WATER HEATER REPLACEMENT

When to replace

Water heaters have an average life expectancy of 10-12 years, but they can last much longer. Most, however, are not replaced until the tank fails and begins leaking—potentially damaging furnishings or structure. Additionally, an old water heater can operate for years at very poor efficiencies before it finally fails. It is often cheaper (and more convenient) to remove an operating but inefficient older unit and replace it with a new high efficiency model.

Ask yourself the following questions:

- Does the water heater make popping or cracking noises? This indicates a buildup of sediment in the tank.
- Have you been forced to turn up the temperature setting over time to maintain an adequate supply of hot water?
- Do you have very hard water?
- Look under the burner. Is there a buildup of rust or other deposits?
- Is there evidence of soot or burn marks near the vent hood at the top of the tank? This may indicate dangerous backdrafting.

If you answer yes to any of these questions, it may be time to replace your water heater.

Proper sizing

Buy the right size water heater: too small and you may run out of hot water in the middle of a shower; too large and you'll pay for heating water that is never used.

The first-hour rating (FHR) is more important than the actual size of the tank because it is an estimate of how much hot water the unit will deliver in an hour. The FHR is displayed on the Energy Guide label. Look for a new water heater with an FHR that is close to the estimate of your household's peak hour demand. If you only reach your peak once a week and use less hot water the rest of the time, consider adjusting your use to spread out demand and buy a smaller heater. To estimate your peak hour demand, check out an online calculator, such as what can be found at energy.gov.

Efficiency in a new water heater

When looking at a new water heater, compare the energy efficiency of different models by checking the Energy Guide label.

Energy-saving tips for water use

- Pipe insulation. Water pipes extending vertically from the hot water storage tank are actually part of the tank itself. The lighter hot water flows up the pipe, replacing cooler and heavier water. Insulate both pipes with foam or fiberglass from the tank to the heat trap, or to the first horizontal run. To prevent a fire hazard, the insulation should be kept at least six inches from the draft hood and flue of an atmospherically vented unit; it should not be installed if that clearance cannot be achieved.
- Using less hot water. Avoiding waste in using hot water is an effective and low cost way to reduce energy costs.
- Turn down water temperature. You don't need the water to be any hotter than 120 degrees. Temperatures over 120 degrees can increase the risk of scalding. Many new dishwashers feature a temperature boost

(over)

What is an *orphaned* water heater?

In the past, atmospherically vented water heaters and furnaces usually shared the same masonry chimney. When both were operating, the warm exhaust was sufficient to create a draft, pulling the exhaust gasses all the way out of the chimney. When coupled with the leakiness of unimproved homes, the dangers of backdrafting were greatly reduced.

However, when a new high efficiency furnace is installed, the masonry chimney is no longer used to remove the furnace exhaust; that is now vented through a plastic pipe through the wall. This leaves the old water heater orphaned, and unable to generate sufficient draft under some conditions. Together with the tightness of many homes today, that increases the potential for dangerous backdrafting of the water heater.

The solutions are:

- install a CO detector (per code) to provide warning of any issues
- when it is time to replace the water heater, install a high efficiency unit (either power vent or sealed combustion)

setting which allows for a lower water heater temperature.

- Fix leaky faucets. A hot water faucet leaking one drop per second will waste about 60 gallons of hot water a week. This could cost you up to $35 or more a year. Leaks can often be fixed by replacing the tap washer.
- Install flow restrictors on faucets. Flow restrictors will save money on both the water bill and water heating costs. They reduce the amount of water used for tasks that require flowing water without greatly changing the feel of the flow.
- Install a water-saving showerhead. A typical showerhead uses between 4-9 gallons of water a minute. A water-saving showerhead uses between 2-3 gallons per minute, which means it can save you 1-7 gallons per minute; and most of the water is hot. If your water heater is set at 120 degrees, you can easily pay for the new showerhead in about a year of energy savings.
- Wash only full loads of laundry or adjust the water level for smaller loads. Use cold water whenever possible.
- Wash only full loads with the dishwasher.
- Use cold water to flush away food in your garbage disposal.
- Place your water heater on its lowest setting if you are going to be gone for a few days or more.
- Don’t let the hot water run when you are shaving, washing dishes by hand, or doing similar tasks.