Heating problems?
We’ve got solutions!

All About Heat Pumps

What is it?
• A heat pump is a device that transfers thermal energy between the outdoors and the interior of a building.

Benefits
• The only machine that can heat, cool, and dehumidify air
• Runs on renewable energy
• Precise control of temperature in living spaces
• No combustion for ducted/unducted heat pumps

Things to Consider when Purchasing
• Pairs nicely with onsite or community shared solar system
• Life expectancy
• Efficiency
• You may need to replace domestic hot water system
Heat Pump Myths

**Myth:** Heat pumps stops working efficiently below 40 degrees

**Fact:** Cold climate heat pumps can now work more efficiently than comparable heating systems at -25F

**Myth:** Heat pumps are excessively noisy

**Fact:** Modern heat pumps are quieter than they once were. When installed, noise should not be an issue, but noise absorbing bases are also an option.

**Myth:** Heat pumps have a limited lifespan.

**Fact:** A high quality heat pump that is properly maintained will last at least 15-20 years.
Heat Pump Water Heaters

**What is it?**
- A heat pump water heater provides hot water by using electricity to move heat from one place to another instead of generating heat directly.

**Benefits**
- 2-3x more efficient than an electric resistance water heater.
- You can buy a new system or you can retrofit a heat pump to work with an existing conventional storage water heater.
- If the heat pump is too cold it will switch to electric resistance heating.
- It can be paired with solar hot water.
- Make sure you implement recommendations, primarily insulation and air sealing.
Tankless (or demand-type) Water Heater

**What is it?**
- A tankless water heater heats water as it flows through the system, so it only heats the water as you need it.

**Benefits**
- Provides a constant supply of hot water
- 8-34% more efficient than a conventional storage water heater
- Has a life expectancy of more than 20 yrs compared to storage water heaters (10-15 years)
- Can run on electricity, natural gas, or propane
- Look for efficiency ratings (make sure it’s on high demand)
Geothermal/Ground Source/Water Source Heat Pump

What is it?
- A geothermal heat pump draws heat from the ground when it’s cold and pulls heat into the ground when it’s hot

Benefits
- Quieter
- More efficient bc of static temperature
- Less maintenance
- Can be used to heat water as well

Incentives
- Up to $15,000 rebate through MassSave
  https://www.masssave.com/saving/residential-rebates/heat-pump-water-heaters
- 26% Federal tax credit

Types
- Horizontal - Most expensive because it uses water to circulate instead of air which uses more electricity
- Vertical - Conducted using two drilled wells