

ENERGY SERIES: What about the Water Heater?

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Heating water is the third largest energy expense in your home, after heating and cooling the entire space; and, it can account for 15-25% of your utility bill. It's not hard to see why a family of four, each taking a 5-minute shower a day under inefficient showerheads, can use 700 gallons of water in a week representing a 3-year supply of drinking water for one person! There are several ways to cut down the amount you spend on heating water: a) insulate your water heater and pipes; b) reduce the amount of hot water you use; and c) turn down the thermostat on your water heater.

A water heater should be large enough to provide hot water during the household's busiest times of the day. Consider the size of your family: a home with two adults may use a maximum of 30 gallons of hot water in an hour, whereas a family of six may need 70 gallons an hour. Too small a water heater won't keep up with your family's hot water demands, but too large a water heater will increase the standby losses (the amount of heat the water heater loses as it stands waiting to be used) in some models.

Where Should the Water Heater be Located?

When building a new home, try to have the water heater centrally located, relative to high water use areas such as bathrooms, laundry, and kitchen.

This will mean a shorter pipe "run" with less loss of heat through pipe walls and hotter water arriving at the tap.

How Do I Find an Energy Efficient Water Heater?

With a wide range of ways to heat water, you have choices. If you are in the market for a new water heater, first check the U.S. Department of Energy's website http://www.eere.energy.gov/consumer/your_home/water_heating/index.cfm/mytopic=12810 for information from energy efficiency to fuel type and availability. Also, ask your utility company if it offers rebates or incentives for certain types of energy efficient water heaters. Keep in mind that your choice of a water heater and its fuel source will depend, in part, on where you live and the space available for installation.

A properly sized, energy efficient water heater will help reduce your home energy consumption. Whether you select a tank, tankless, solar, or another water heating system, you are making an investment in managing a precious resource – water. Therefore, it is vital that every conservation measure be considered especially the most obvious changes including low-flow showerheads and faucets.

Developed as part of the NASULGC/DOE Building Science Community of Practice.

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