Boilers heat water—in a closed-loop system—and distribute it throughout the house. Next to furnaces, boilers are the second-most common method of heating homes. Many hot water boiler systems can also provide domestic hot water for bathing, washing, etc. along with heating the house.

**How a boiler works**

Boilers heat water by using electricity or by burning a fuel—natural gas, propane, fuel oil, or wood are the most common. The heated water is then distributed through the house in a variety of ways:

- **Hot water radiator** systems for home heating are typically found in older homes. Heated water is distributed through pipes to large cast iron radiator units throughout the house. Radiators absorb the heat from the water and then radiate it back to the room over time. Although some systems provide options for regulating the heat output of individual radiators, many older systems rely on a single centrally located thermostat to control the temperature in the house.

- **Hot water baseboard** systems are more common than radiator systems and provide heat to rooms through smaller units located at the “base” of walls. They consist of copper pipes with fin tubes that heat the surrounding air, providing convective heat for the room.

- **In-floor hot water** systems distribute heated water through a series of tubes embedded in a concrete slab or between floor joists. In-floor systems are often controlled by valves that divide the home into zones; they can provide a steady heat source but can be slower to respond to changes in heating requirements. Some hot water systems use tubes embedded in walls, but these usually don’t have the thermal storage capacity of an in-floor system.

- **Hydronic air handlers** send heated water through a coil located in the ductwork of a forced-air distribution system; an air handler or fan distributes heated air through the ductwork.
**Fuel sources**

Furnaces and boilers can be fueled by petroleum products, electricity, biomass, the sun, or a combination. Although often based on the local availability of specific fuels, there can be many reasons to choose one fuel over another, including the cost per BTU, the environmental effects, the installation cost, and the lifetime operating costs (including maintenance, repair, and eventual replacement).

When switching from one fuel source to another, be sure you have carefully considered all the factors.