



The City of
Worcester



GREEN
ENERGY
CONSUMERS
ALLIANCE



Heat Pumps For Landlords: What You Need to Know

Presenters

Jessie Davis

Sustainability Project Manager
City of Worcester

Gabrielle Hajos

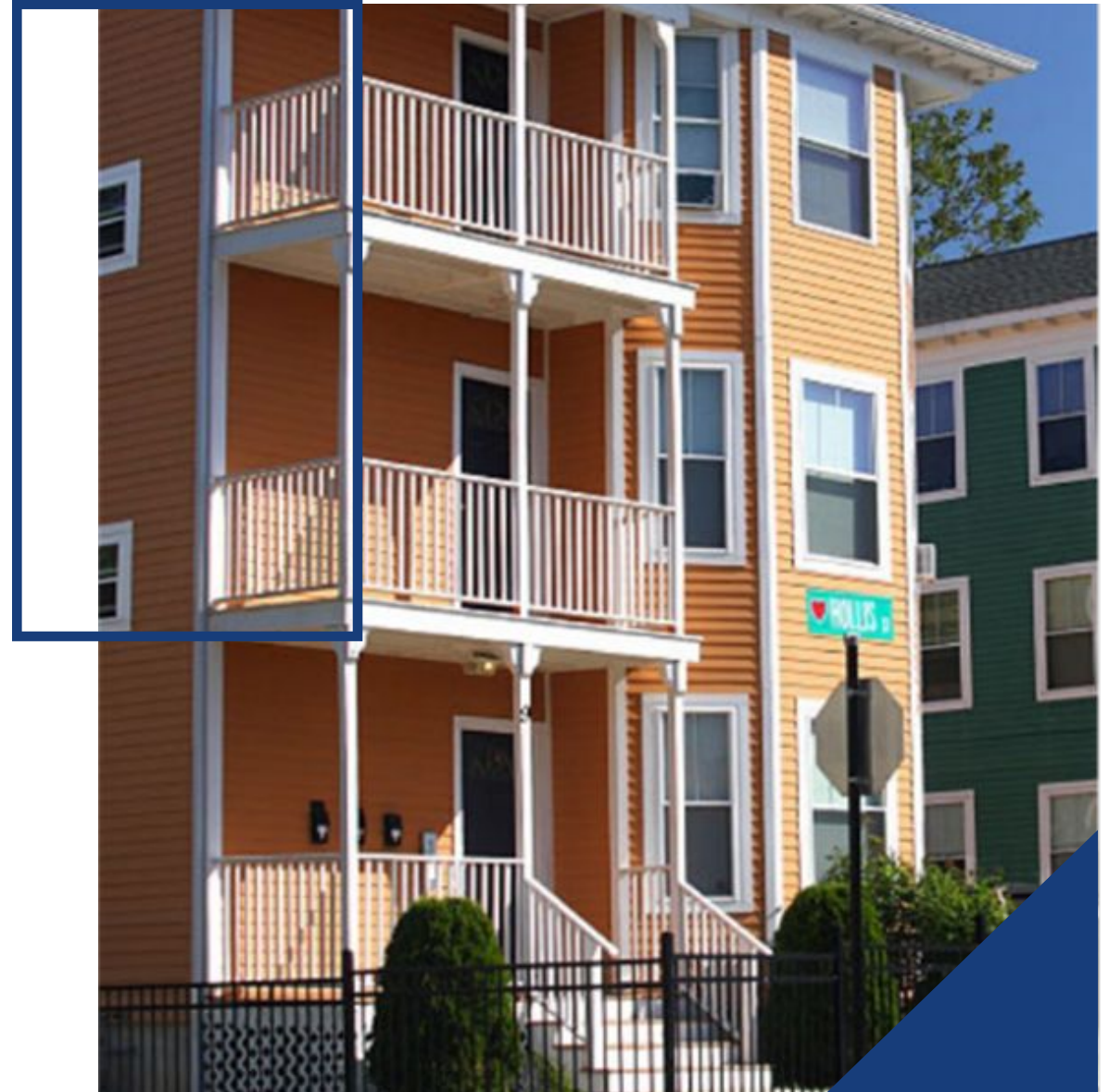
Energy Advocate
City of Worcester

Richard Justice

Energy Director
Worcester Community Action Council

Loie Hayes

Energy Efficiency Coordinator
Green Energy Consumers Alliance



WHAT WE'LL COVER TODAY

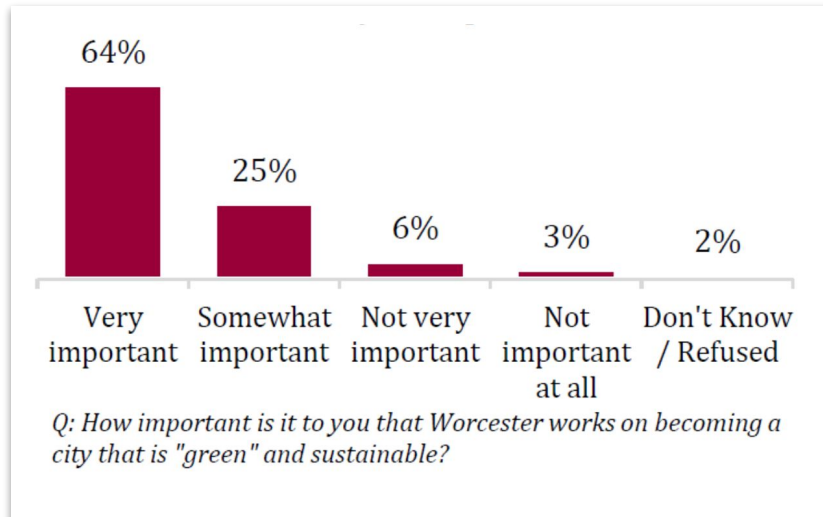
- Worcester's Sustainability & Resilience Initiatives
- Income Eligible Upgrade Options
- Heat Pump Basics, Design Options, Costs, Incentives, & More
- Questions & Answers



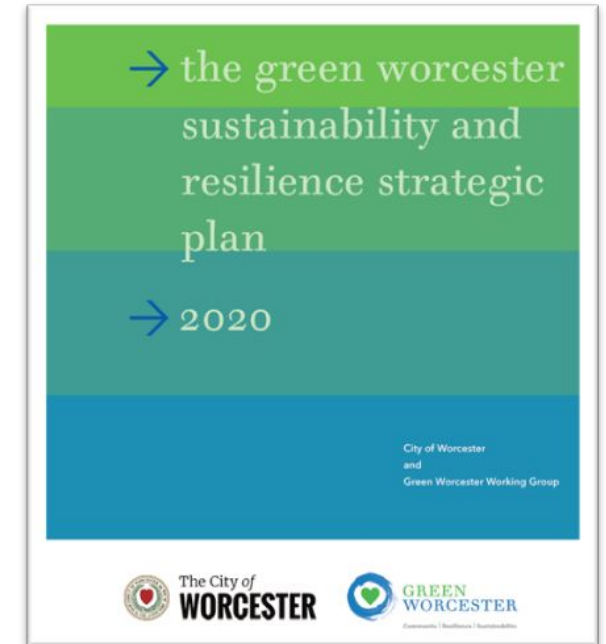
Worcester's Sustainability & Resilience Initiatives

The Green Worcester Plan

- The Green Worcester Plan serves as a roadmap to making Worcester one of the most sustainable and climate resilient mid-sized cities in America by 2050
- The Green Worcester Plan is guided by three lenses: equity, health & prosperity
- Survey results: Worcester residents value making the city more sustainable



- Telephone survey of representative sample of Worcester residents (606 respondents – English and Spanish)
- People of Color: 74% "very important"
- White people: 59% "very important"



SMART ENERGY ADVICE

We're here to answer your questions and guide you to access energy saving programs. We are working to provide cost-saving energy-efficiency solutions to residents and small businesses in our community.

- You can learn how to:
 - Sign up for a no-cost energy assessment
 - Visit: masssave.com/community-first/Worcester
 - Apply for Mass Save incentives and rebates
 - Apply for a 0% HEAT Loan
 - Read and understand energy bill including the city's municipal aggregation program
 - Access to related resources
- Primarily funded by Mass Save Community First Partnership:
 - Striving to reach primarily underserved populations
 - Our efforts are sponsored by our local utilities - National Grid and Eversource
- Schedule a 30 minute, no-cost appointment:
tinyurl.com/energyadvocatehrs



Worcester Community Action Council



Income Eligible Heating System Replacement Services for Landlord/Tenants

What We Do and How to Contact Us



- Who are we & What do we do?
 - WCAC is the **CAP agency for Worcester County**. Our Energy Dept. houses funds to cover many different scopes of energy efficiency upgrades for income eligible clients, including **air-source heat pumps**.
- Fully-funded services!
 - We have a robust **pool of utility and federal funds** available to landlords of income eligible tenants/properties to fully upgrade/install air source heat pumps at **no cost**.
 - Additionally, as long as half of the units in a property qualify for the discounted utility rate, we can even service the ones that don't through **our 50% rule**.
- How do you get started?
 - All we require is you to provide tenants names, address and main heating utility account (Eversource, National Grid, etc...)
- How can you contact us?
 - Our best contact:
 - Client Intake Specialist: ksalo@wcac.net
 - General email: energy@wcac.net

Full Energy Walkthrough

- A full energy audit will be conducted by a DOE/BPI certified Energy Auditor who will inspect **appliances, insulation, heating systems, windows, DHW tanks and any barriers preventing work (i.e. roofs, electric panels, mold, etc...)**.
- WCAC provides all ASHP candidates with a full design and layout walkthrough with our Heating Specialist and contractor followed by an in process visit and a quality control visit after install.
- All landlords and tenants will be included in all decisions on all aspects and all work comes with a full warranty.



About Green Energy Consumers Alliance

A nonprofit organization based in Massachusetts and Rhode Island with a mission to empower consumers and communities to speed a just transition to a zero-carbon world.

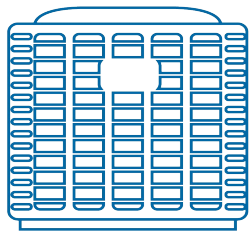


Heat Pump Basics

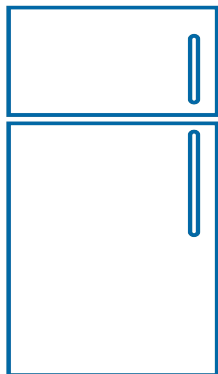


What is a Heat Pump?

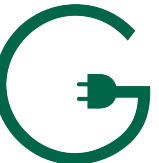
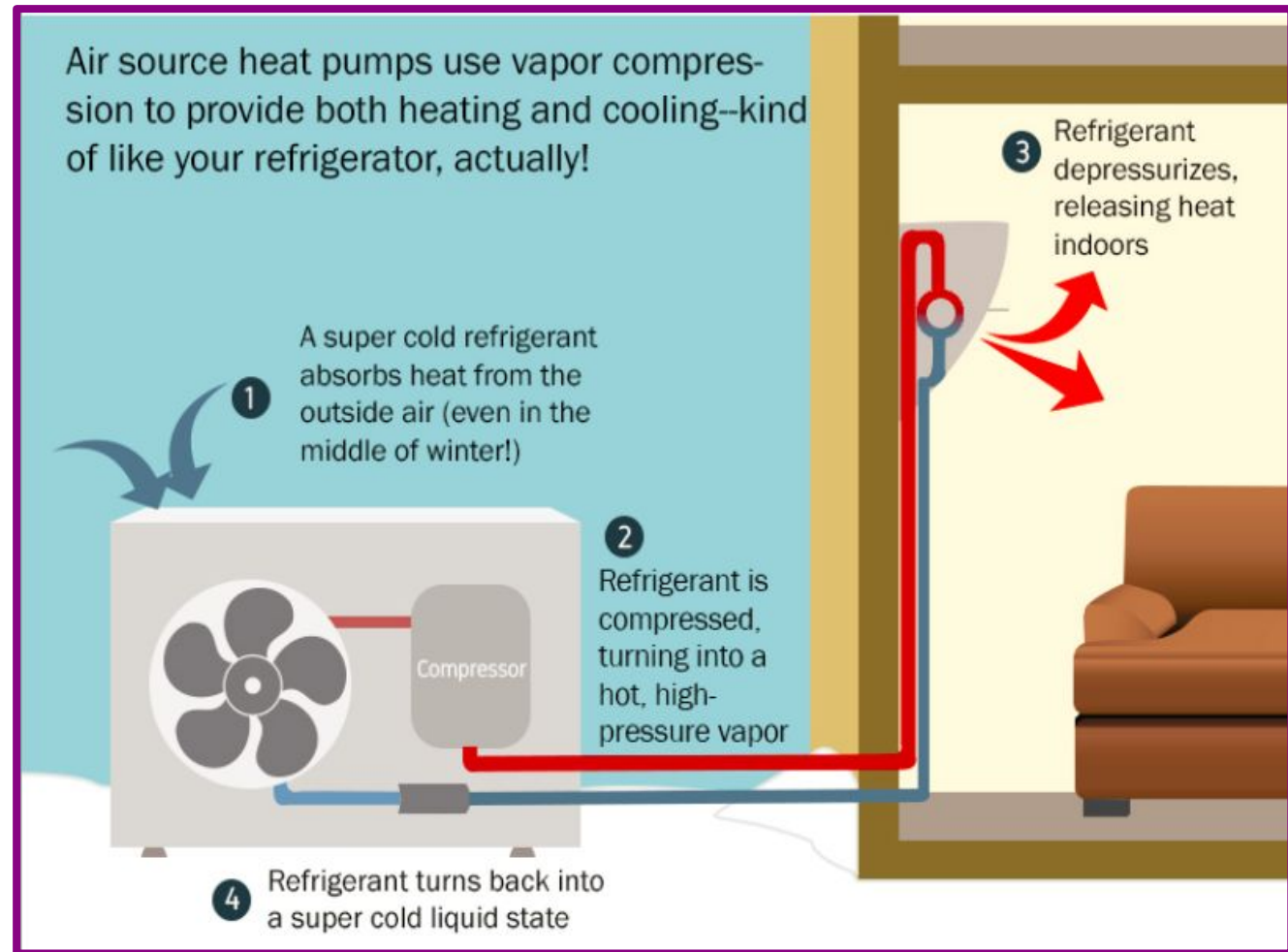
Same technology as:



Air Conditioner



Refrigerator



Outdoor Condensers Need Space

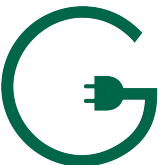


Air-source

- Condenser stand to prevent ice blocking air flow
- Refrigerant line can go through basement

Ground-source or geothermal

- Vertical or horizontal loop



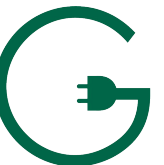
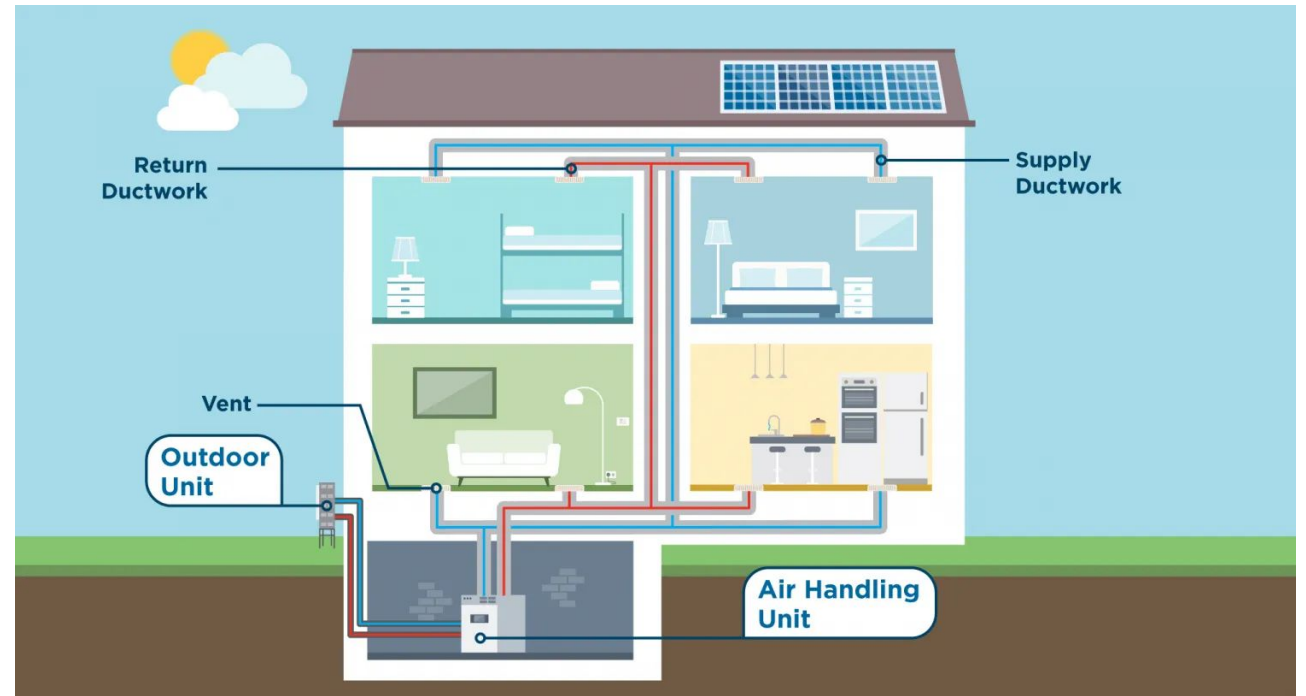
When Home Has Ductwork

Furnace instead of boiler

Hot air ductwork allows for relatively easy replacement of fossil fuel system with whole home fully ducted heat pump.

Central air conditioning

- Heat pumps can replace central a/c
- One piece of equipment could replace two
- Ductwork must be in good condition



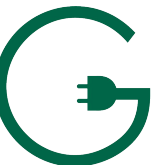
When Home Lacks Ductwork

Heat pumps don't produce hot enough water to easily replace boilers.

More hydronic options may become available in 2025

Ductless or Mini-Ducted Systems:

- Single head can serve a large open area
- Single zones or multi-zones
- Mini-ducted head to serve adjacent small rooms



Ductless Indoor Variations (“Heads”)

Wall Hung



Floor Mount

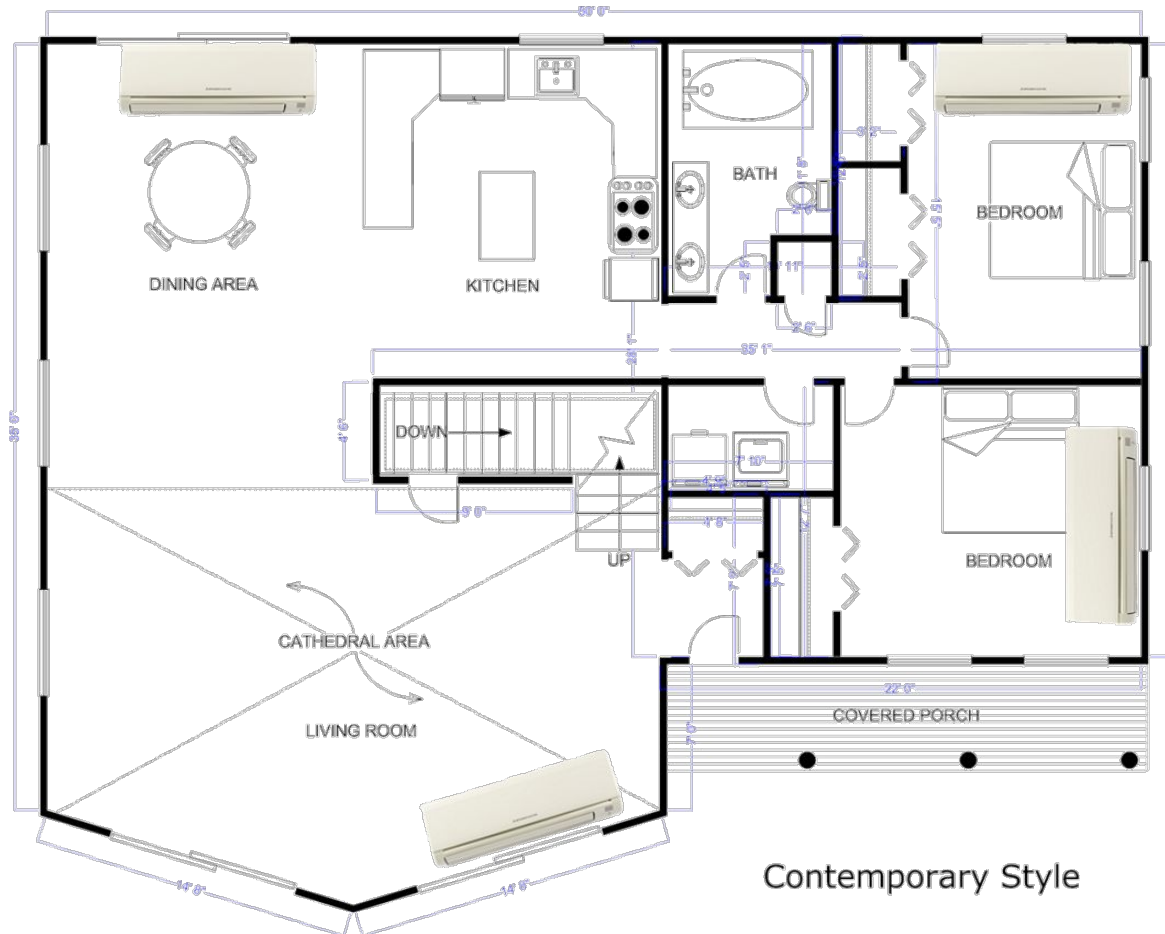


Ceiling Cassette

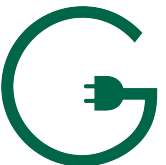


Sizing Your System

Too Many Heads in Small Space



- Four 9K heads = 36K total (33% more than needed)
- Too much equipment will likely result in energy and performance issues
- Heat pump systems are designed to run continuously
- On-off cycling is inefficient
- Cold and clammy in summer



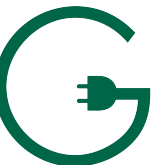
Costs



Weatherize First!

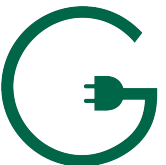
To save money on heating system replacements:

- Get a [Mass Save Home Energy Assessment](#) or [multifamily](#) assessment
- [Pre-weatherization barriers](#) (incentives for residential and commercial)
 - Moisture
 - Old electrical wiring
 - Asbestos/vermiculite
- Add any recommended insulation to unlock more rebates



Installation Costs & Mass Save Rebates

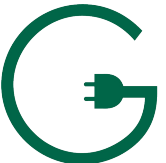
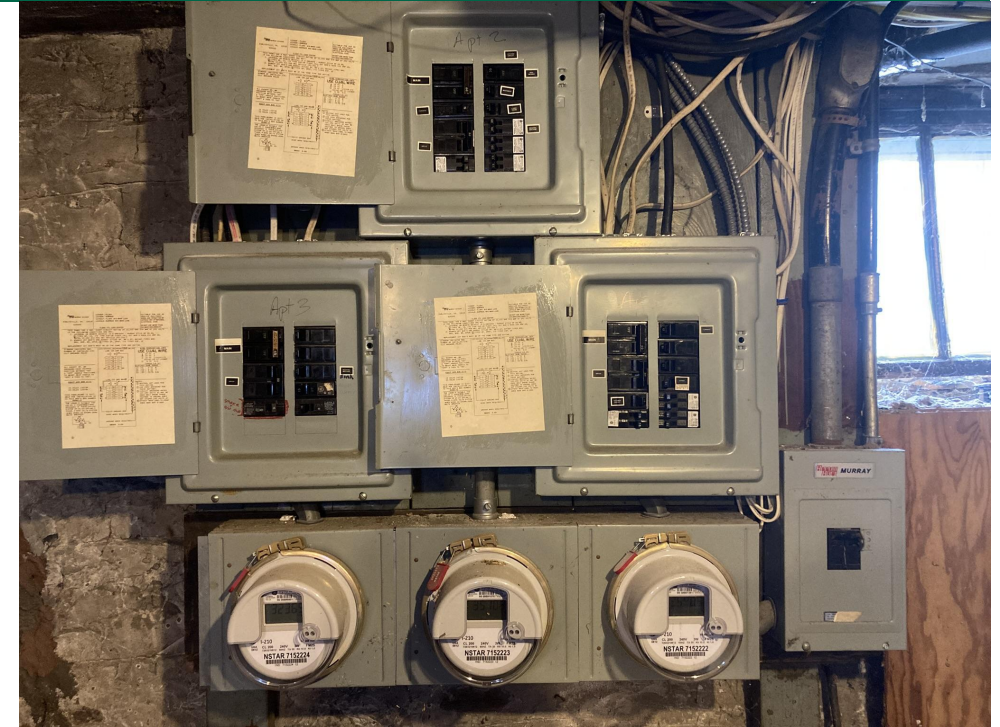
- New **oil** boiler: \$9,000 - \$11,000 (no incentives except low-income)
 - Tank replacement: \$3,500 +
- New **gas** boiler: \$10,900 - \$13,400 (no incentives except low-income)
- Ductless air-source **heat pump**: \$20,000 - \$25,000 whole-house (yes, incentives)
 - \$3,000/ton for whole home heat pump
 - \$1,250 for partial home heat pump
 - \$16,000 for moderate-income
 - 100% free for low-income
- [Mass Save | Heating Comparison Calculator](#)



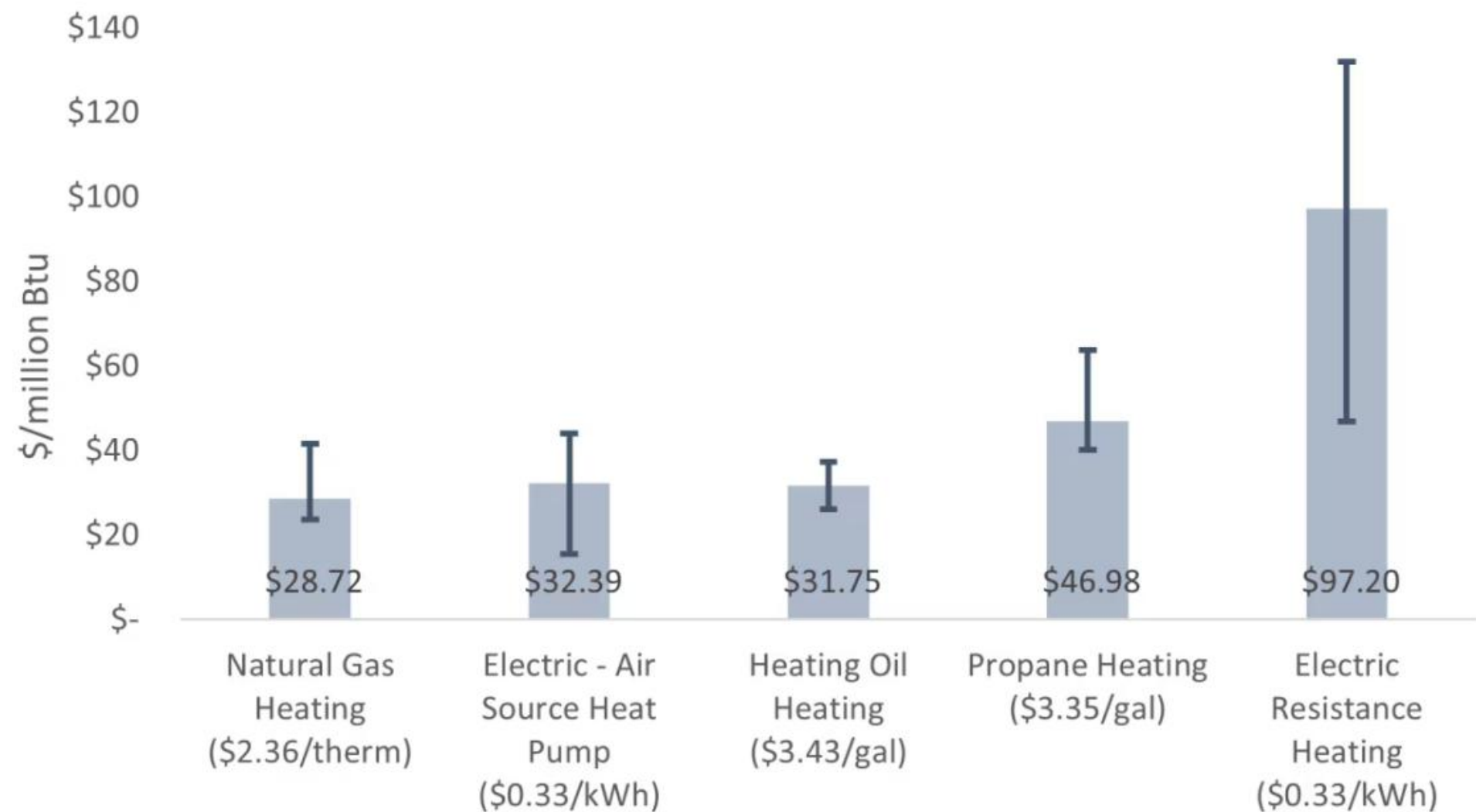
Electrical Upgrades and Incentives

200 amp electrical service likely needed

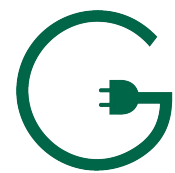
- Estimated cost: \$5,000-\$6,000 (WCAC)
- Federal Energy Efficient Home Improvement Credit (25C): up to \$600 (Owner-occupied)
- Mass Save EV Charging Rebates: up to \$1,400; more for income-eligible
- Massachusetts Energy Savings Finder



Operating Costs – Winter 2024-2025

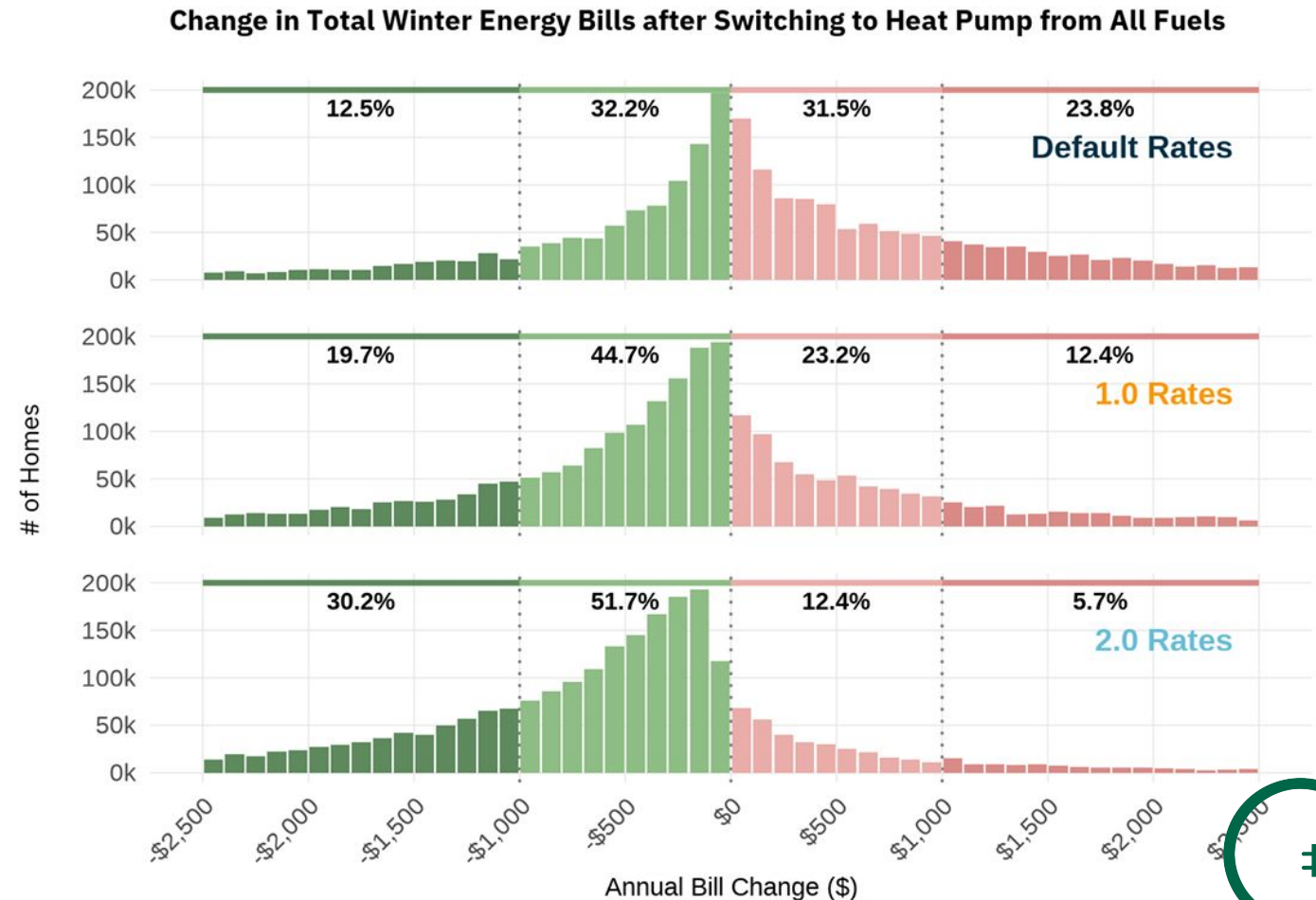


Source:
DOER, *Household heating costs for 2024-2025 winter*,
<https://www.mass.gov/info-details/massachusetts-household-heating-costs>



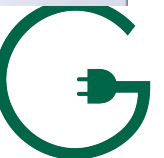
Seasonal Heat Pump Rates (coming to MA this Fall)

- New study by Switchbox on discounted heat pump rates
- Last winter: 45% of Mass households likely to save on winter bills when switching to heat pumps
- Next winter: 64% likely to save thanks to heat pump rates
- Proposed deeper discounts (Interagency Rates Working Group): 82% likely to save



Maintenance

- Air filters need to be cleaned periodically by tenant or property manager
- Keep snow and ice away from outdoor unit
- Check-up every 2-3 years
- To prevent mold, occupants should run fan function before shutting off on cooler summer days
- Deep cleaning if mold is discovered

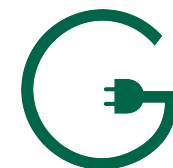


Incentives



Overview

- Federal: Tax Credits & Inflation Reduction Act rebates
- State & Utility: Mass Save and Municipal Light and Power plants (MLPs)
 - Designated Equity Community increased incentives including barrier mitigation and electrification incentives coming end of 2025
- Loans: MA [HEAT Loan](#), owner-occupied; interest-free, now capped at \$25,000; 3-7 year term (determined by income level), no income cap
- [MA Energy Saver Home Loan](#), owner-occupied; up to \$100,000, low/moderate income = 135% AMI (\$165K Worcester), 2% interest or less, 20-year term



Federal Tax Credit: 25C and 25D Until 12/31/2025

25C: owner-occupied only; 30% of post-incentive cost, up to a total of \$3,200 per year for multiple energy efficiency measures; **ends 12/31/2025**

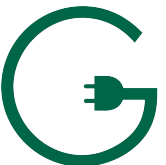
- Up to \$2,000/yr for heat pumps and HP water heaters
- Up to \$600 credit for electrical upgrades for HPs or HPWHs

25D: owner-occupied only; Geothermal, battery and solar tax credit: 30%, no cap; **ends 12/31/2025**

179D for commercial properties with 4 stories or more

[Home energy tax credits | Internal Revenue Service](#)

Qualified equipment search: <https://www.regulations.doe.gov/product-lookup/heat-pumps>

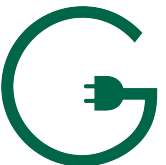


Federal Rebates – Maybe this Fall?

- **Home Electrification & Appliance Rebate (HEAR)** Based on measures
 - Through **municipal light plants** (MLP-HER) and DOER affordable housing program
 - Up to 150% of AMI (metro Boston = \$200K (3-people))
- **Home Efficiency Rebate (HER)** Based on projected energy savings
 - Through CAP agencies & Mass Save's moderate-income program
 - Up to 80% AMI

[DOER Federal Funding Updates & Information | Mass.gov](#)

[Mass DOER Frequently Asked Questions re HER and HEAR](#)



MA Incentives Vary by Household Income & Zip Code

Example: 2-person household in Worcester, MA

Low Income: Up to \$64,333

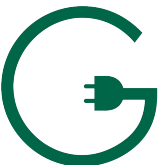
- WCAC would completely cover cost of heat pump installation

Moderate Income: Up to \$85,778

- Mass Save “Enhanced Incentive”: \$16,000 per apt/home

Market Rate: Greater than \$85,778

- Mass Save: up to \$10,000 per apt/home (\$3,000/ton of heating capacity)

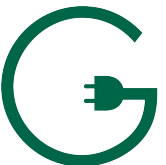


Heat Pump Water Heaters

- \$750 “instant” rebate in MA – through contractor, Lowe’s or Home Depot
- 2 - 3 times more efficient than all other tank equipment
- Need adequate space for air exchange
- Electrical wiring – 240-volt circuit
- Condensate drain
- Makes space cooler and dryer

Split-System Heat Pump Water Heaters \$1500 + 30% federal tax credit, no cap

www.energymaine.com/at-home/water-heating-cost-comparison/

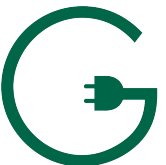
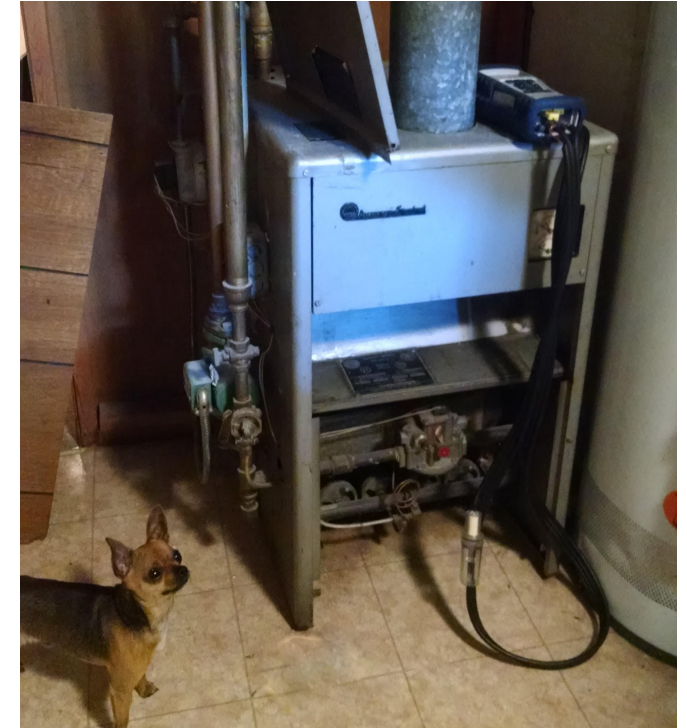


Next Steps & Working with Contractors



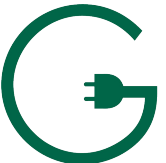
Steps Before Contacting Contractors

- Request Home Energy Assessment
 - Required to qualify for incentives
 - Good for 2 years
 - Add any recommended insulation and air sealing
 - For all income levels (extra incentives for moderate- and low-income households)
- Research Incentives and Loan programs
 - [Mass Energy Savings Finder](#)
 - Mass Save HEAT Loan and MA Energy Saver Home Loan Program
- **Speak with Worcester's Energy Advocate**
 - Call 508-456-5752
 - Schedule an office hours appointment



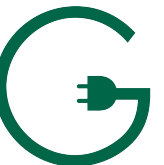
Get Multiple Perspectives

- **No-Cost Virtual Independent Consultations (before or after getting quotes)**
 - Mass Save – Decarbonization Consultations
 - Visit:
masssave.com/en/residential/programs-and-services/decarbonization-consultations
 - [Energy Sage](#) – Heat Pump Marketplace
- Research installers via [Mass Save](#) and Energy Saver Home Loan Program [contractors list](#), contractors' websites, and their manufacturers' ratings
- Get 3 quotes
- GreenEnergyConsumers.org/HeatPumps



Questions to Ask Heat Pump Installers

- Is your company a Mass Save approved vendor?
- What kind of maintenance will this system require? Are you able to perform this maintenance? How often?
- Will you formally calculate my heat load before I sign a contract to purchase specific pieces of equipment?
- Will you be able to remove my old heating system?
- Who is responsible for submitting the rebate paperwork? Is the rebate calculated in my quote price?



CONTACT US

Smart Energy Advice

Gabrielle Hajos

508-456-5652

energyadvice@worcesterma.gov

WorcesterMa.gov/energyadvice

Worcester Community Action Council

Richard Justice

energy@wcac.net

508-754-1176 ext. 157

Green Energy Consumer's Alliance

Loie Hayes

Loie@greenenergyconsumers.org

617-380-4741

