CHANGE FOR THE BETTER WITH ENERGY STAR

Homes that earn the ENERGY STAR® prevent greenhouse gas emissions by meeting strict energy efficiency guidelines set by the U.S. Environmental Protection Agency. www.energystar.gov

High Efficiency Water Heaters

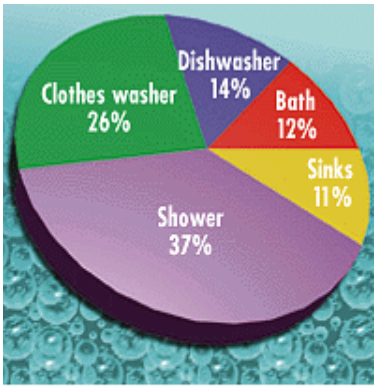
Provide Hot Water for Less

Heating water accounts for approximately 15 to 25 percent of a home's energy use. With a high efficiency water heater, homeowners can save money on energy bills because it uses use 10 to 50 percent less energy than a standard model. The energy savings from high efficiency water heaters depend on family size, heater location, and the size and placement of water pipes.

UNDERSTANDING HIGH EFFICIENCY WATER HEATER TECHNOLOGIES

- **Storage (Tank) Water Heaters.** Water is kept hot and ready for use at all times in insulated storage tanks with capacities ranging from 20 to 80 gallons. Many fuel options are available, including electricity, natural gas, oil, and propane. One drawback of these units is the energy used (wasted) to keep the water hot at all times, otherwise known as "standby losses."

- **Demand (Tankless) Water Heaters.** Water circulated through a large coil is heated only on demand using gas or electricity; there is no storage tank continuously maintaining hot water. A possible concern with this technology is the limitation on the number of fixtures that can simultaneously use hot water. However, there is an endless supply of hot water and standby losses are eliminated.



Hot Water Usage
(based on national averages)

The typical U.S. homeowner's water consumption by place of use.

- **Heat Pump Water Heaters.** Heat pumps transfer energy from the surrounding air to water in a storage tank. These water heaters are much more efficient than electric resistance water heaters and most effective in warm climates with long cooling seasons.

- **Solar Water Heating.** While the initial purchase price of solar water heaters is very high compared to standard models, they can be cost effective. That is because the sun's energy is harnessed to reduce operating costs up to 90 percent. Solar water heating systems require a conventional water heater as a backup water heating source to ensure hot water is available when solar energy is not.

EPA United States Environmental Protection Agency

Comparison of Water Heaters					
High Efficiency Water Heater Type	**Energy Savings vs. Minimum Standards**	**Best Climates**	**Expected Energy Savings Over Equipment Lifetime**	**Expected Lifetime**	**Major Advantages**
High Efficiency Storage (Oil, Gas, Elec.)	10%–20%	Any	Up to $500	8–10 Years	Lowest first cost
Demand (Tankless) Using Gas or Elec.	45%–60%	Any	Up to $1,800	20 Years	Unlimited supply of hot water
Heat Pump	65% (Compared to electric resistance)	Mild-Hot	Up to $900	10 Years	Most efficient electric fuel option
Solar with Electric Back-Up	70%–90%	Mild-Hot	Up to $2,200	20 Years	Largest energy savings using a renewable energy source

IMPORTANT WATER HEATER METRICS

- **First-Hour Rating (FHR).** FHR measures how much hot water will be available during the busiest hour of the day. A large tank does not necessarily translate to a higher FHR. The recovery rating is important as it indicates the water heater's ability to replenish hot water as it is drawn from the tank.

- **Efficiency.** The water heater's efficiency is measured as an Energy Factor (EF), which is usually listed beside the EnergyGuide label. The higher the number, the more energy efficient the water heater.

A BETTER FUTURE

ENERGY STAR is a voluntary partnership between the government and more than 8,000 organizations, including more than 2,500 of the nation's home builders. Together with home buyers and their families, we are working to achieve a common goal—protecting the environment for future generations by changing to more energy-efficient practices and products today.

ENERGY STAR is the government-backed symbol for energy efficiency. It identifies new homes and more than 40 types of products that are energy efficient and offer the features, quality, and performance that today's consumers expect. Products that can earn the ENERGY STAR include windows, heating and cooling equipment, lighting, and appliances. To learn more about ENERGY STAR, visit www.energystar.gov.