



New Jersey Conservation
F O U N D A T I O N



New Jersey
cleanenergy
Conference 2022

Building Healthier and Electrified Homes



Affordability of healthy, efficient buildings



Consumers want homes that are...

	COMFORTABLE	HEALTHY	AFFORDABLE
Mitigate mold, lead, NOx...		✓	
Weatherization	✓	✓	✓
Switch to electric	✓	✓	✓



Analysis of New Jersey energy bills shows that...

A representative New Jersey home with an average level of weatherization, **switching to heat pumps** for space heating and water heating

➤ **Saves about \$50 annually** at low gas prices from winter 2020-2021

A drafty New Jersey home that improves weatherization and switches to heat pumps would

➤ **Save about \$1,300 annually** at low gas prices from winter 2020-2021.

➤ **Save over \$1,800 annually** at higher gas prices from winter 2021-2022.



The Future is Electric, Acadia Center, March 2022

Switching to heat pumps can result in substantial savings

- An average home in *New Jersey Natural Gas territory* could reduce its energy bills **by 30%**
- A leaky home with improved weatherization in *New Jersey Natural Gas territory* could reduce its energy bills **by 61%** -- from \$2,800 a year to \$1,100 a year
- An average home **using fuel oil** spends \$3,000 annually on energy bills, and would **save 58%** by switching to electric heat pumps

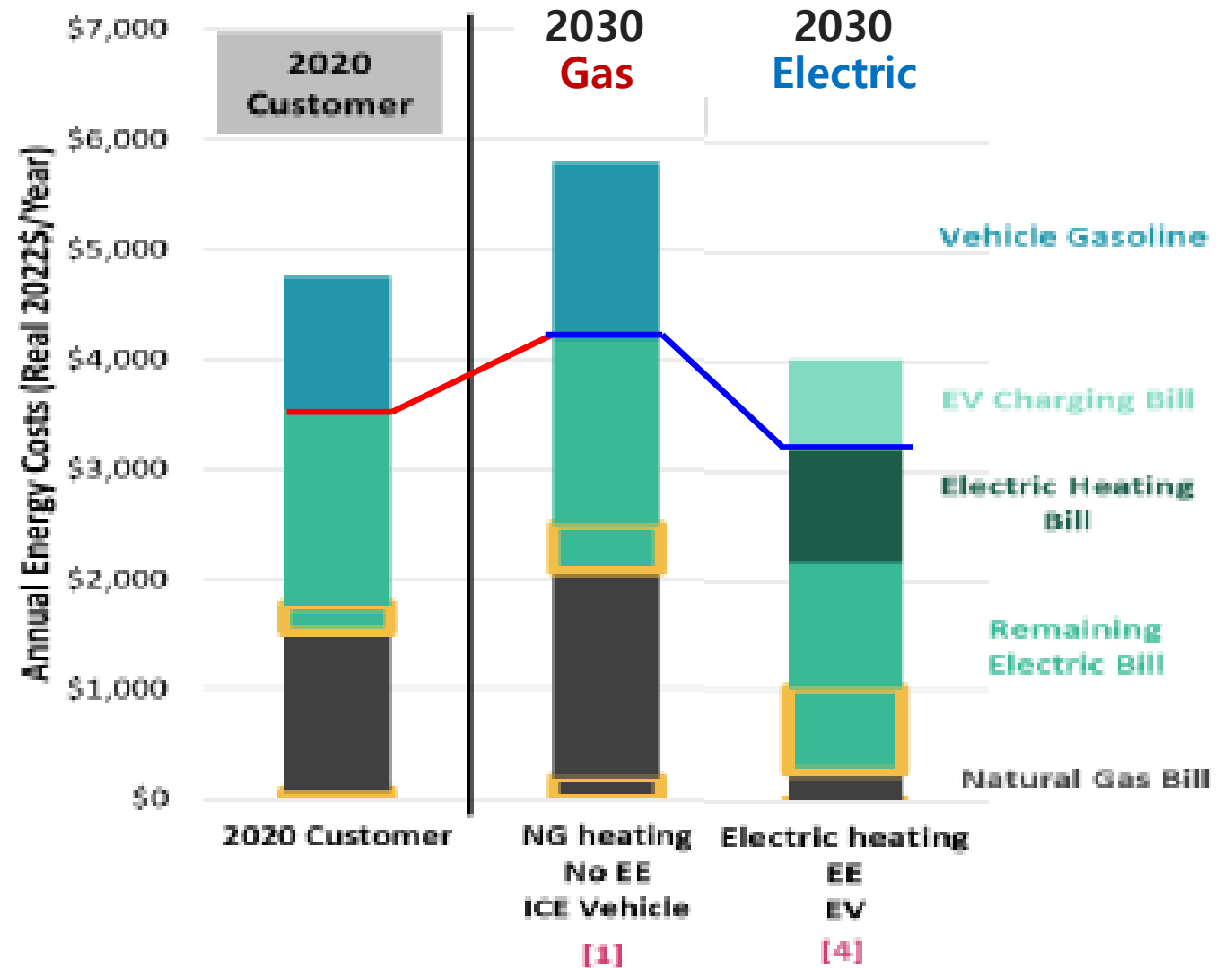


The Future is Electric, Acadia Center, March 2022

Energy bills will be lower for consumers with electric appliances

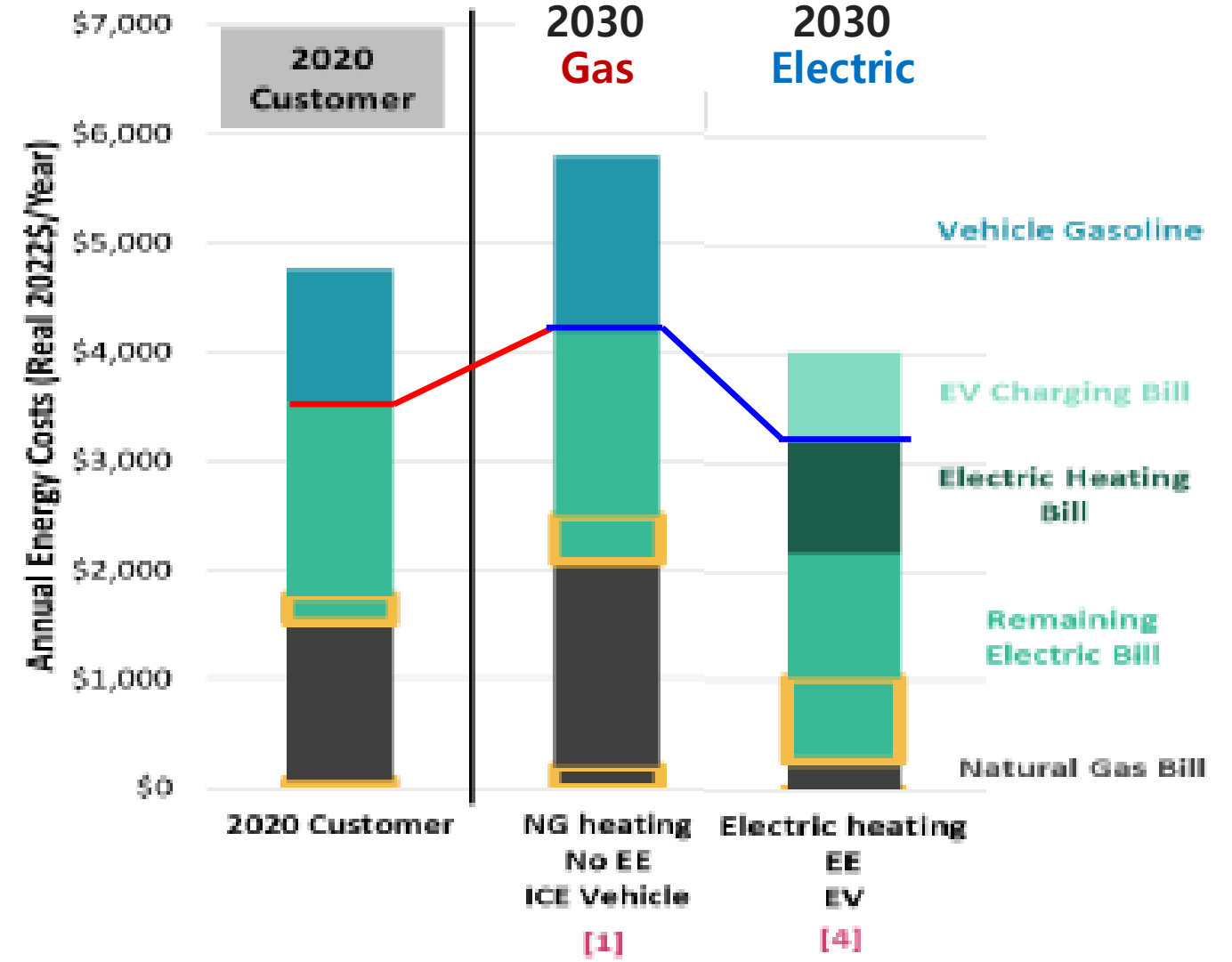
- Bills **increase by 22%** in 2020, if customer continues using gas appliances
- Bills **decrease by 16%** in 2020, if customer switches to electric appliances

EMP Ratepayer Impact Study,
August 2022



Why does switching save on energy bills in 2030?

- **High efficiency** of heat pump appliances -- 250% efficient; to 400% efficient
- **Growing electric load** results in lower electric rates
- **Declining gas consumption** results in higher gas rates (35% higher in 2030)



Key insights about healthy homes and affordability

- **Consumers are choosing to electrify** -- new federal investments and policies will accelerate defection from the gas system, resulting in higher gas rates and more defections.
- **An affordability crisis** lies ahead for low and moderate-income households that continue to use gas appliances.



More Information



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Policy challenges for New Jersey

- Protect energy bills for low and moderate income households **now**, *before* declining gas demand causes **gas rates to escalate**
- New approaches are needed to **scale up retrofit programs** and address comfort, health and affordable energy for all low and moderate income households before 2030
- New initiatives are needed to **develop the supply chain** in New Jersey, so that contractors, distributors and installers are able to deliver what consumers want



New Jersey needs new approaches...

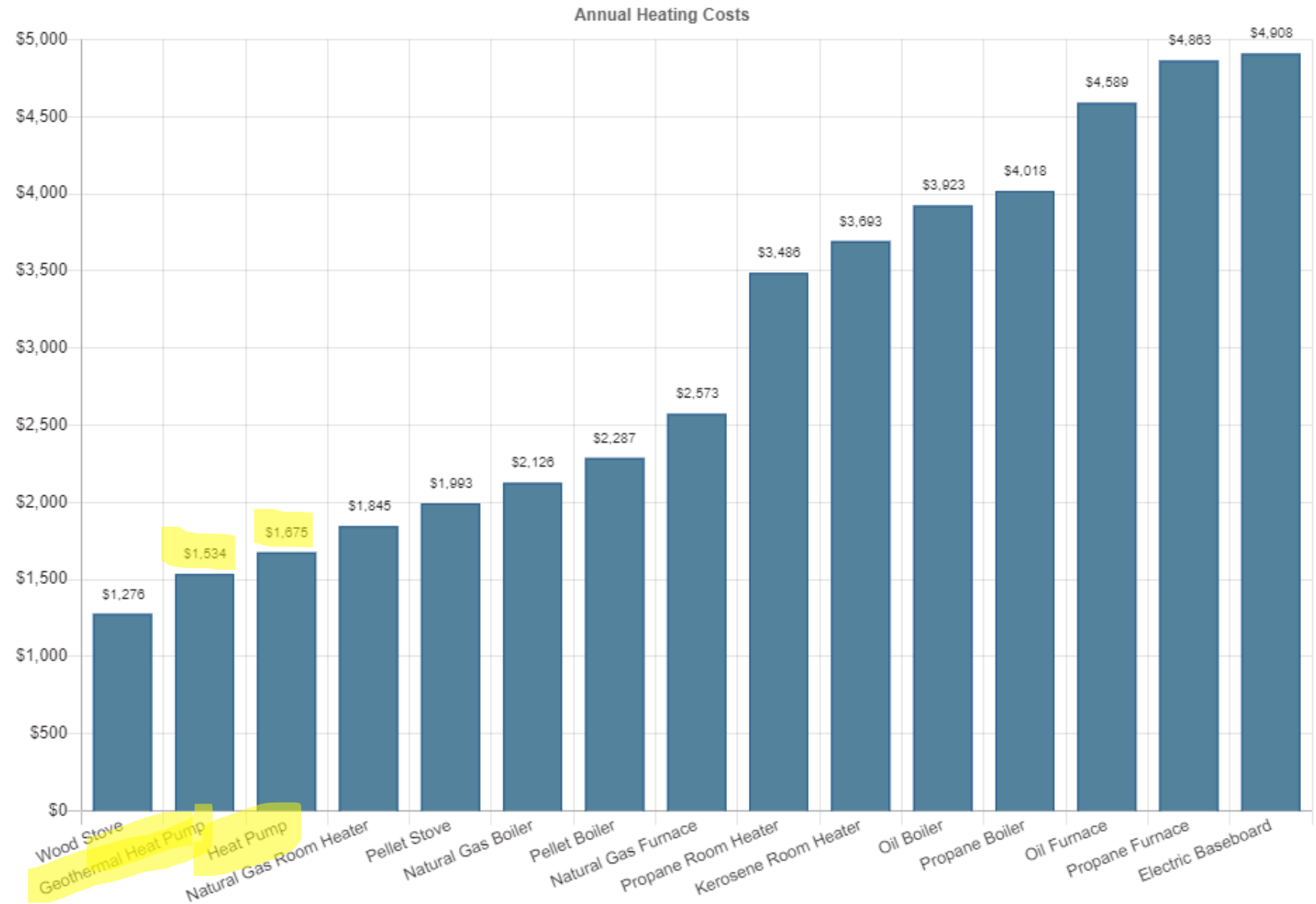
- New funding to **scale up retrofit programs** based on Whole Home pilot learning
- New funding for **multifamily pilot programs**
- Pilot **thermal networks** – may provide a cost-effective strategy to **electrify** entire neighborhoods, and can be installed using the same workforce as the current pipeline network



ME and VT project 50% of households will adopt heat pumps by 2031

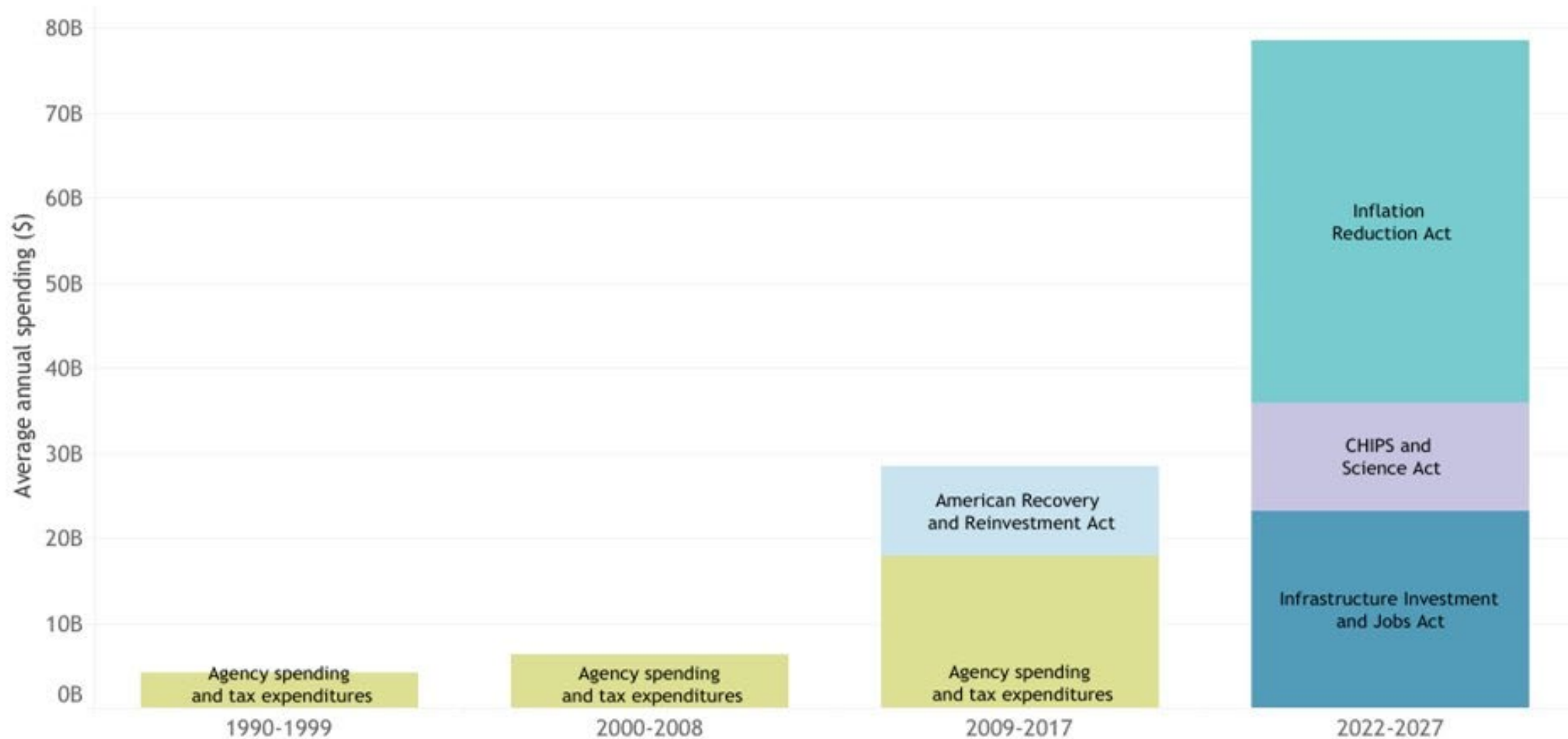
Home heating cost comparison

EfficiencyMaine.com

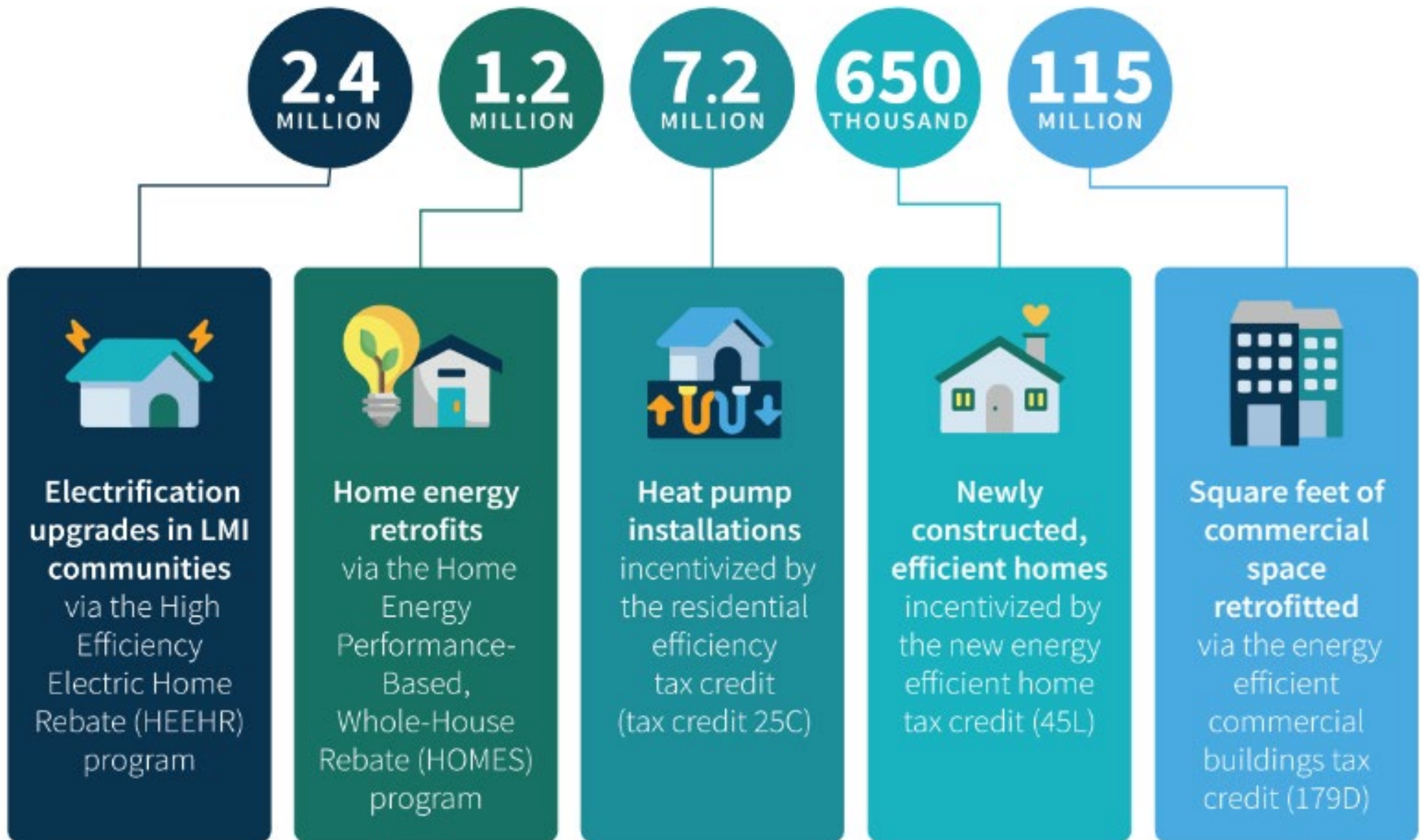


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Historic Investments in Building Decarbonization



Building Impacts of federal funding



Rebates – for low-income households

- \$8,000 for heat pumps
- \$1,750 for heat pump water heaters
- \$840 for heat pump clothes dryers
- \$840 for electric or induction stoves
- \$4,000 for electrical panel upgrades
- \$2,500 for rewiring
- \$1,600 for basic weatherization

Multifamily buildings also qualify if $\geq 50\%$ of occupants are LMI



Major trends point to rapid growth of electric appliances

- As consumers choose electric appliances, the decline in gas consumption increases gas rates and *accelerates the shift to electric appliances*
 - Consumers are choosing electric heat pumps as the *price premium evaporates*
 - Energy bill savings are likely to increase over time
- **Challenge: Supply chain development is needed** in New Jersey, so that contractors, distributors and installers are able to deliver what consumers want.

