

## Electrification

Electrification, also known as fuel-substitution or fuel-switching, is changing energy uses in our buildings from gas to electricity. Most typical electrification includes:

- Water heating with a heat pump water heater (see diagram)
- Switching to an electric car
- Space heating with an air source heat pump (which doubles as an air conditioner in the summer)
- Induction cooking stove tops
- Electric clothes dryers

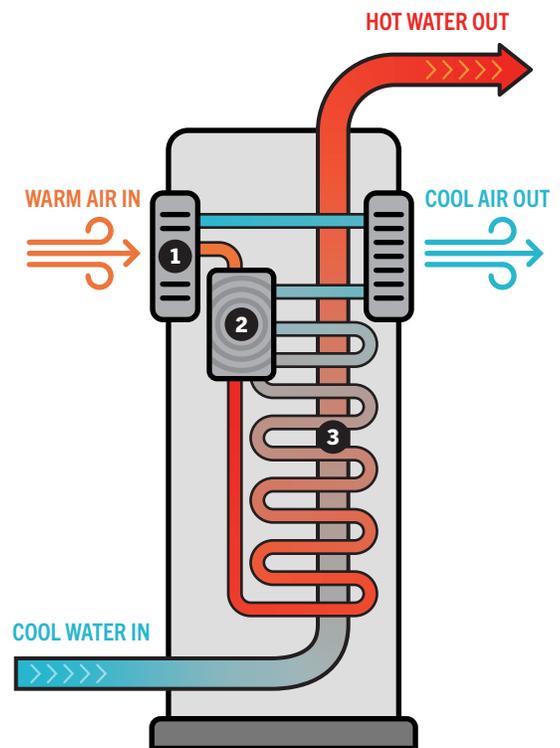
StopWaste, via its Energy Council, is pursuing a number of electrification initiatives to help the region reduce greenhouse gas emissions by moving away from fossil fuels.

One example is the Energy Council's Heat Pump Water Heater project (funded by the Bay Area Air Quality Management District and implemented via the Bay Area Regional Energy Network). A goal of this project is to transform the local market for residential heat pump water heaters, which have been used on the East Coast for decades.

The pumps that replace gas appliances are up to four times as efficient, and operate like a refrigerator in reverse. Heat pumps are not currently cost competitive with gas water heaters but can become so if their use is more widespread.

Electrification can help communities become more resilient and energy efficient. In addition to heat pumps, Energy Council activities include promoting codes and standards to facilitate electrification, clean energy financing, and implementing the Home Energy Score labeling system.

### Heat Pump Water Heater Operation



- 1 Heat pump pulls warmth from the air.
- 2 Warm air is compressed, increasing its temperature.
- 3 Condenser coils transfer heat to the water.



of California's greenhouse gas emissions come from burning fossil fuels for heating the air and water in buildings.