



CLEAN HEAT RHODE ISLAND

Introduction to Heat Pumps

HOW HEAT PUMPS WORK

Heat pumps are highly-efficient heating and cooling systems that move heat inside in the winter and draw heat outside in the summer. Instead of burning fossil fuels, like oil or propane, they use a refrigerant cycle, powered by electricity, to move heat and keep your home at a comfortable temperature year-round.

This clean technology is environmentally friendly, affordable to operate, and can last longer than other heating and cooling systems.

There are two main types of heat pumps, air source and ground source (geothermal). Both air and ground source heat pumps offer highly efficient heating and cooling in one system.

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

- Ductless heat pumps, also known as mini-splits, are an efficient alternative for heating and cooling areas where ductwork doesn't exist or can't be installed.
- If your home or business has ductwork for heating and cooling, a centrally-ducted heat pump can use it to heat and cool your building more efficiently.

GROUND SOURCE HEAT PUMPS

Ground source heat pumps use the earth's constant temperature to provide heating and cooling. In the winter, fluid circulating in underground pipes carries the earth's heat to your home, and in the summer, the process is reversed to provide cooling. Ground source heat pumps are the most efficient type of heat pump and are a great option for properties with sufficient outdoor space.



CONSIDERATIONS

EFFICIENCY FIRST: Before upgrading your heating system, consider preliminary measures, such as sealing and insulating your ductwork or completing weatherization work.

QUALITY INSTALLATION: Optimize your heat pump's performance by ensuring the correct size and design for your space. Schedule a consultation and work with a qualified contractor to tailor the system to your heating and cooling needs.

ELECTRICAL USAGE: A heat pump is an electrical system, so running one will add to your electrical use. In many cases, the extra electricity usage is balanced out by savings in other areas, such as reduced expenses on propane or oil for heating.

ADVANTAGES

COST

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

CONVENIENCE

Heat pumps provide all-in-one comfort: heating, cooling, and dehumidification, all in one unit.

EFFICIENCY

Over the course of a heating season, heat pumps are 2-3 times more efficient than fossil fuel equipment.

ENVIRONMENTAL IMPACT

Heat pumps help reduce your carbon footprint by emitting less greenhouse gases.

NEXT STEPS

If you're looking for some assistance, Clean Heat Rhode Island can help provide technical guidance and support for residential heat pump projects. Schedule a no-cost virtual consultation with a Heat Pump Specialist.

Our Heat Pump Specialists have been trained to help you make informed decisions specific to your goals and the unique needs of your home or business and can connect you with contractors participating in the Clean Heat Rhode Island Heat Pump Installer Network.

Visit [CleanHeatRI.com](https://www.CleanHeatRI.com) to learn more.