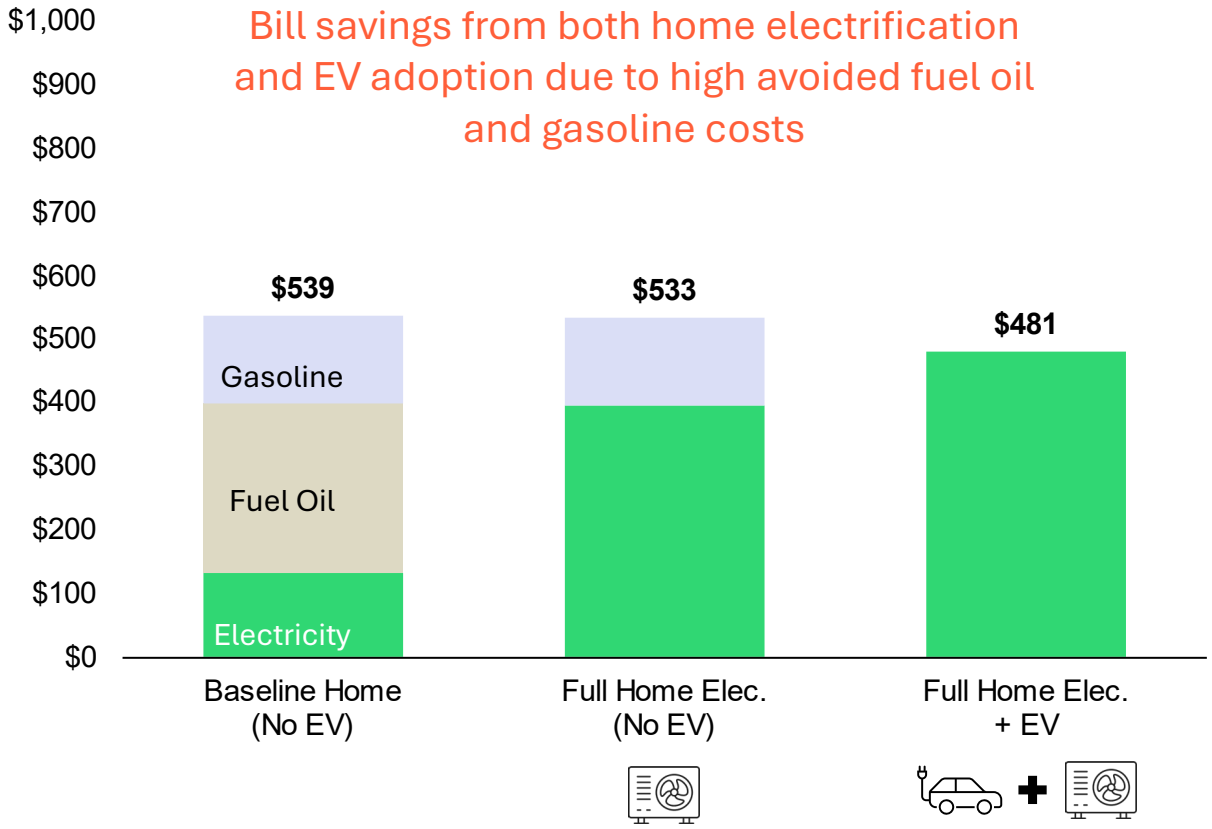
1. ACEEE. *"How High Are Household Energy Burdens? An Assessment of National and Metropolitan Energy Burdens across the U.S.?", Sept. 2020*
2. DPU 24-15. *"Comments of The Metropolitan Area Planning Council"*. March 2024.
3. DPU 24-15. *"Initial Joint Comments of Environmental and Consumer Advocates"*. March 2024.

Fuel oil customers see bill savings from home electrification

~26% of MA homes heated by fuel oil

Pre-1970 Home with Fuel Oil Heating, No Bill Discount*

Monthly Avg. Energy Expenditure (*Incl. Vehicle Use*)
$/mo



*1,100 sqft, Central MA, pre-1970 vintage, with room AC

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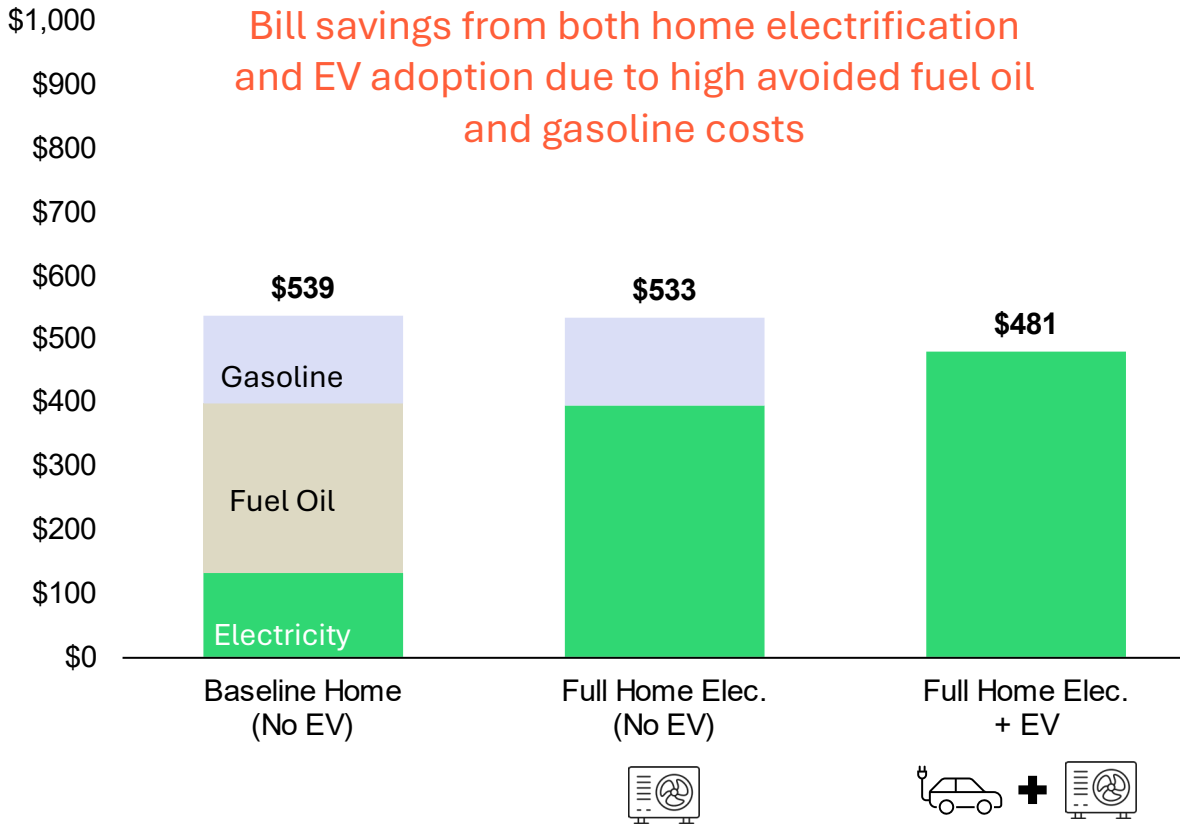
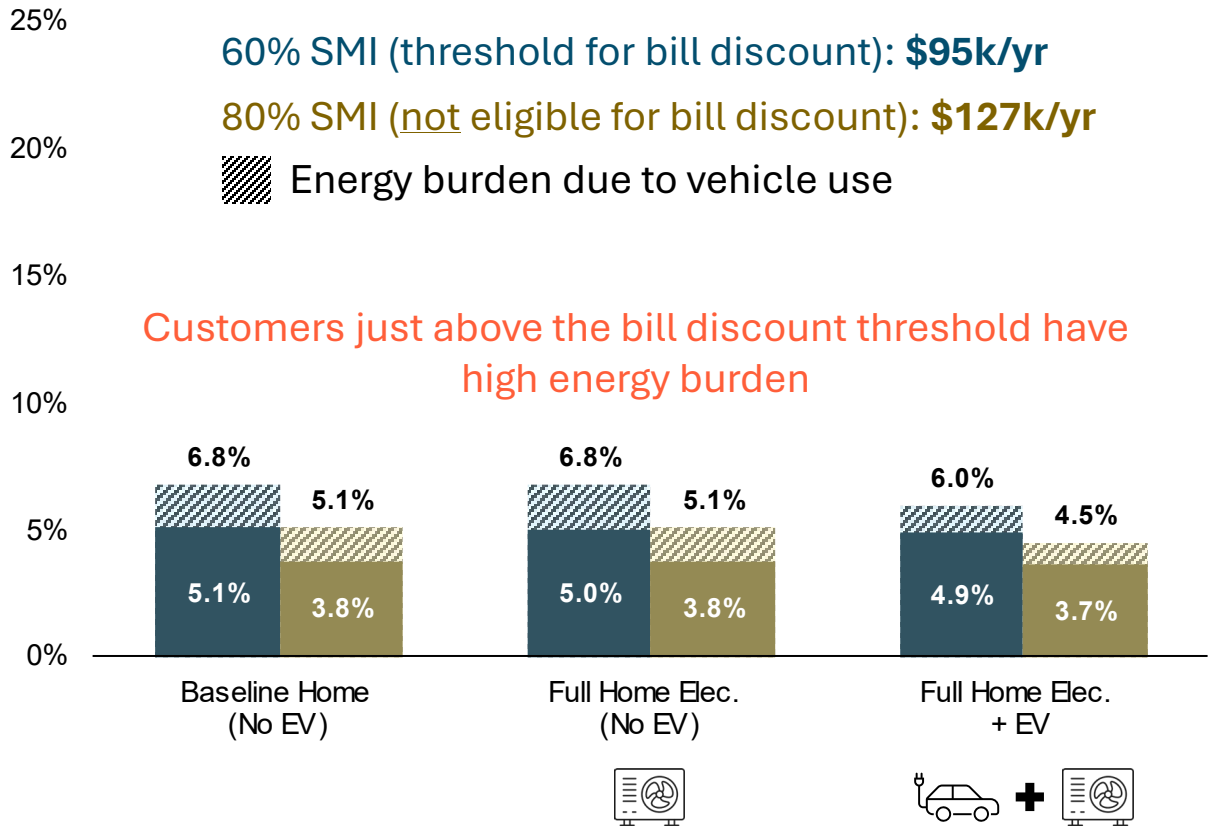


Monthly Avg. Energy Burden (*Incl. Vehicle Use*)
% monthly income**



*1,100 sqft, Central MA, pre-1970 vintage, with room AC

** *Commonly cited metric of 6% energy burden does not include personal vehicle use*

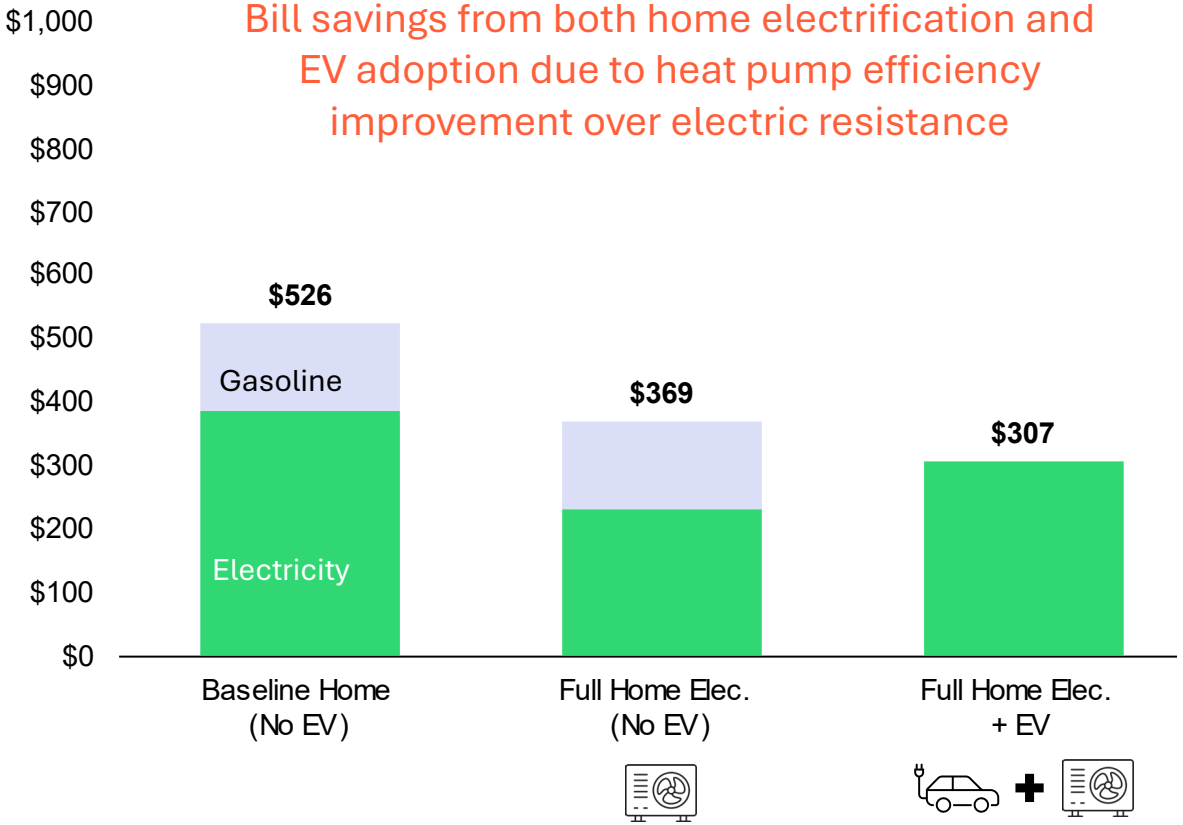
Heat pump efficiency gains drive bill savings for electric resistance customers

~13% of MA homes heated by electric resistance

Pre-1970 Home with Electric Resistance Heating, No Bill Discount*

Monthly Avg. Energy Expenditure *(incl. Vehicle Use)*
$/mo

Bill savings from both home electrification and EV adoption due to heat pump efficiency improvement over electric resistance

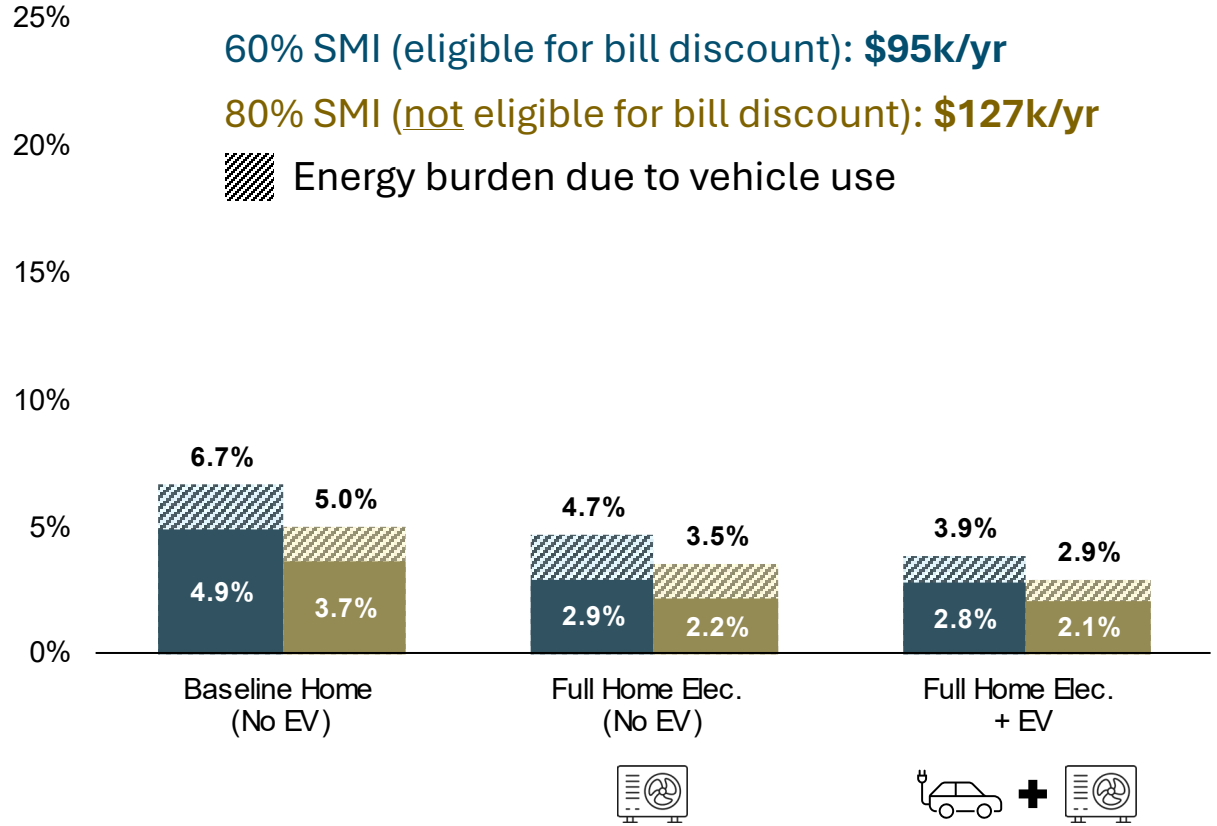


Monthly Avg. Energy Burden *(incl. Vehicle Use)*
% monthly income

60% SMI (eligible for bill discount): **$95k/yr**

80% SMI (not eligible for bill discount): **$127k/yr**

Energy burden due to vehicle use



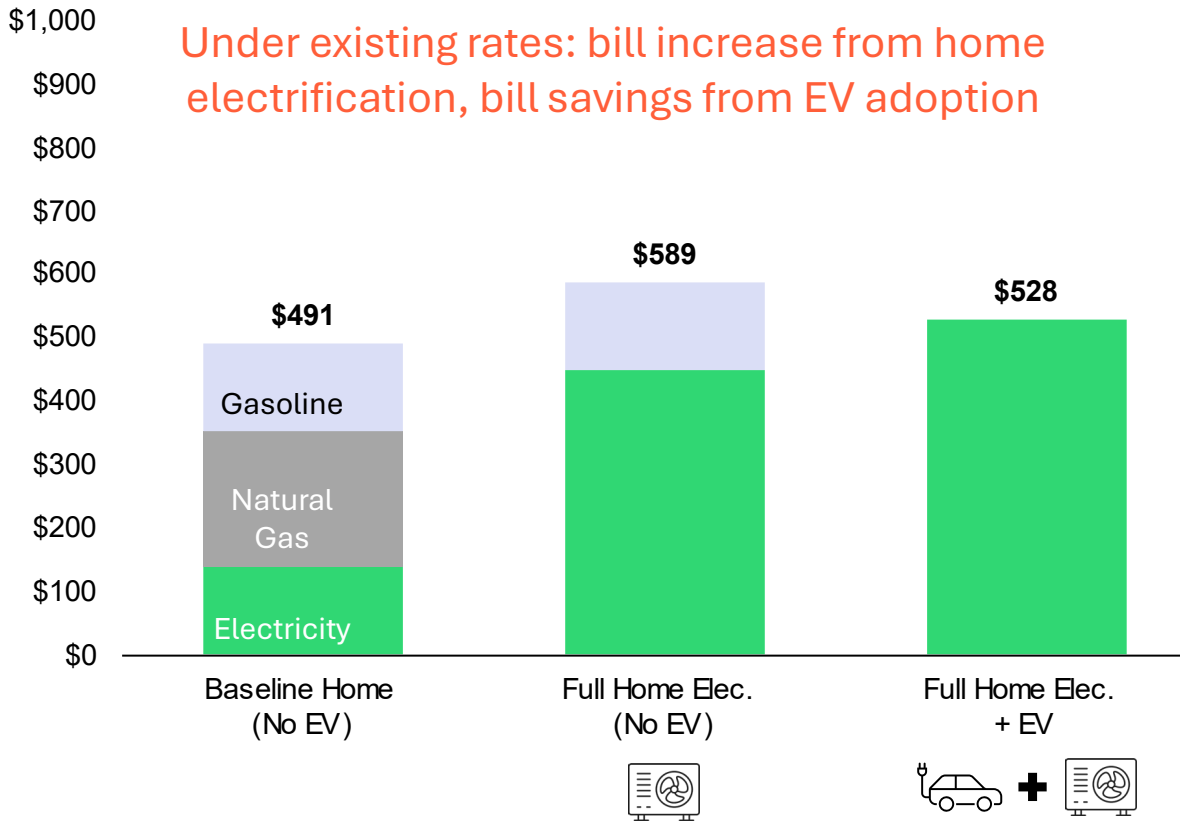
*850 sqft, Central MA, post-1970 vintage, with room AC

Natural gas customers face bill increases from electrification

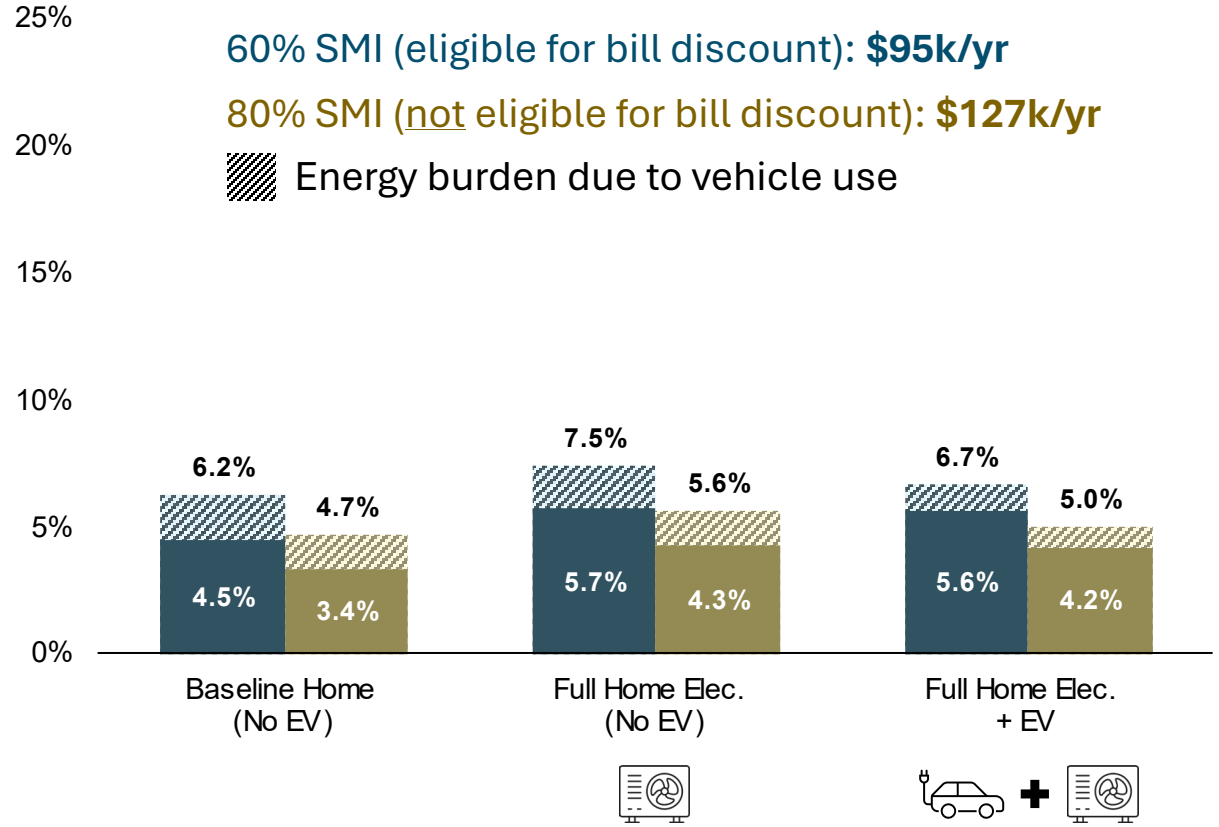
~54% of MA homes heated by natural gas

Multifamily Home* with Natural Gas Heating, No Bill Discount

Monthly Avg. Energy Expenditure *(incl. Vehicle Use)*
$/mo



Avg. Energy Burden *(incl. Vehicle Use)*
% monthly income



*1,700 sqft, Central MA, post-1970 vintage, with room AC

Near-Term Rate Design Alternatives

Energy+Environmental Economics

Core policy objectives have changed since the 1970s… How can rate design keep up?

1970s through 2000s
Conservation as the overarching policy goal

+ **Key rate design priority: *increase volumetric rates to incentivize energy conservation***
+ **Rate design approaches include:**
  - *Volumetric pricing*, with most costs recovered through a *volumetric* (c/kWh) charge
  - Very low *fixed charges*, as they do not encourage conservation
  - *Inclining block* pricing that increases the price of electricity at the margin

2020-2045:
Electrification as the overarching policy goal

+ **Key rate design priority: *decrease volumetric rates to decrease cost of heat pump usage and EV charging***
+ **Rate design approaches include:**
  - Higher *fixed charges* that reduce the *volumetric* (c/kWh) rate
  - *Declining block* pricing that decreases the price of electricity at the margin
  - *Seasonal rates* that reduce prices in winter
  - *Time-varying* rates that provide lower prices for flexible technologies
  - *Technology-specific* rates that reflect different charges for electrified customers

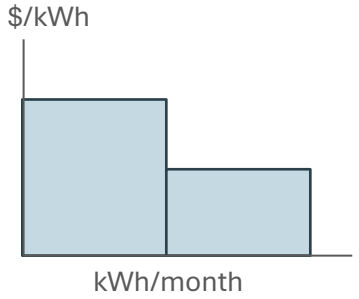
Near-term options rely on reducing volumetric charges

In the near term (*i.e.*, before advanced metering infrastructure or AMI is widely adopted), time-varying rates are not on the table. Near-term options will rely on reducing the volumetric component of rates

Lower volumetric rates → **Need to recover missing revenue elsewhere**

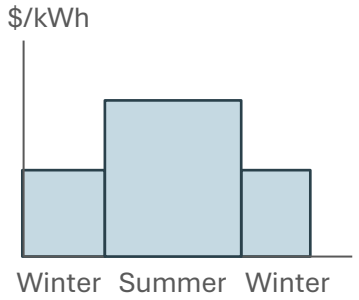
- + These elements are not mutually exclusive, and could be combined for even greater volumetric rate reductions
- + These rate designs could apply to **all** residential customers or could be offered as **technology-specific** rates for EV and/or heat pump owners
  - Technology-specific rates have the advantage of more closely aligning utility costs of service with customer bills for high usage customers

Declining Block
Charge less for usage beyond a certain level



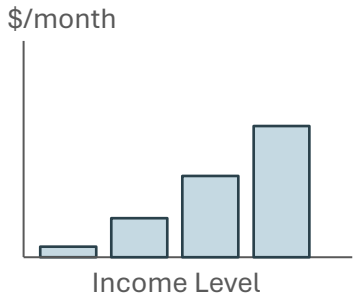
Costs that do not depend on usage are recovered in the first block of usage

Seasonal Rate
Differentiate summer vs winter charges



Many system costs are tied to summer peak loads (in near term)

Higher Fixed Charge
Increase fixed charges, perhaps based on income



Income graduation can help mitigate affordability concerns from fixed charges

Example rates w/ advanced design elements

Utility	Rate Description	Design Elements	Details
San Diego Gas & Electric	**Time-Varying-Rate (TVR)** for Electric Vehicles	TVR, technology-specific, higher fixed charge + lower volumetric rate	3-period time-of-use rate
Salt River Project (SRP)	Residential **Demand Price** Plan Pilot	TVR, demand charge, higher fixed charge + lower volumetric rate	Volumetric rate about ½ of SRP's base TOU plan, demand charge is tiered to incentivize peak reduction
Central Maine Power	**Seasonal Heat Pump** Pilot	Seasonal, technology specific	For customers with heat pumps, volumetric charge is deeply reduced from November to April, with higher fixed charge compared to basic service rate
Versant Power (Maine)	**Declining Block, Technology-Specific Rate**	Tiered rate (declining), technology-specific	Lower volumetric charge above 600 kWh/mo. 50% of home heating needs must come from heat pump
California Investor-Owned Utilities	**Income Graduated Fixed Charge** (IGFC)	Higher fixed charge, lower volumetric rate	$6 or $12 fixed charge for income-eligible customers, $24.15 for rest of state

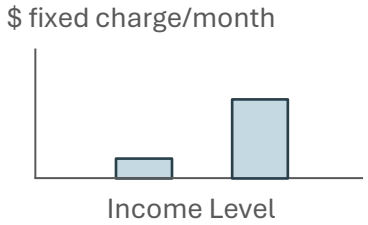
Four alternative rates were modeled to explore the impacts of different rate design levers

Existing Eversource rate (status quo):
$10/month fixed charge
34¢/kWh volumetric (17¢ delivery + 17¢ supply)

Each rate option (or lever) can be implemented without AMI and can be combined with other rate design levers

Option 1 — Higher Fixed Charge

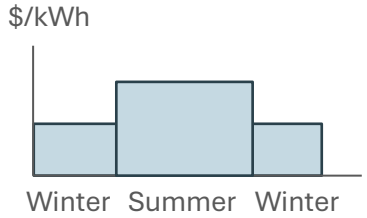
Fixed charge: **$30** (+$20/month)
Volumetric rate: **30¢/kWh** (-4¢/kWh)
$30/mo fixed charge is similar to peer jurisdiction levels and is roughly equivalent to other delivery costs collected via volumetric rates*



Income graduation limited to current utility bill discount in this analysis

Option 2a — Seasonal

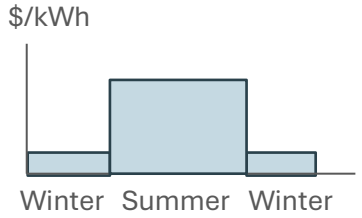
Summer rate: **37¢/kWh** (+3¢/kWh)
Winter rate: **29¢/kWh** (-5¢/kWh)
60% of utility delivery costs recovered in summer rate



Many system costs are tied to summer peak loads (in near term) – this option differentiates only base distribution costs

Option 2b — Seasonal (Electric Heating)

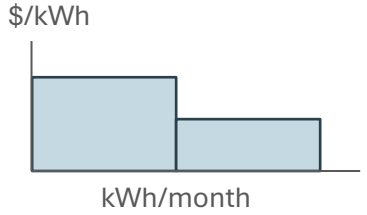
Summer rate: **42¢/kWh** (+8¢/kWh)
Winter rate: **16¢/kWh** (-18¢/kWh)
100% of utility delivery costs recovered in summer rate



This option expands on Option 2a by also differentiating other delivery charges between seasons

Option 3 — Declining Block (Electric Heating)

Tier 1 rate: **34¢/kWh** (+ 0 to 1¢/kWh)
Tier 2 rate: **17¢/kWh** (-17¢/kWh)
100% of utility delivery costs recovered in first tier (500 kWh/mo)



Costs that do not depend on usage already recovered in the first block of usage

*California Public Utilities Commission approved a $24.15 fixed charge for non income-eligible bill discount ratepayers in 2024

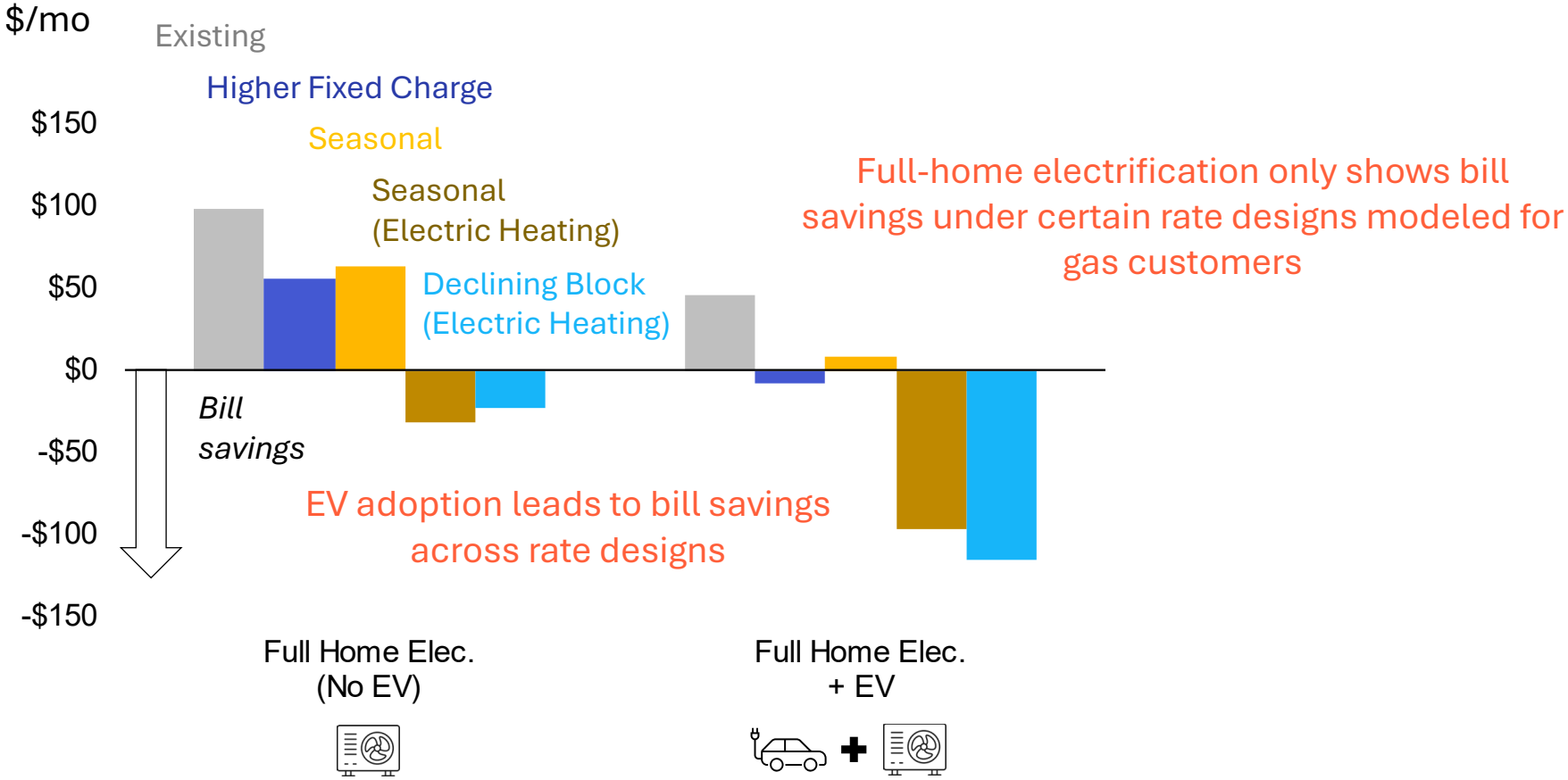
Heat pump rates can unlock bill savings for electrifying natural gas customers

Multifamily, Central MA, Room AC, 1700 sqft

~54% of MA homes heated by natural gas

Home with Natural Gas Heating, No Bill Discount

Change in Monthly Avg. Energy Expenditure, Relative to Fossil Baseline



Full-home electrification only shows bill savings under certain rate designs modeled for gas customers

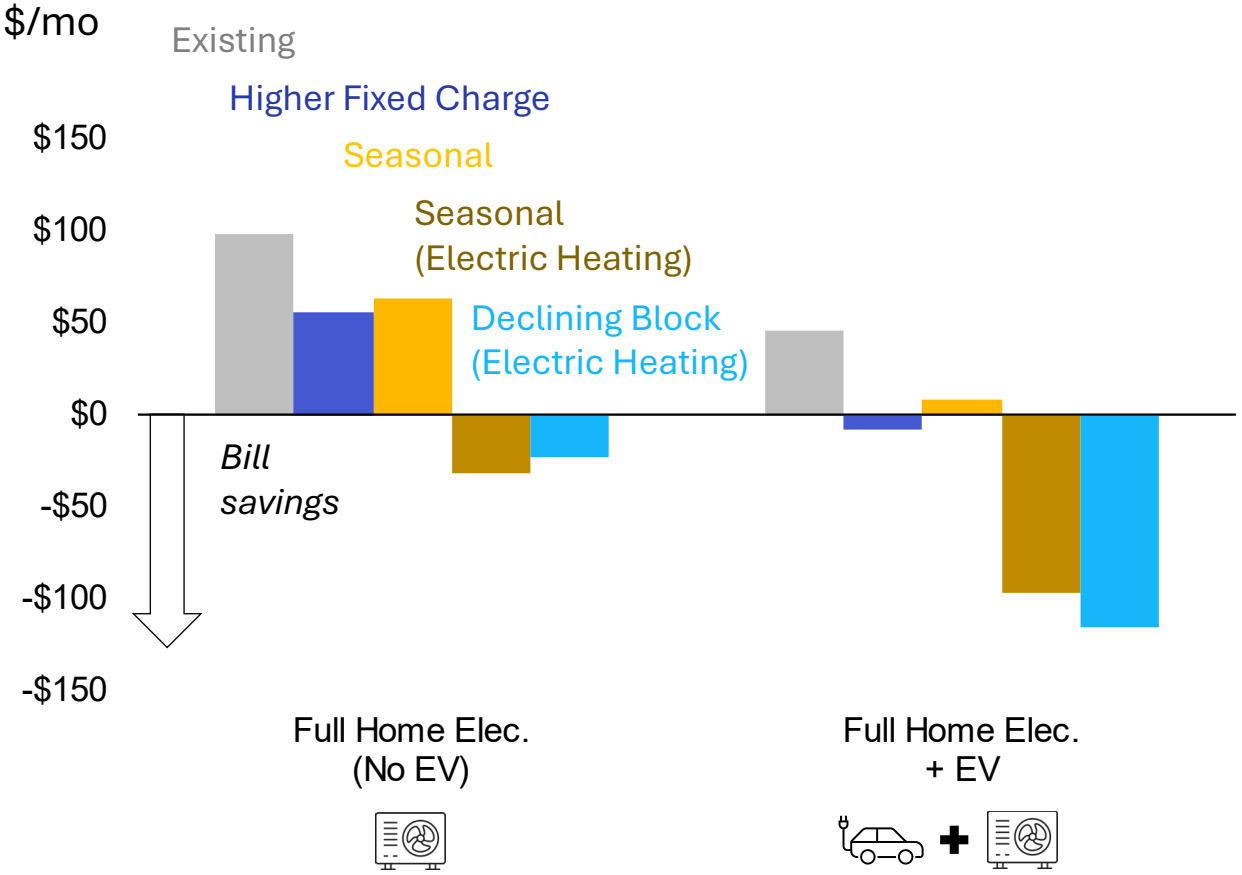
Universal rate design changes may lead to modest bill increases for non-electrifying customers

Multifamily, Central MA, Room AC, 1700 sqft

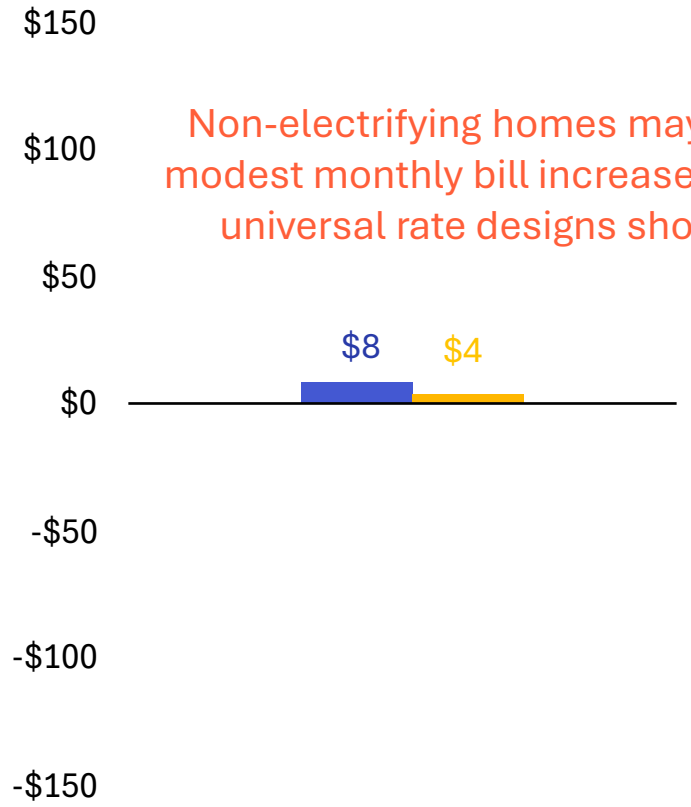
~54% of MA homes heated by natural gas

Home with Natural Gas Heating, No Bill Discount

Change in Monthly Avg.* Energy Expenditure, Relative to Fossil Baseline



Change in Monthly Avg. Energy Expenditure, Relative to Existing Rates ($/mo)

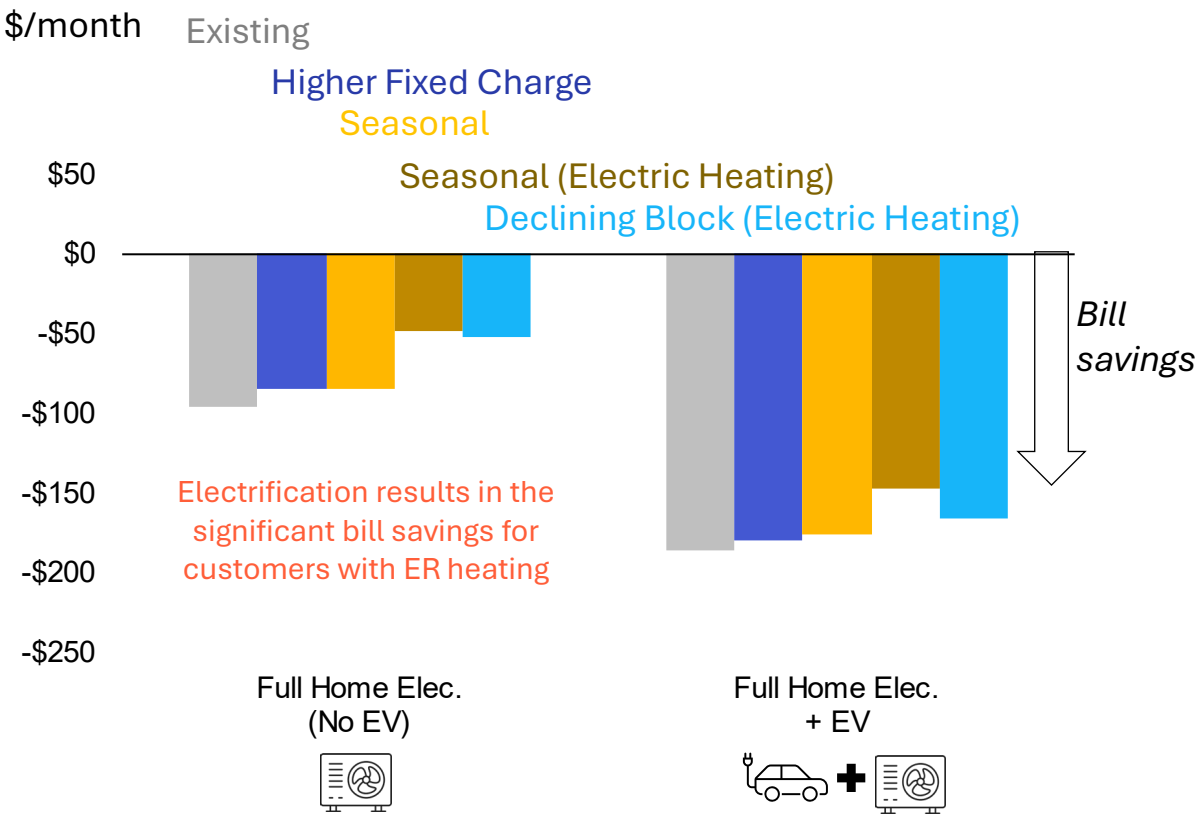


*Later slides highlight monthly bill impacts to show rate design lever impacts on bill volatility

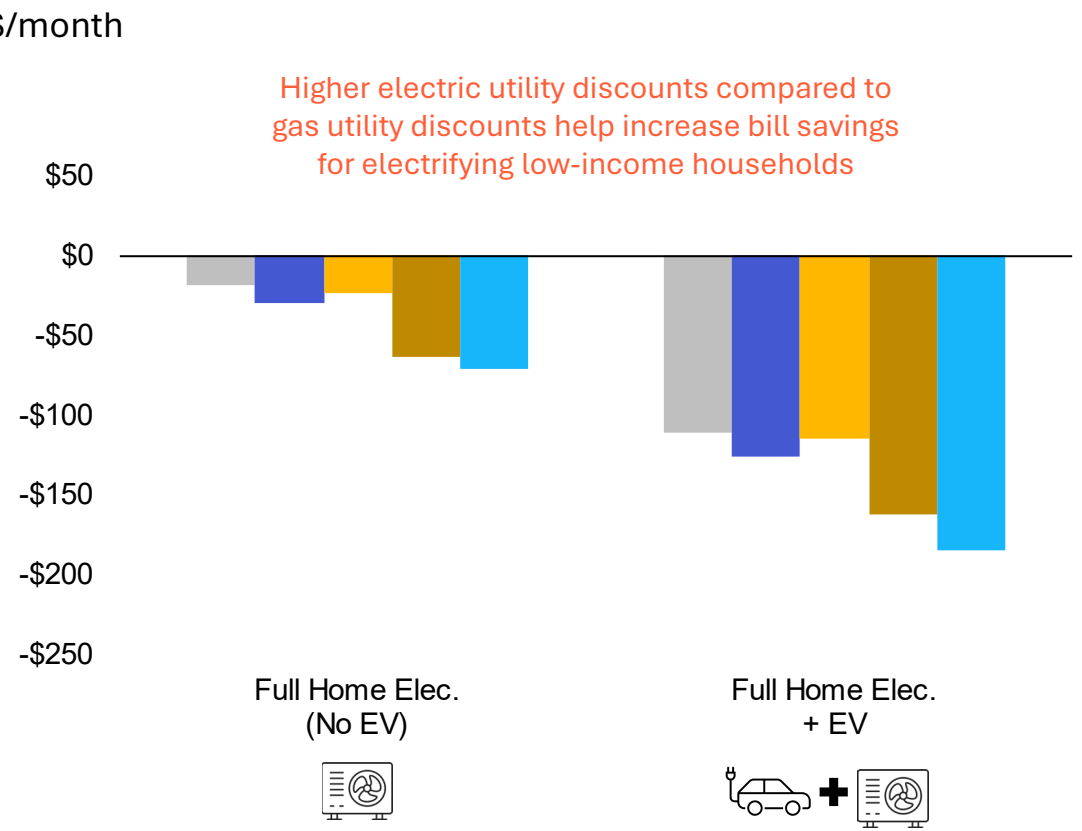
Modeled rate designs would yield significant benefits for low-income homes regardless of existing heating fuel

Change in Monthly Avg. Energy Expenditure for Electrifying Low-Income Customers, Relative to Baseline Heating

Pre-1960s Multifamily, Electric Resistance (ER) Heating (623 ft²)
Boston (Eversource)



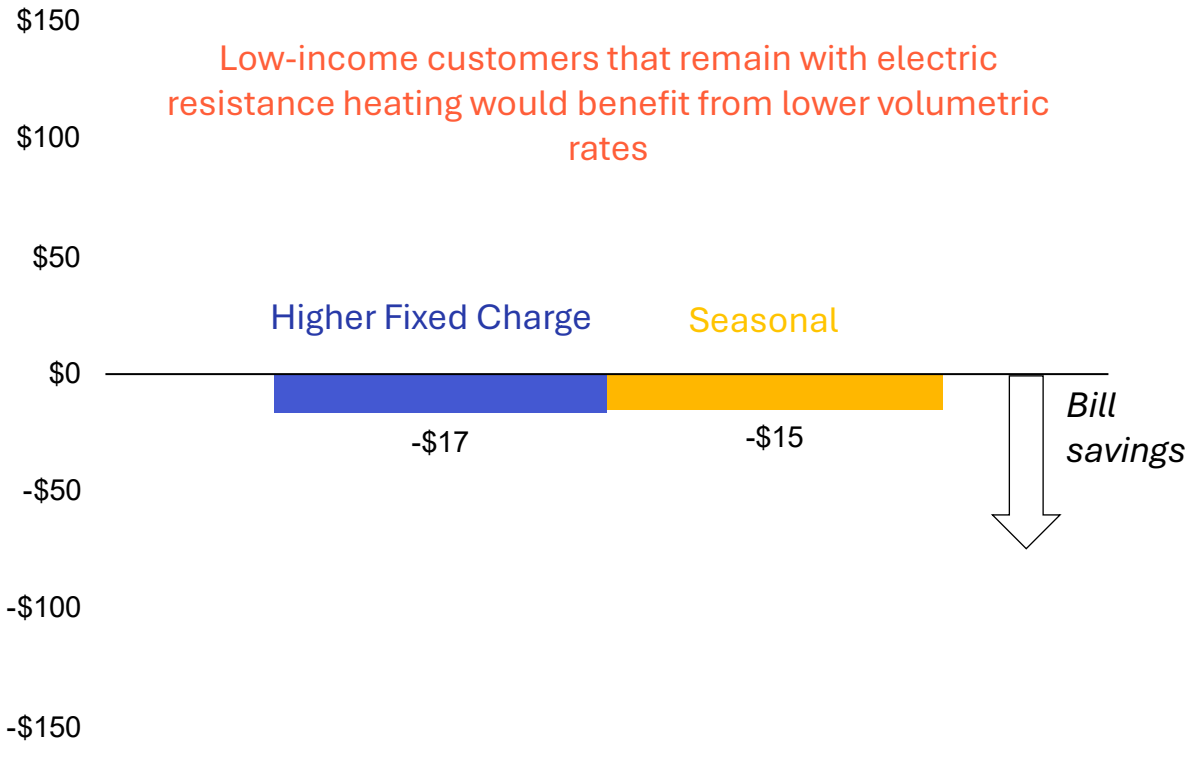
Pre-1960s Single Family, Gas Heating (1,228 ft²)
Western MA (Eversource)



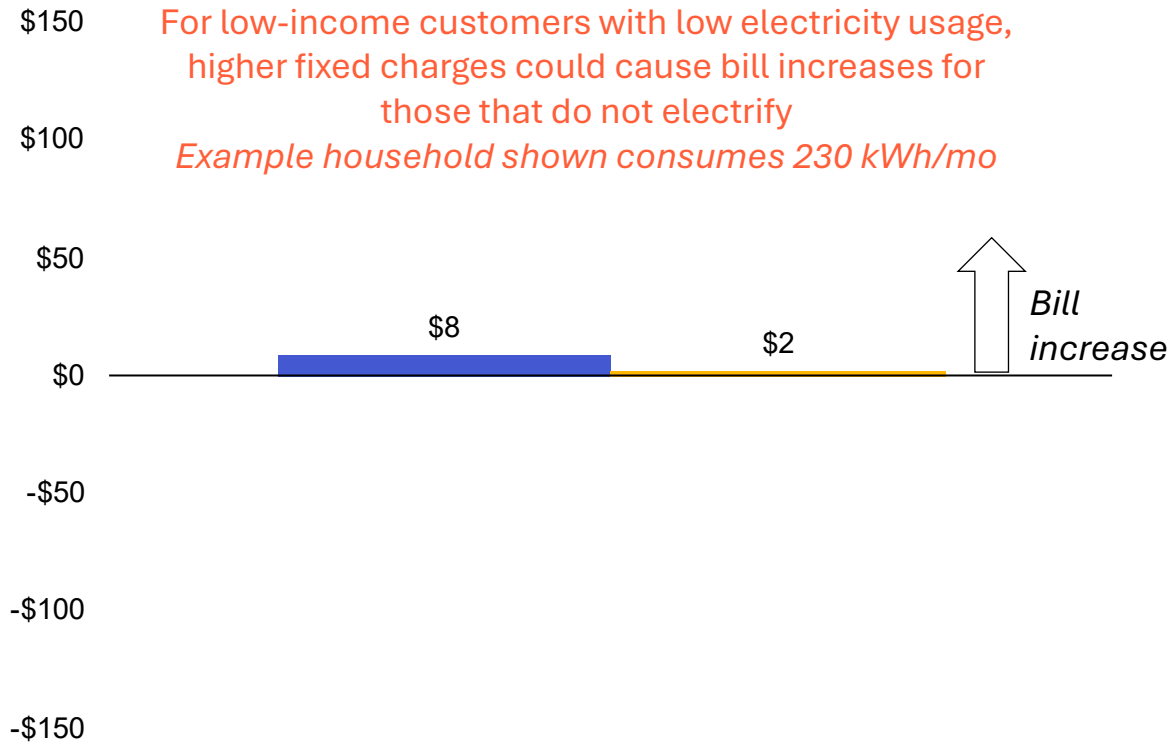
The bill impacts of universal rate changes on non-electrifying low-income customers vary by existing heating fuel

Change in Monthly Avg. Energy Expenditure for Non-Electrifying Low-Income Customers, Relative to Existing Rates

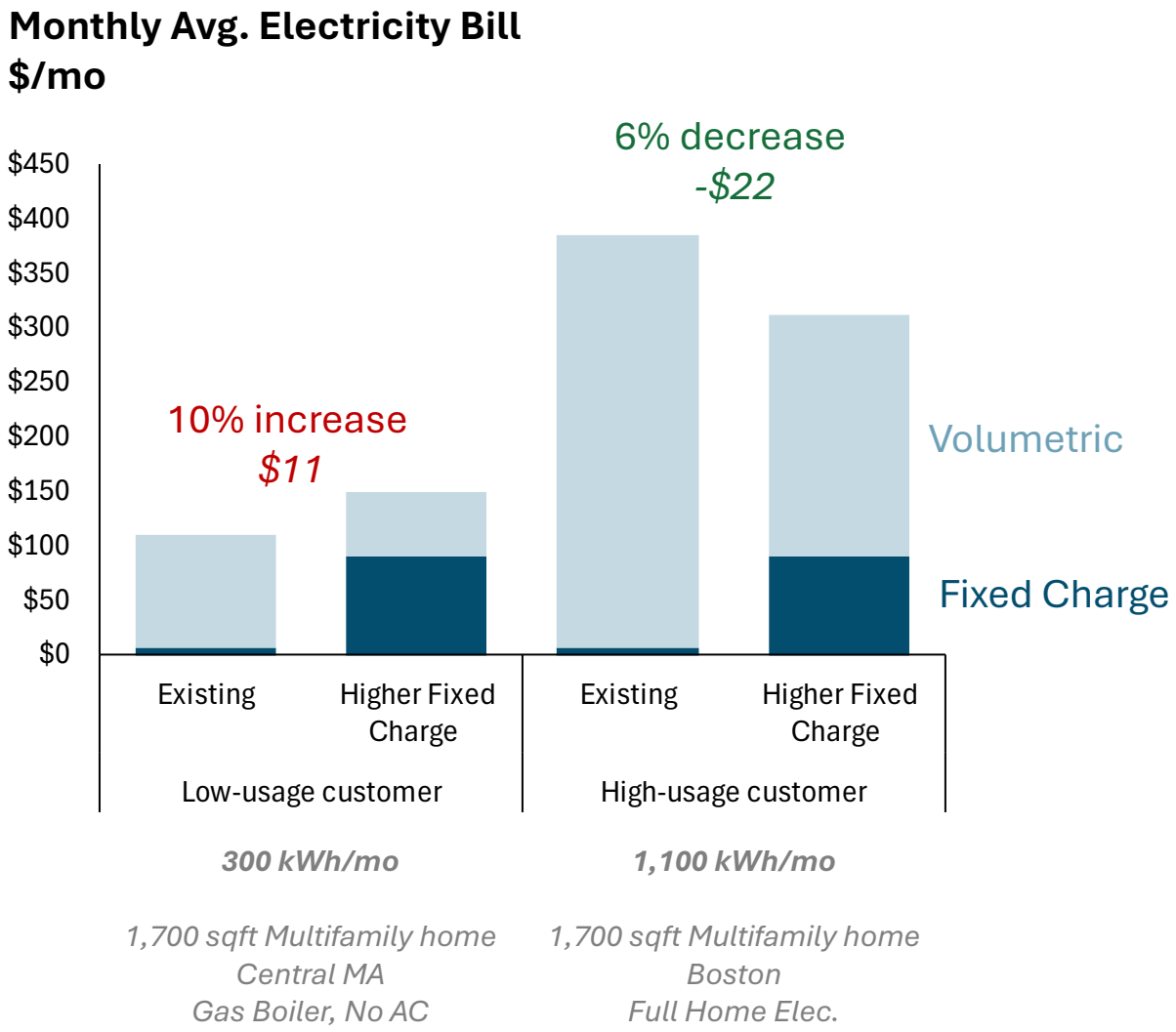
Pre-1960s Multifamily, Room AC, Electric Resistance Heating (623 ft²)
Boston (Eversource)
$/month



Pre-1960s Multifamily, No AC, Gas Heating (850 ft²)
Western MA (Eversource)
$/month



Low usage customers would see small bill increases from universally raising fixed charges without income graduation

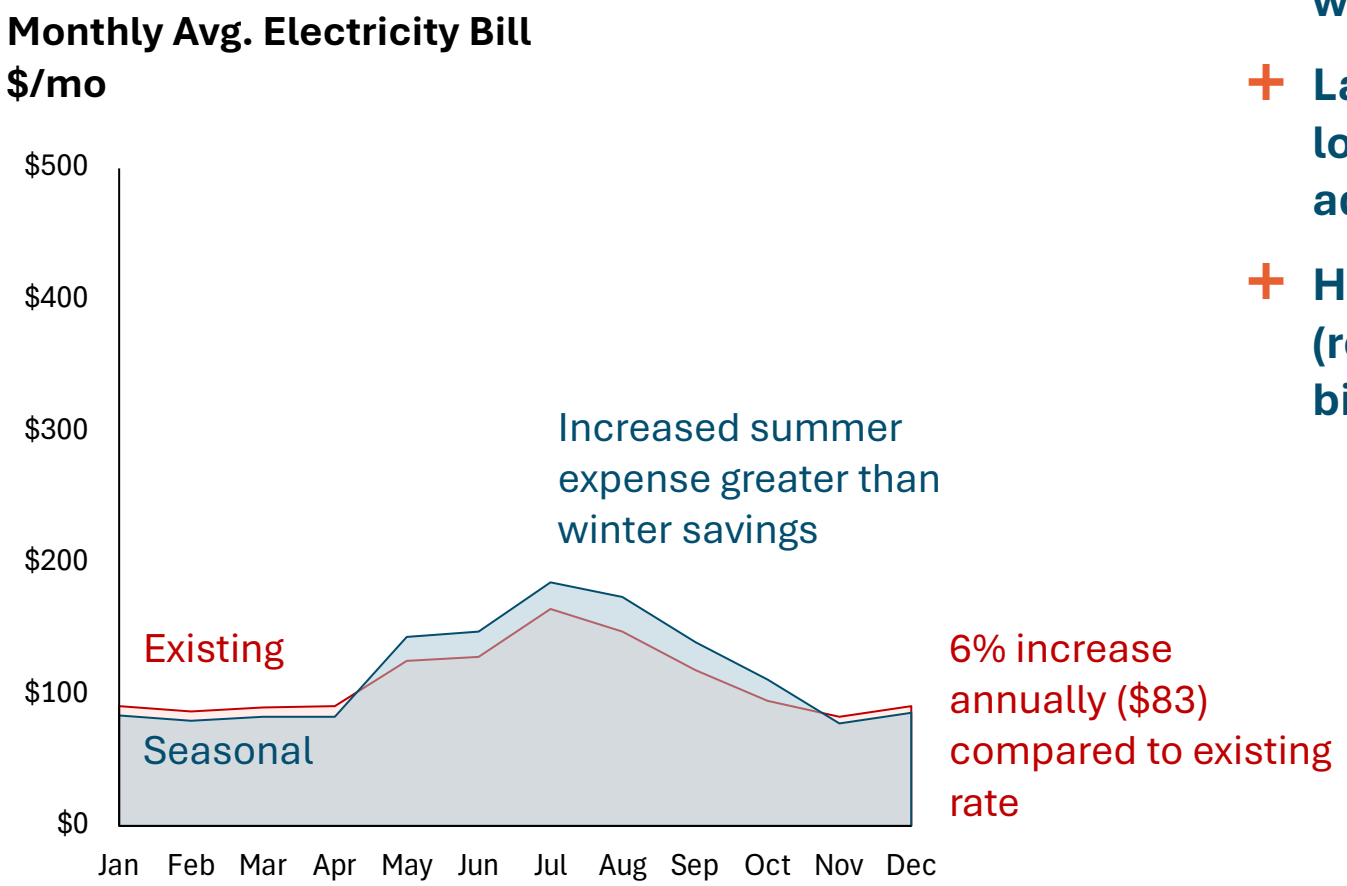


+ **Smaller homes with low electricity usage* would face bill increases from expanded fixed charges**
  - Lower consumption would translate to lower absolute $ bill increases but higher % increases in expenditure
+ **Income-graduated fixed charges could help avoid bill increases for low-income customers**
  - Existing bill discount programs could be used as a starting point to implement lower fixed charges for eligible customers

*lower than average household electricity consumption

Customers with high AC load would see bill increases from universal seasonal rates

Small Multifamily Home, Western MA
Natural Gas Baseline with Room AC

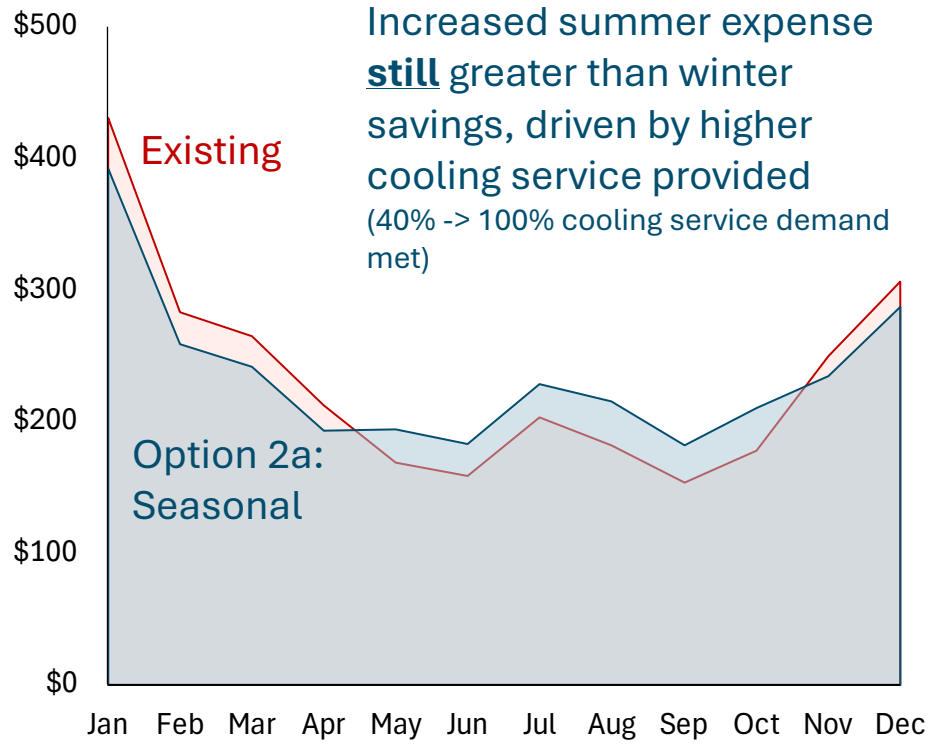


- **Homes with "peaky" summer AC usage (i.e. high summer load compared to rest of year) would see largest % increases in bills**
- **Larger homes with high air conditioning load would see the largest $ increases from adoption of higher summer rates**
- **Homes adopting with electric heating (resistance or heat pump) would see biggest benefits**

Greater winter discounts are needed to encourage heat pump adoption

Small Multifamily Home, Western MA
Fully Electrified

Monthly Avg. Electricity Bill
$/mo

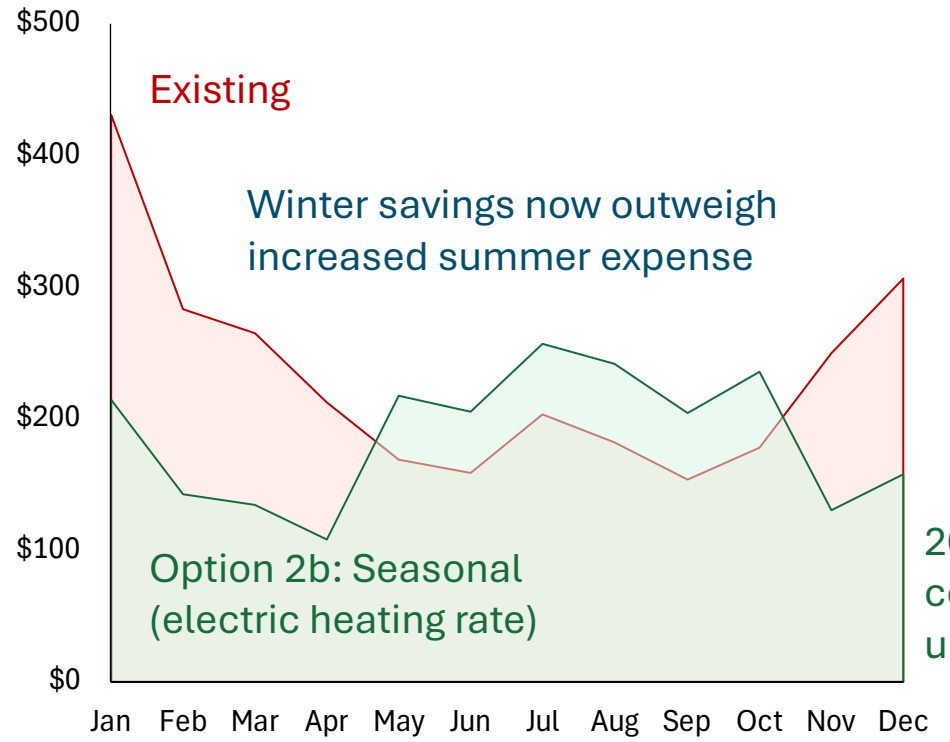


+ **Customers adopting heat pumps would need to see more significant winter savings to be able to offset summer air conditioning expense**
  - This is especially applicable to customers shifting from no air-conditioning or limited room air-conditioning to whole home heat pumps

Greater winter discounts are needed to encourage heat pump adoption

Small Multifamily Home, Western MA
Fully Electrified

Monthly Avg. Electricity Bill
$/mo



20% decrease annually ($545) compared to electrification under existing rate

+ **Customers adopting heat pumps would need to see more significant winter savings to be able to offset summer air conditioning expense**
  - This is especially applicable to customers shifting from no air-conditioning or limited room air-conditioning to whole home heat pumps
  - Technology-specific heat pump rates that provide deeply discounted winter heating would help ensure bill savings relative to both existing rates and fossil fuel baseline technology

Each rate lever comes with pros and cons when considered individually

	Higher Fixed Charge	Seasonal	Seasonal (Tech-specific)	Declining block (Tech-specific)
Electrification Affordability			No impact on EV bill affordability	
Baseline Affordability	Beneficial if using graduated fixed charges	High cost for summer AC	N/A	N/A
Alignment with Cost of Service		Rising winter peak will flip seasonality		
Unintended Consequences			NEM customers may be over-credited during summer	Weakens signal for summer conservation
Ease of implementation	Politically challenging			

Implementation Considerations and Key Takeaways

Energy+Environmental Economics

Key takeaways – electrification and affordability

Current rates

+ **Customers currently heating with electric resistance are guaranteed to see bill savings upon installing a heat pump – often up to $150 per month**
  - This is a common heating arrangement for low-income residents in multifamily buildings, where electrification could reduce energy burden by ~3%
+ **Customers currently heating with oil tend to see bills decrease slightly upon installing a heat pump**
+ **Customers currently heating with gas tend to see bill increases upon installing a heat pump – often up to $100 per month**
  - This is a common heating arrangement for low-income households, where electrification could increase energy burden by ~2%
+ **Vehicle electrification tends to reduce customer bills, but not enough to offset bill increases for gas customer electrification**
  - Limited access to at-home charging for multifamily residents could push them to using higher cost public charging options however
  - Existing rebates for managed charging provide relatively small savings
+ **Increased access to cooling will benefit residents who electrify, though this may contribute a small amount to bill increases**
  - This is especially relevant for low-income households, most of which tend to not have central air conditioning today
+ **Shell improvements reduce heating and cooling demand, and can offset bill increases for gas customer electrification currently living in older homes**

Key takeaways – electrification and affordability

Near-term rate alternatives

+ **Higher fixed charges, seasonal variation, and declining block structures better align rates with utility costs of service compared to existing flat volumetric retail rates**
+ **Changing basic service rates for all customers is limited by a desire for gradualism and minimizing bill increases for non-electrifying customers**
  - Volumetric rate reductions of less than 5¢/kWh reduce electric heating bills meaningfully, but cannot overcome the bill increase of electrifying a gas household
  - Impacts on electrification bill savings could be improved by combining mechanisms: The suppression of volumetric charges by a high fixed charge can create headroom for shifting more costs from winter into summer
    - This can mitigate impacts on low-income customers who already struggle with high summer bills
  - Higher fixed charges and seasonal rates can also combine with incentive programs and future time-varying rates to create improved electrification incentives
  - Impacts of high fixed charges on low usage customers can be mitigated with income-graduated fixed charges
+ **Technology-specific rates allow for larger changes to volumetric rates and significant bill savings under electrification, but come with their own challenges**
  - A seasonal rate with cheaper winter prices would need to be phased out as a winter peak arises
  - A declining block rate provides a reduced conservation signal during the summer when the system is most stressed

INSTRUCTIONS FOR PUBLIC COMMENTS

- Please use the "raise hand" function on Zoom if you have a comment you wish to make on behalf of yourself or your organization, we will operate on a first-come, first-served basis.
- Speakers will be asked to identify themselves by name and affiliation and will have up to 2 minutes to comment.
- Written comments are also welcome and encouraged! Please send written comments to Rates.WG@mass.gov. All written comments will be considered public and may be posted on the IRWG website. **Written comments on the Near-Term Rate Strategy Draft Report are due by September 6, 2024 to give sufficient time for consideration and should be sent to Rates.WG@mass.gov**

FUTURE STAKEHOLDER OPPORTUNITIES

- The IRWG is hosting workshops to discuss further subject matter specific topics in greater detail
  - **August 19, 11-12PM:** Electric distribution companies, utilities, suppliers
  - **August 22, 2-3PM:** Consumer and advocacy organizations
  - **August 23, 1-2PM:** Distributed generation/distributed energy resource developers/providers
  - **September 4, 1-2PM:** Synthesis for all stakeholders
- Register for these sessions at IRWG's Outreach and Engagement Opportunities

THANK YOU!

MASSACHUSETTS INTERAGENCY RATES WORKING GROUP

A Collaboration to Advance Near- and Long- Term Rate Designs that Align with the Commonwealth's Decarbonization Goals