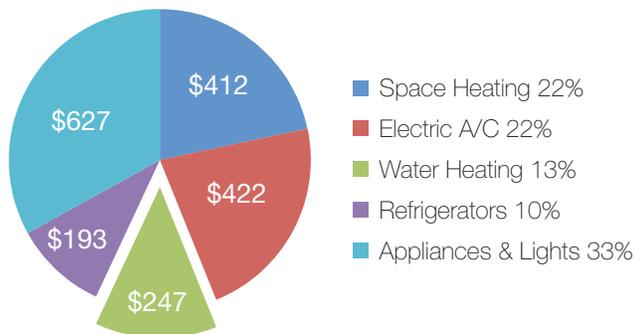


# WATER HEATING

Water heating is the fourth largest energy expense in your home. It typically accounts for about 13 percent of your utility bill. For the average Arkansas household, this could add up to \$247 a year (see figure 1).

figure 1

## Arkansas Average Annual Utility Costs



Source: Energy Information Administration 2001 Residential Energy Consumption Survey Applying 2007 Average Utility Costs

Even if you aren't going to buy a new water heater, dishwasher or washing machine in the near future, you can save energy and money by following a few simple suggestions such as: repair leaky faucets and use less hot water.

### Water Heater Maintenance and Operation

- **Lower the temperature of your water heater** between 110 °F and 120 °F (confirm this by measuring the temperature at the tap with a candy thermometer). Not only does this save energy — a 10 degree reduction saves about 13 percent of your water heating costs — it also reduces the chance of scalding, which can occur at temperatures above 125 °F.
- **Wrap extra insulation around your water heater** if it feels warm to the touch. This inexpensive option can reduce water heating costs by about 10 percent and has a payback of less than one year. While newer models may not need a blanket, older models made before 1992 will probably need extra insulation. Follow the easy-to-install instructions and note the difference between wrapping a gas and electric water heater.

- **Insulate all hot water pipes that you can see and reach.** For easy installation, ask your hardware store about insulating pipe sleeves.

### Reducing Hot Water Consumption

#### Showers, Baths and Sinks:

- **Take more showers than baths.** Bathing and showering require the most hot water use in the average household (see figure 2). A bath takes 15 to 25 gallons of hot water, but a 5-minute shower uses less than 10 gallons.

### Myths and Facts

- Myth:** It takes less energy to boil water if you start with hot water from the tap.
- Fact:** It takes energy to make that tap water hot, therefore no energy was saved. In fact, it takes more energy for your water heater to heat the water than it does for your stove to bring cool water to a boil.
- Myth:** You need really hot water to sterilize dishes and clothes.
- Fact:** Even at the hottest setting on your water heater, dishes and clothes are not sterilized. Also, scalding can occur at high temperatures and can cause injury.
- Myth:** A little drip doesn't cost anything.
- Fact:** Repair leaky faucets promptly. A steady drip of hot water can waste many gallons of water per month, plus the energy needed to heat the water.

#### FIX THE LEAKY FAUCET

Cost of a leaking hot water faucet

Drops/Second	0.5	1.0	1.5	2.0
Electric \$/month	\$2.20	\$4.85	\$7.75	\$10.70
Gas \$/month	\$1.35	\$2.90	\$4.70	\$6.45

Based on \$0.10 per kWh (kilowatt hour) of electricity and \$1.15 per therm of natural gas.

figure 2

## Average Hot Water Use &amp; Cost



Source: Arkansas expenditures applied to national averages from U.S. Department of Energy, *ENERGY SAVERS, Tips on Saving Energy & Money at Home*

- **Install water-saving or low-flow showerheads.** If your shower fills a half-gallon milk carton in less than 10 seconds, you are wasting hot water. Newer low-flow models give good results; they reduce the volume of water by as much as 50 percent without reducing the water pressure. Installation is quick and easy.
- **Install low-flow aerators** in bathroom and kitchen faucets. Low-flow aerators allow for a strong flow while using much less water and are very inexpensive and easy to install. For maximum efficiency, purchase aerators that have flow rates of no more than 1.0 gallon per minute (gpm). For a family of four, this can save up to 8,500 gallons of water a year.

**Clothes Washing:**

- **Set the water level** on the washing machine to suit the size of the load — you will save both water and energy. Washing machines use about 26 percent of the hot water in most homes.
- **Wash your clothes in cold water** using cold-water detergents whenever possible. About 90 percent of the energy used for washing clothes is for heating the water. If you must use a warm-wash/cold-rinse setting on your washing machine, you can still save approximately 65 percent of the energy you would use with a hot-wash/warm-rinse setting.

**Dishwashing:**

- **Run the dishwasher only when it is full.** The dishwasher uses the same amount of water whether it's half-full or completely full.
- **Scrape, don't rinse.** Studies show that most people pre-rinse dishes before loading them into the dishwasher, even

though dishwashers purchased within the last 5 to 10 years do a superb job of cleaning even heavily soiled dishes. If you find you must rinse dishes first, get in the habit of using cold water.

- **Use the air-dry setting** on your dishwasher if it has one. Select this instead of the automatically selected heat-dry setting. This can cut at least 15 percent off the energy your dishwasher uses.
- **Washing dishes by hand** may or may not use less water than an automatic dishwasher. If washing by hand, use a sink stopper or dishpan, run the hot water as little as possible, and when practical, rinse the dishes in cold water.

**Replacement Considerations**

- **Always look for ENERGY STAR® appliances.** When buying an appliance, remember that it has two price tags: the purchase price and what you pay for the energy it uses over a 15 to 20 year life. ENERGY STAR® qualified appliances incorporate advanced technologies and will pay for themselves with lower monthly utility bills.
- **When shopping for a new dishwasher,** look for the ENERGY STAR® label — these efficient models use at least 41 percent less energy than the federal minimum standard for energy consumption.
- **When shopping for a new washing machine,** look for the ENERGY STAR® label — these use 25 to 60 percent less energy compared to standard models. Select a washing machine that allows you to adjust the water temperature and level. Front-loading machines use less water and energy than top-loading models. Look for the model that uses the least amount of water.
- **Use the EnergyGuide label** to compare estimated annual operating costs of a new water heater. Remember that the purchase price is just a “down payment.”

This Fact Sheet was developed for Energy Efficiency Arkansas (EEA), a partnership between the Arkansas Energy Office and Arkansas's investor-owned electric and gas utilities and electric cooperatives, to provide Arkansans with unbiased information about cost effective energy efficient practices, improvements and technologies. For further information go to [www.EnergyEfficiencyArkansas.org](http://www.EnergyEfficiencyArkansas.org).

