

8. Appliances

Bulbs, fixtures and water heaters

The homebuyer makes many appliance selections after purchasing the home. The builder, however, typically makes many appliance decisions that impact the home's energy use:

- **Lighting fixtures and bulbs** – New models of compact fluorescent bulbs produce more light for less cost, last for several years, can be ordered to produce a variety of colors, and fit most fixtures. Use these in areas that are not frequently switched on and off or in difficult places to reach.
- **Recessed lights** – There are several models on the market that are airtight (AT) and can have insulation contact (IC). Many times, these fixtures are good candidates for the new models of compact fluorescent bulbs.
- **Hot water heater** – Water heating can cost from \$200 to \$400 a year; therefore, improving water heating efficiency is important and the costs are minimal:
 - The higher the Energy Factor (EF) the better. Look for a gas EF above .56 and an electric EF above .88.
 - The First-Hour Rating the FHR is also listed on the Energy Guide label. This is a measure of how much hot water will be delivered during a busy hour. A larger tank doesn't necessarily mean a higher FHR.
 - Only a few water heaters come equipped with R-24 insulation. If the water heater is in an unconditioned space and the manufacturer does not prohibit it, wrap it with an additional R-11 insulation. Follow the manufacturer's instructions and keep the insulation away from the thermostat. For a gas water heater, wrap the sides except for the thermostat, and keep the jacket away from the burners and from the flue at the top.

- Insulate hot water pipes (and cold water feed pipes) wherever accessible, especially within 3 feet of the water heater. For gas water heaters, keep the pipe insulation at least 6 inches from the flue.
- If an electric water heater is on a slab, insulate the underside with a bottom board of rigid insulation.
- Anti-convection valves and loops are "heat traps" that prevent hot water from rising into the pipes when no water is being drawn. A \$5 pair of these simple devices can save from \$8 to \$28 a year. Even less expensive is plumbing that creates a 1 or 2 inch high point in the hot and cold water pipes connected to the heater that will prevent the water from convecting up the pipes.
- Special, high-efficiency gas water heaters have sealed combustion and are typically power-vented allowing them to be easily placed in the home without needing a special closet. The supply and combustion air pass through plastic pipes that can go through the wall.
- Small or large tankless or demand water heaters, especially gas-fired ones, can be considered when the distance to the conventional water heater is long or when the use is infrequent.

Other household appliances

When builders or homebuyers check for an Energy Star label on any of the following consumer devices, they are assured that a good energy efficient decision has been made:

- Refrigerator
- Stove
- Water Heater



- Dishwasher
- Clothes washer and dryer
- Microwave