

## Advantages



### Cost

Compared to heating with oil, propane or electric baseboard (resistance), heat pumps can allow you to save money on energy bills.



### Flexibility

Heat pumps can be installed with or without ductwork and can heat and cool either an individual room or your whole home.



### Comfort & convenience

Heat pumps provide all-in-one comfort: Heating, cooling and dehumidification are all in one system.



### Greenhouse gas emissions

Heat pumps emit less greenhouse gasses, which is better for the environment.

Visit [MassSave.com/HeatPump](https://MassSave.com/HeatPump) for resources that will help you:

- Understand the cost. The cost to install a heat pump in your home will depend on the specific characteristics of the building, the kind of system and the features you choose, and your installer. The Sponsors of Mass Save offer rebates and financing to help make the purchase and installation of energy-efficient heat pumps affordable for Massachusetts residents.
- Connect with experts. Schedule a no-cost virtual Heating and Cooling Consultation with a Mass Save Heat Pump Specialist or work directly with a trained and approved contractor that participates in the Mass Save Heat Pump Installer Network.
- Maximize system performance. Heat pumps operate differently than conventional combustion heating systems and require different operation and maintenance practices. The Sponsors of Mass Save offer heat pump user tips that will help you minimize your energy use and maximize your comfort.

### Together, we make good happen for Massachusetts.

Your local electric and natural gas utilities and energy efficiency service provider are taking strides in energy efficiency: Berkshire Gas, Cape Light Compact, Eversource, Liberty, National Grid and Unitil. As one, we form Mass Save®, with the common goal of helping residents and businesses across Massachusetts save money and energy, leading our state to a clean and energy efficient future.

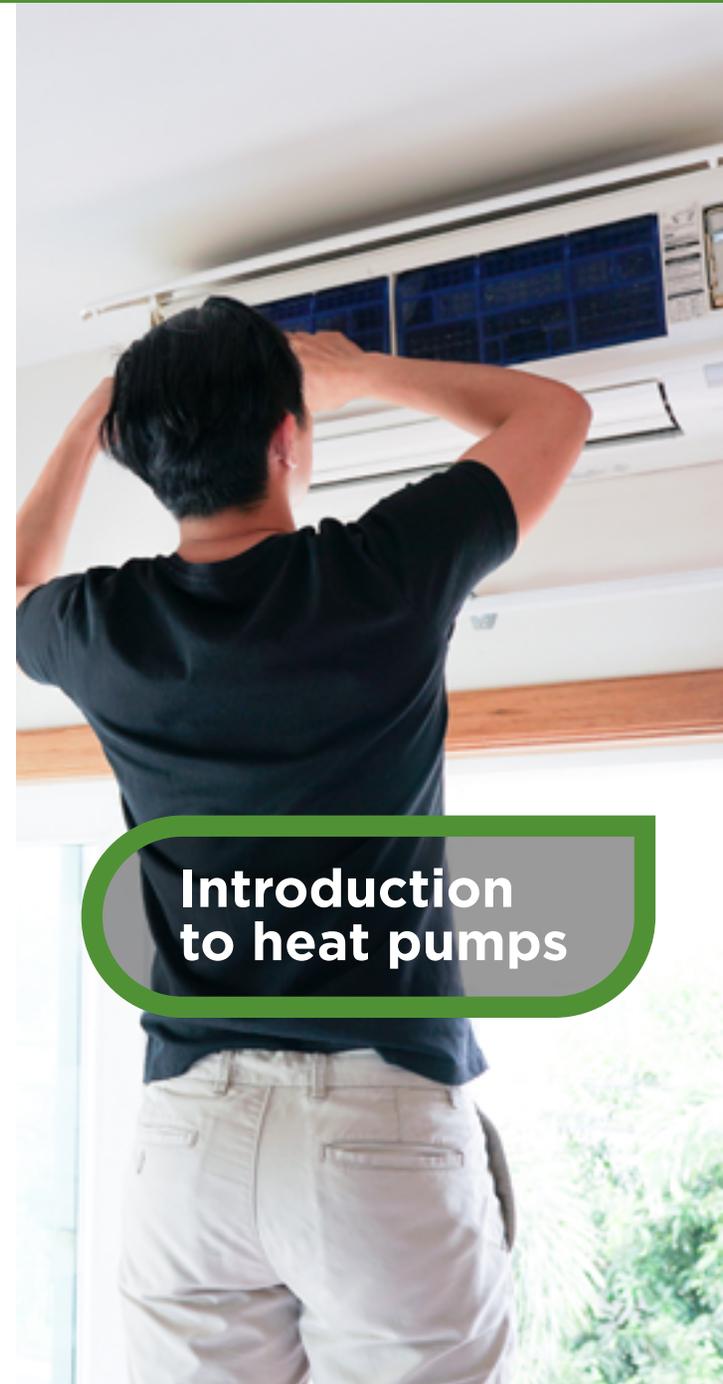
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Introduction  
to heat pumps



## Introduction to heat pumps

If you are looking for a convenient way to heat and cool your home, consider a heat pump. Heat pumps efficiently heat in the winter and double as a cooling system in the summer—while lowering greenhouse gas emissions. This clean technology is environmentally friendly, affordable to operate, and can last longer than other heating and cooling systems.

## How heat pumps work

Heat pumps move heat indoors in the winter and draw heat outdoors in the summer (Figure 1). Instead of burning fossil fuels, they're powered by electricity and move—rather than create—heat to keep your home at a comfortable temperature year-round. Today's high-performance heat pumps can be up to 400% efficient and many provide efficient heating at outdoor temperatures as low as  $-15^{\circ}\text{F}$ .

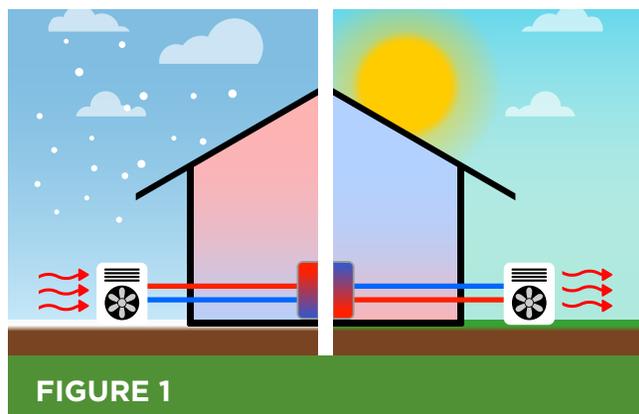


FIGURE 1

## Air source heat pumps

Air source heat pumps extract heat from the air outside and distribute it inside in the winter. During warmer months, this process is reversed to provide cooling. These highly efficient systems could cut your heating and cooling costs by up to 30%.

There are both ducted and ductless heat pumps making them suited to homes with or without existing ductwork.

- Ducted systems work well for homes that already have ducts or where the homeowner is planning to install ductwork.
- Ductless units (commonly known as mini-splits) can be mounted on a wall, mounted to the floor, or embedded in the ceiling. Ductless systems are a great option for houses that have no existing ductwork.

## Ground source heat pumps

Ground source (geothermal) heat pumps extract heat from the ground during cold weather and distribute it throughout your home. During warmer months, this process is reversed to provide cooling. This system is the most efficient type of heat pump and can offer up to 50% savings on heating and cooling costs when compared to a conventional fossil fuel system. These heat pumps are a great option for properties with sufficient outdoor space to accommodate the system.

## Considerations

**Efficiency first:** Before upgrading your heating system, consider preliminary measures, such as sealing and insulating your ductwork or completing weatherization work. The Sponsors of Mass Save offer professional guidance, rebates and financing that will help you increase your home's efficiency and prepare for a new heating system.

**Integration with a pre-existing heating system:** While high-efficiency heat pumps are capable of providing 100% of a home's heating needs, some customers may opt to keep their existing heating system in place. Integrated controls help minimize the use of your existing system while maximizing the use of your heat pump to get maximum savings and comfort.

**Electric usage:** A heat pump is an electrical system, so running one will add to your electrical use. In many cases, that additional electrical use is offset by savings elsewhere, such as a propane or oil heating fuel bill. You may also decide that increased comfort is worth an additional energy cost. Of course, if you're adding a heat pump where there was no cooling source before, it will increase your electric use.

**Qualified contractors:** Please note that each customer situation is unique. The Sponsors of Mass Save urge you to work closely with a qualified contractor who can design and install a heat pump system that will meet your heating and cooling needs. Understanding installation and operating costs, as well as proper operation and maintenance practices will help you enjoy the benefits that a properly installed heat pump system can provide.