



The City of  
Worcester



# Heat Pumps For Homeowners: What You Need to Know

November 20, 2025

# Presenters

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City of Worcester

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City of Worcester

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Green Energy Consumers Alliance



# WHAT WE'LL COVER TODAY

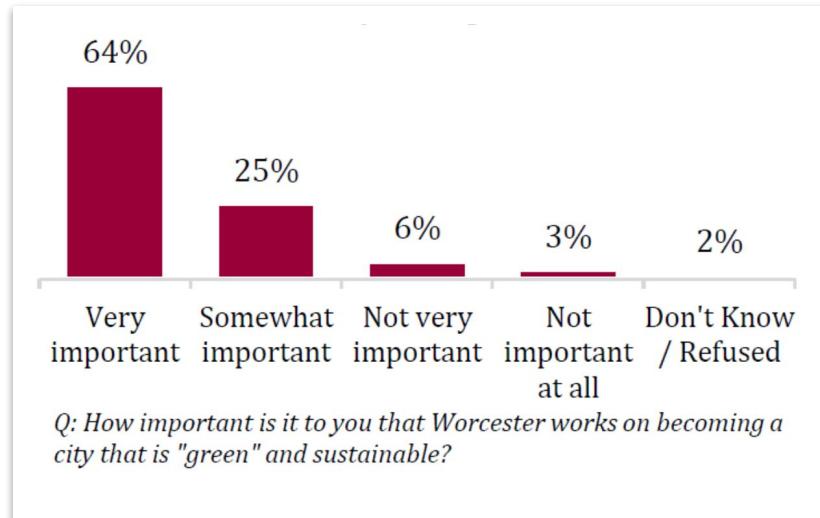
- Worcester's Sustainability & Resilience Initiatives
- Heat Pump:
  - Basics & Design Options
  - Costs
  - Incentives
  - Next Steps and Working with Contractors
- Questions & Answers



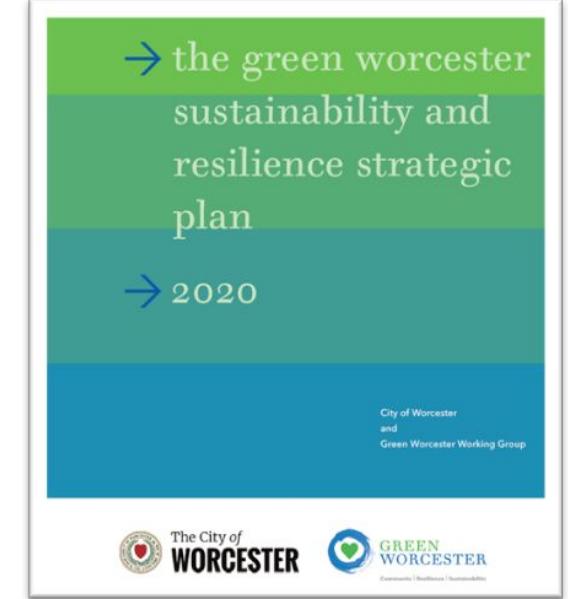
# Worcester's Sustainability & Resilience Initiatives

# 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 cost-saving 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](http://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
  - Worcester has qualified as a Designated Equity Community
  - Our efforts are sponsored by our local utilities - National Grid and Eversource
- **Schedule a 30 minute, no-cost appointment:**  
[tinyurl.com/energyadvocatehrs](http://tinyurl.com/energyadvocatehrs)



# About Green Energy Consumers Alliance

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**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.**

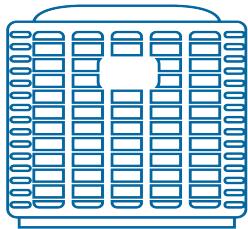


# Heat Pump Basics & Design Options

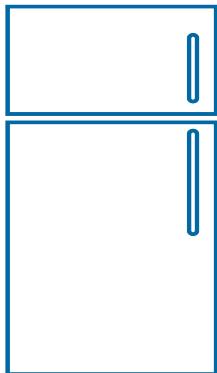


# What is a Heat Pump?

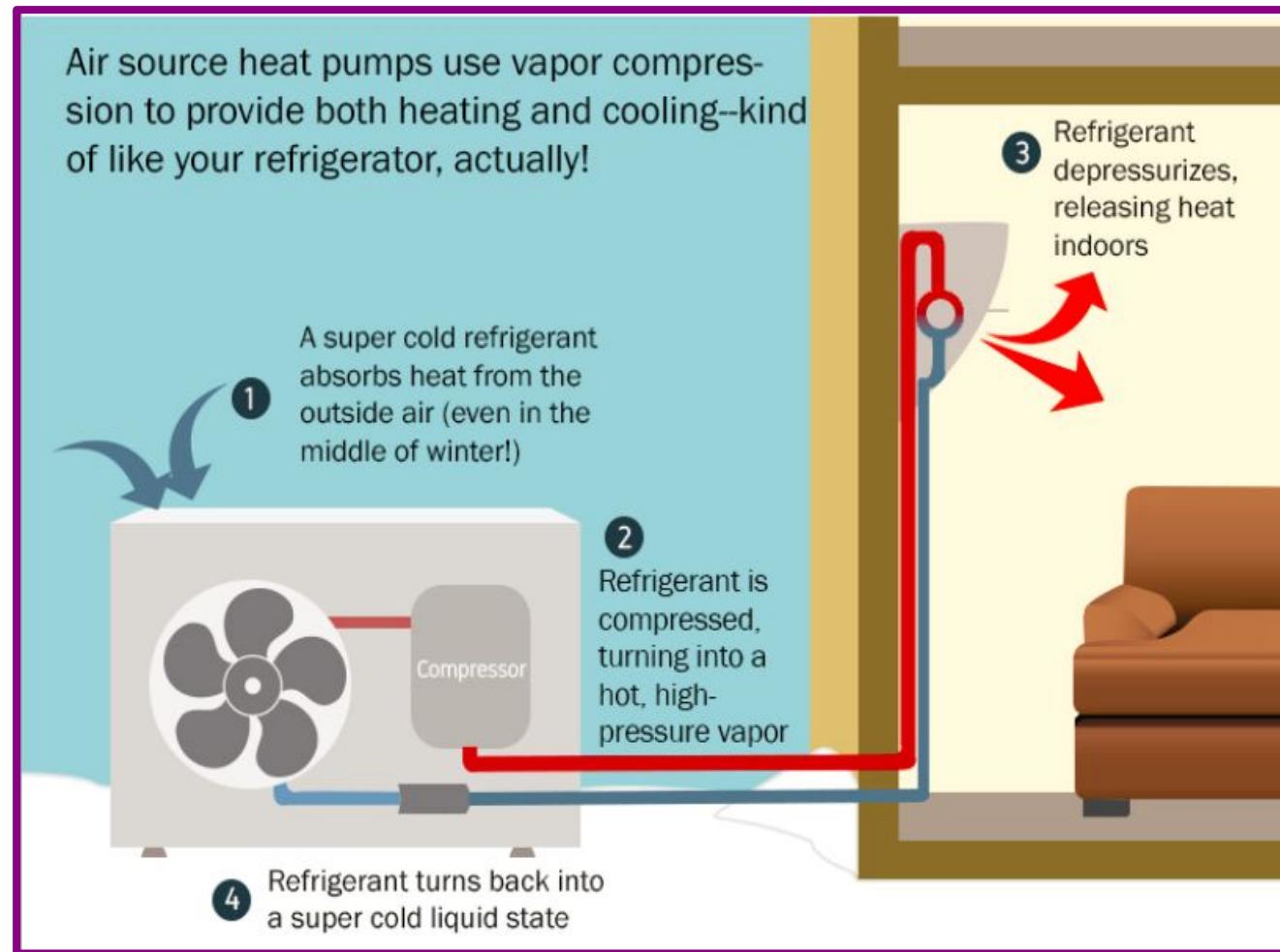
Same technology as:



Air Conditioner



Refrigerator



# Outdoor Condensers Need Space

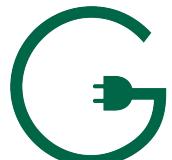


## Air-source

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

## Ground-source or geothermal

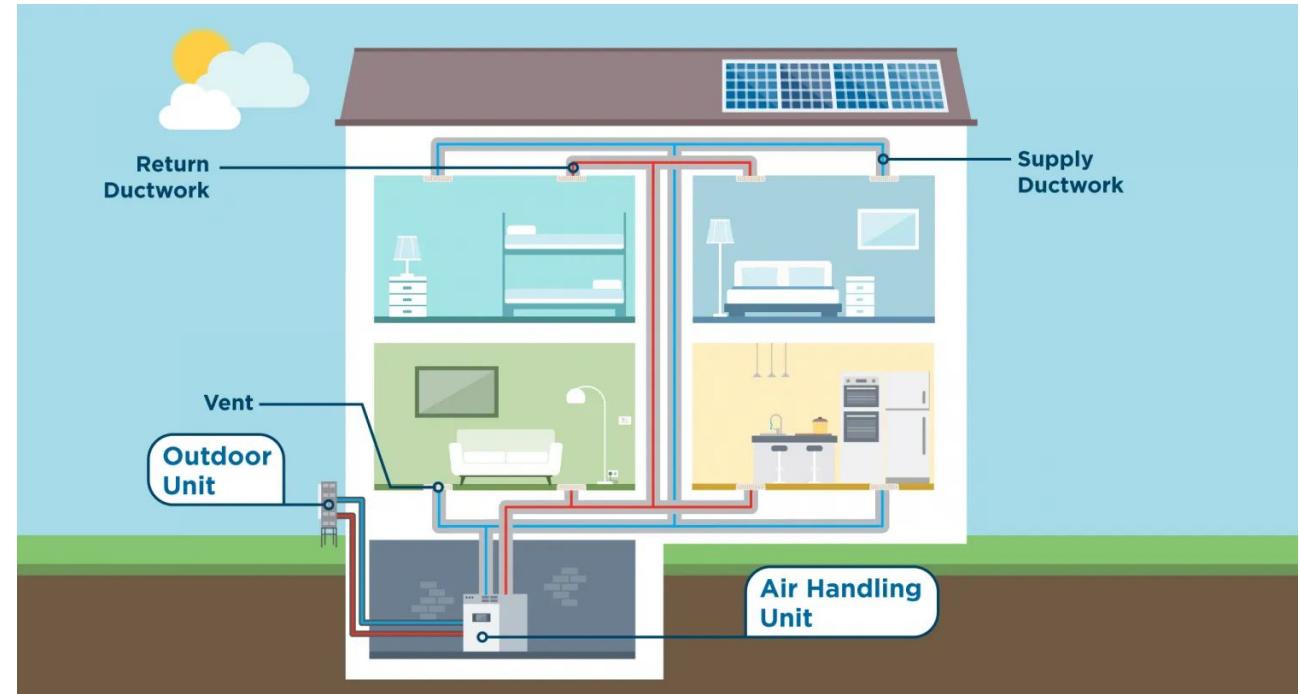
- Vertical or horizontal loop



# 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

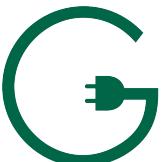
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**Heat pumps don't usually produce hot enough water to easily replace boilers.**

- Some hydronic options are available; few installers
- Artic
- SpacePak

## **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”)

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**Wall Hung**



**Floor Mount**

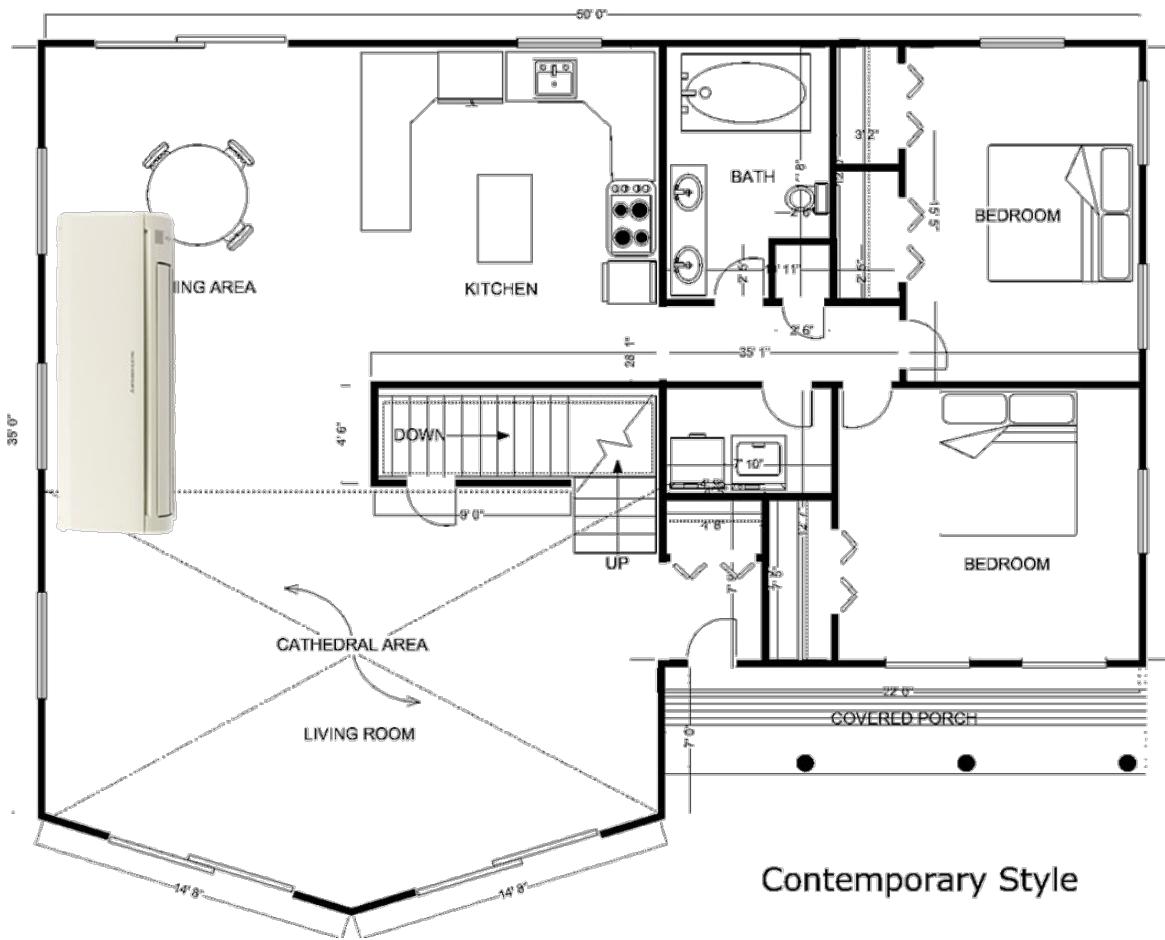


**Ceiling Cassette**

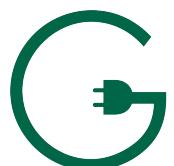


# Sizing Your System

24,000 BTU/h heat load

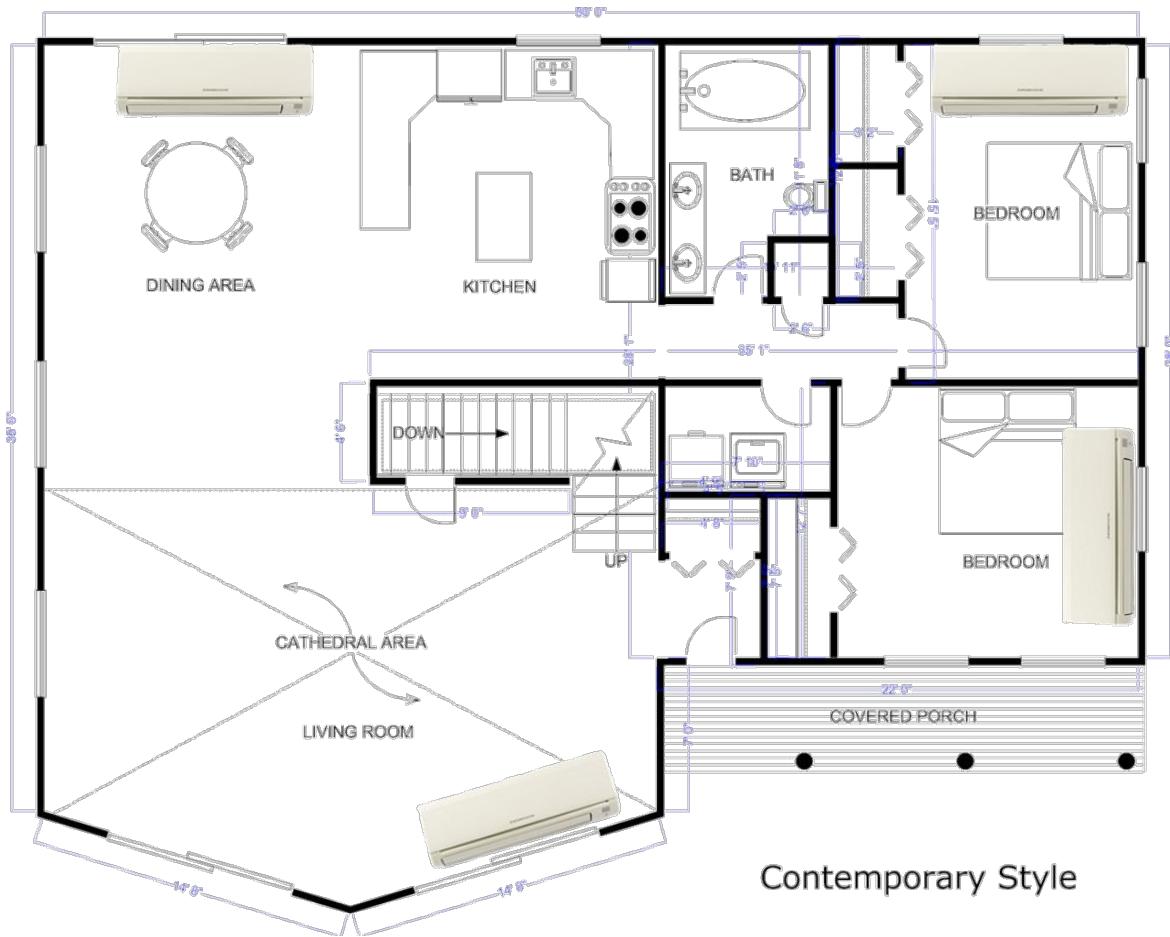


- One 24K head in living room
- Noticeable differential between rooms
- For partial displacement of fossil heat, move thermostat to hall or back bedroom

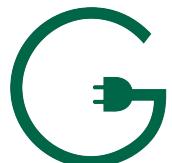


# Sizing Your System

## Too Many Heads in Small Space

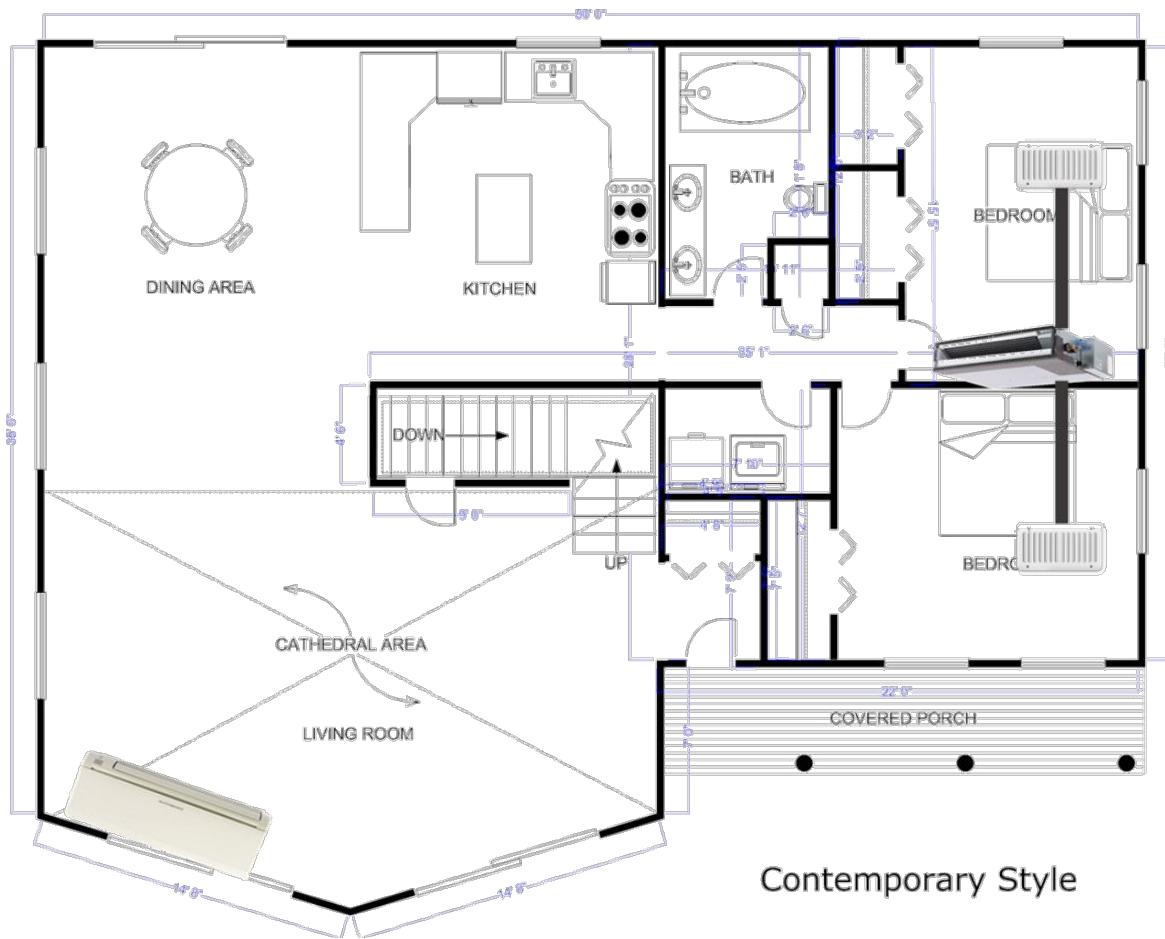


- Four 9K heads = 36K total (33% more than needed)
- Heat pump systems are designed to run continuously
- Too much equipment = expensive and cold and clammy in summer

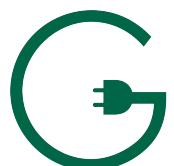


# Sizing Your System

## Perfect Mix: Ductless & Mini-Ducted



- 12K Mini-ducted unit condition smaller rooms
- 12K in living room
- Could be connected to two condensers or only one
- Head can be up to 150 ft. from the condenser



# Costs

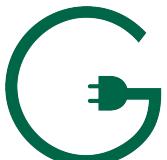


# Weatherize First!

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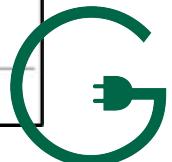
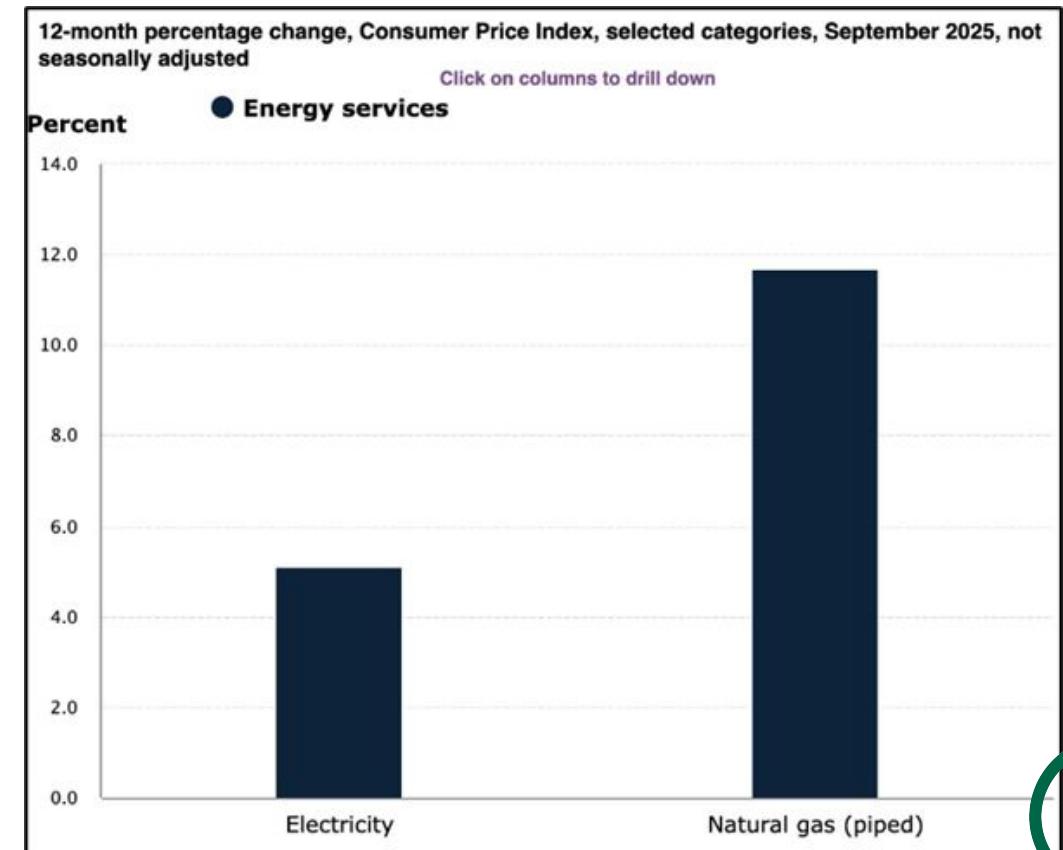
To save money on heating system replacements:

- 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



# Operating Costs: Seasonal Heat Pump Rate

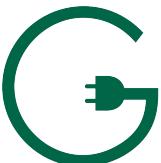
- Last winter: 45% of MA households were likely to save on winter bills when switching to heat pumps ([study](#))
- This winter: 64% likely to save
- 4 – 7 cents/kwh reduction
- [Eversource](#); [National Grid](#)
- Bigger discounts proposed (DOER)
- Gas rates rising faster than electric rates: [US BLS](#) and US EIA
- Get your Quote Comparison Report from
- Mass Save [Decarbonization Consultation](#)



# Maintenance

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



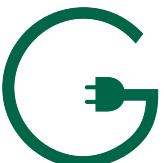
# Incentives



# Overview

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- State & Utility: Mass Save and Municipal Light and Power Plants (MLPs)
  - Designated Equity Community (Worcester) increased incentives including barrier mitigation and electrification incentives
- Financing Options:
  - Mass Save [HEAT Loan](#), interest-free, 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

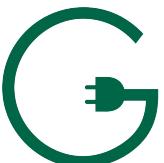


# MA Incentives Vary by Household Income & Zip Code

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## *Example: 2-person household in Worcester, MA*

- Low Income: Up to \$67,709
  - Worcester Community Action Council would cover cost of heat pump installation for oil or electric resistance customers
- Moderate Income: Up to \$90,279
  - **Mass Save** “Enhanced Incentive”: \$16,000 per apt/home or 100% discount turnkey
- Market Rate: \$90,280 and greater
  - Mass Save: up to \$10,000 per apt/home (\$3,000/ton of heating capacity)



# Designated Equity Communities

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**For all 1-4 homes in Worcester, no income qualification needed**

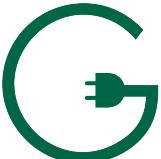
- 100% off weatherization (insulation & air sealing)
- Increased rebates on qualifying energy-efficient HVAC & water heating
- Additional incentives to address pre-weatherization barriers

**For 1-4 rental properties in Worcester, no income qualification, with landlord permission**

- No-cost air source heat pumps (*gas-heated homes not eligible for this measure*)
- Up to 100% off health & safety barrier remediation
- Turnkey delivery experience, with project coordination managed for you

[Designated Equity Communities](#) | [Income Based Offers](#) | [Mass Save](#)

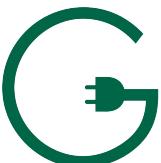
*DECs: Brockton, Chelsea, Everett, Fall River, Framingham, Fitchburg, Lawrence, Lowell, Lynn, Malden, New Bedford, Oak Bluffs, Pittsfield, Quincy, Revere, Salem, Springfield, Tisbury, Woburn, and Worcester*



# Heat Pump Water Heaters

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- \$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 \$1500; solar-assisted: 30% federal tax credit, no cap
- [Heat Pump Water Heater Marketplace -- Mass Save®](#)
- [www.efficiencymaine.com/at-home/water-heating-cost-comparison/](#)

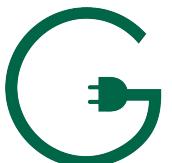
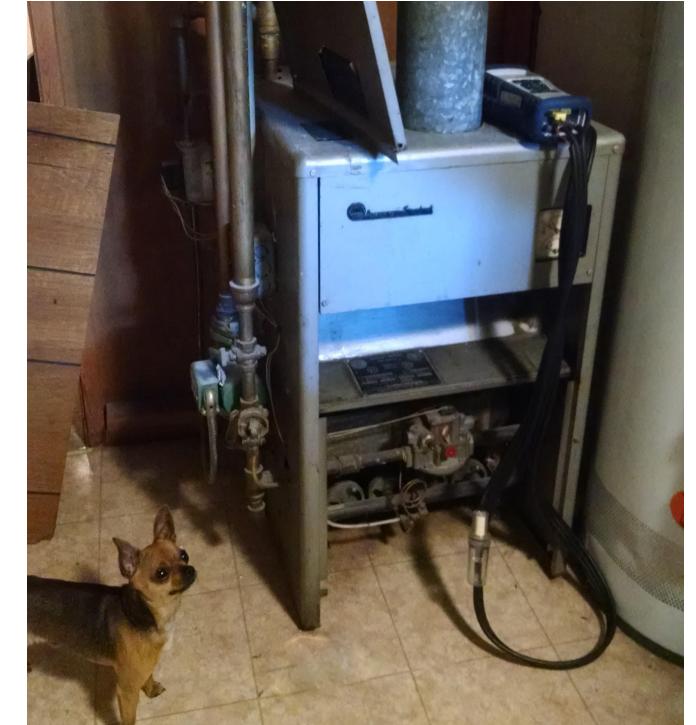


# Next Steps & Working with Contractors



# Steps Before Contacting Contractors

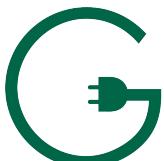
- Request Home Energy Assessment
  - Required to qualify for incentives
  - Good for 2-5 years
  - Add any recommended insulation and air sealing
  - For all income levels
- Research Incentives and Loan programs
  - [Mass Energy Savings Finder](#)
- **Speak with Worcester's Energy Advocate**
  - Call 508-456-5752
  - [Schedule an office hours appointment](#)
  - Email: [energyadvice@worcesterma.gov](mailto:energyadvice@worcesterma.gov)



# Questions to Ask Heat Pump Installers

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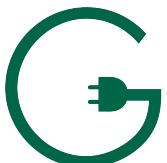
- Is your company one of the approved installers for Mass Save?
  - [Mass Save Heat Pump Leaders Network](#)
- Is the equipment you're recommending eligible for cold climate heat pump state/municipal rebate?
- Will you formally calculate my heat load before I sign a contract to purchase specific pieces of equipment?



# Get Multiple Perspectives

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- **No-Cost Virtual Independent Consultations (before or after getting quotes)**
  - [Mass Save](#) – 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](#)



# CONTACT US

## Smart Energy Advice

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