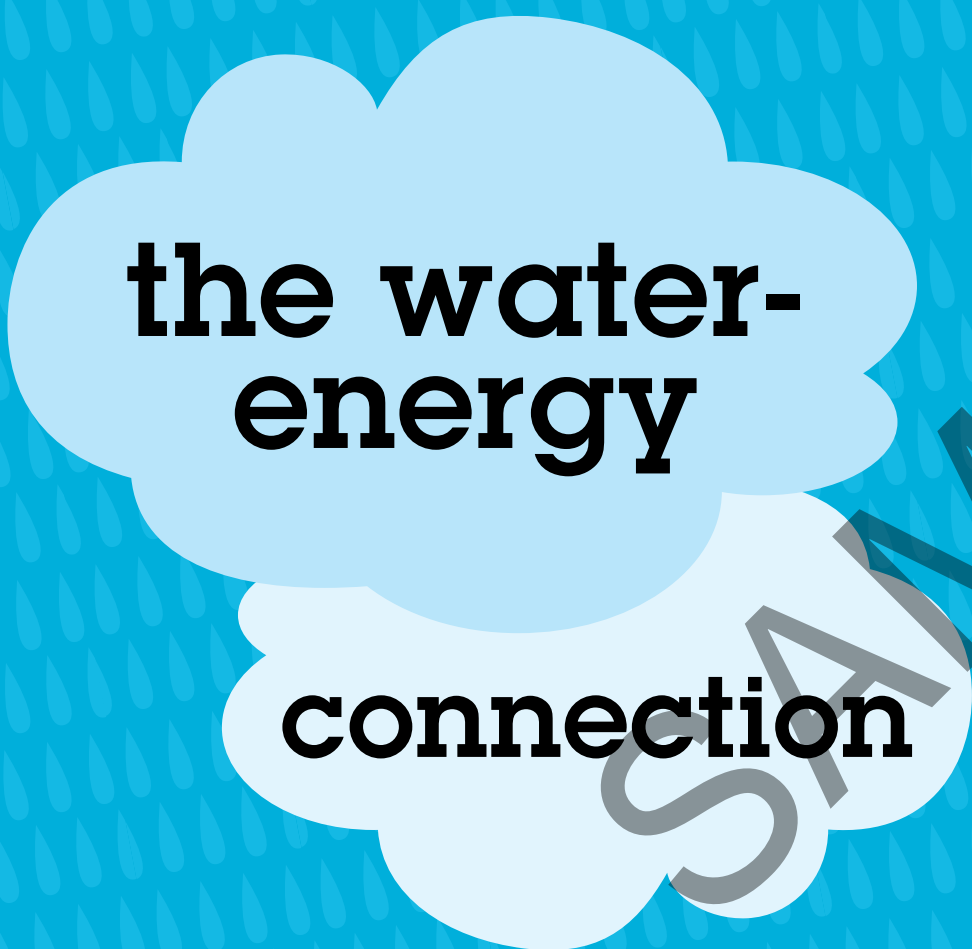


A circular splash of water, resembling a droplet or a ring of water, frames the central text. The splash is detailed with droplets and a white outline.

# the **WATER-ENERGY** connection





# **the water- energy connection**

Water and energy are connected. You can't use one of these resources without using the other. Think about the water from your tap. Getting that water to your home requires a lot of energy. Every step of the process—collecting, moving, treating, and heating the water—consumes energy.

Likewise, bringing electricity to your home requires water. Almost every power source, from hydroelectric to natural gas to nuclear to solar, requires water in one form or another.

Even though water and energy are linked, we usually consider them separately. But once you make the connection, you can make smart choices that conserve both resources and put money back in your pockets.



# PART 1

## **Saving Water Saves Energy**

Water utilities use a lot of energy to pump, clean, and deliver water to your home. Why should you care? Because utilities pay for that energy, and part of your water and sewage bills are actually energy bills.

That's not all. You pay twice for much of your water—once for the cost of the water itself and once for the cost of heating it. It can add up quickly. Letting your faucet run for five minutes uses as much energy as letting a 60-watt lightbulb run for 14 hours.

The good news is there are lots of no- and low-cost ways to save water throughout your home.



A lot of water is used in the kitchen to cook, clean, and wash dishes. But you can save thousands of gallons of water by adopting a few simple habits!

**Run the dishwasher instead of washing by hand**

You'll use less hot water and you could save \$40 per year.

**Fully load the dishwasher**

It costs exactly the same to wash one dish as it does to wash a full load.

**Scrape, don't rinse**

There's no need to pre-rinse plates before putting them in the dishwasher. Just scrape off excess food.

**Don't let the water run**

To clean fruits or vegetables, put them in the sink or in a pan, and fill it up with water.

**Install low-flow aerators on faucets**

The aerator is the screw-on tip of the faucet. Look for a flow rate of no more than 1 gallon per minute.

**A LEAKY FAUCET WASTES  
1,600 GALLONS OF  
WATER A YEAR**

# Bathroom

In the average home, toilets account for nearly 30% of total water use. When you add the tub, shower, and sink, the bathroom becomes the biggest water user in the home.

## Fix leaky faucets and toilets

A leaky faucet can waste more than 8 gallons of water a day; a leaky toilet can waste 200 gallons!

## Take showers instead of baths

A five-minute shower uses 10 to 25 gallons of water; a bath uses about 70 gallons.

## Install low-flow showerheads

They use a third less water than regular showerheads.

## Install low-flow aerators on faucets

The aerator is the screw-on tip of the faucet. Look for a flow rate of no more than 1 gallon per minute.

**REPLACING YOUR TOILET  
COULD SAVE 7,500 GALLONS  
OF WATER A YEAR**

Toilets account for **27%** of household water use

# Laundry

Washing machines use two resources: electricity to run the motor and water to wash the clothes. You can save money on both bills by making a few simple changes in the laundry room.

## Wash full loads

The washer fills up with water whether it has one item or a full load.

## Use cold water

You'll save money because you're not paying to heat the water. Only use hot water for very dirty loads.

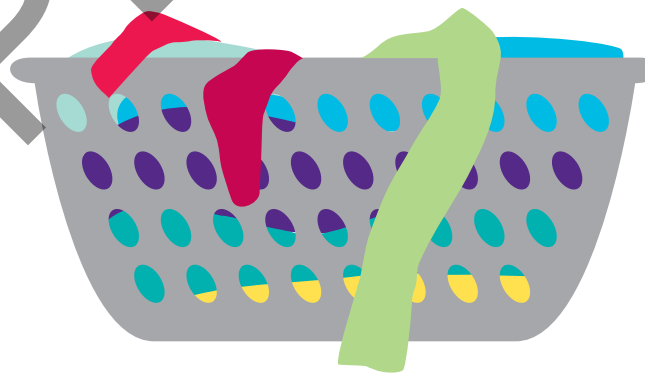
## Use the high-speed spin cycle

It removes more water, so your clothes won't need to dry as long.

## Choose an Energy Star washing machine

It uses 35% less water and 20% less energy than a standard machine.

## THE AVERAGE FAMILY WASHES



**400**  
LOADS/  
YEAR

### STANDARD WASHERS USE



### ENERGY STAR USES





# Water Heating

The water heater is another appliance that uses both water and electricity. It's the second largest energy user in your home after the space-heating system.

## Turn down the thermostat to 120°F

You'll save money and prevent scalding accidents.

## Buy a water heater that fits your needs

If it's too big, you'll be paying to heat water you don't need.

## Insulate your hot water pipes

Insulation allows you to lower the temperature even more. Insulate all accessible pipes, but especially those within 3 feet of the tank.

## Look for an Energy Star water heater

When it's time to replace your water heater, choose an energy-efficient model to save money in the long run.

**THE AVERAGE  
HOUSEHOLD  
SPENDS  
\$400–600  
ON WATER HEATING  
EVERY YEAR**

Water heaters make up  
**14–18%** of your utility bill



## PART 2

# Saving Energy Saves Water

Producing electricity requires tremendous amounts of water. In power plants, water is used to turn turbines, produce steam, and cool equipment. Water is also needed to extract and refine oil and natural gas and to grow biofuel crops.

So if we reduce our energy use, we also reduce our water use. This is particularly important in drier areas of the country. During drought years, some power plants have to run below full capacity due to a lack of water for cooling.

The good news is that saving energy doesn't have to break the bank. There are many simple, low-cost ways to save energy in your home.





# Lighting

In the average American home, 6% of energy costs are spent on lighting. Switching to energy-efficient bulbs is an easy way to reduce expenses. Start with the lights you use most often.

## Switch to CFLs or LEDs

Compact fluorescent lights (CFLs) and light-emitting diodes (LEDs) last longer and use less electricity.

## Turn off the lights

It's the simplest and fastest way to save energy.

## Keep lights clean

Dust can cut a light's output by 25%.

## Buy Energy Star light fixtures and lamps

They use one-quarter of the energy of traditional fixtures.



**A FAUCET RUNNING FOR 5 MINUTES USES  
ALMOST AS MUCH ENERGY AS A 60W  
LIGHTBULB RUNNING FOR 14 HOURS**

# Appliances

Each of your appliances has two price tags: the price you pay at the store and the price you pay to run that appliance over its lifetime. Choosing the most energy-efficient appliances saves water, energy, and money.

## Always buy Energy Star appliances

They're more efficient than other appliances and cost less to operate.

## Get the right size

Oversized appliances waste energy. Get an extra-large dishwasher or fridge only if you have a large family that needs it.

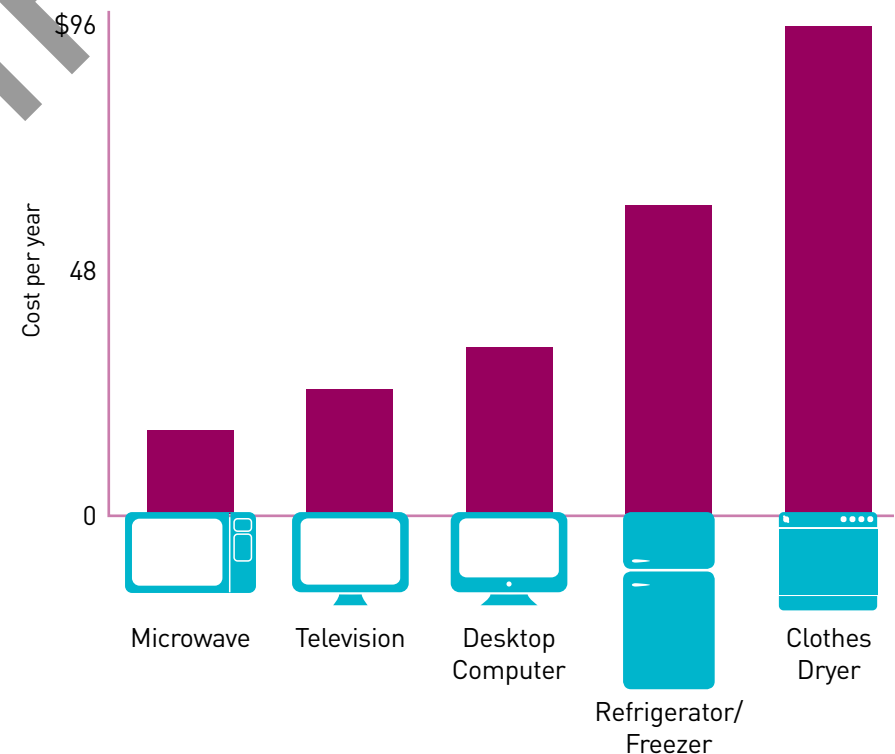
## Look for high-efficiency features

Soil-sensing detectors on dishwashers and automatic shutoffs on clothes dryers save energy and money.

## Check your refrigerator temperature

If the temperature is lower than 37°F, you're wasting money. The freezer should be between 0°F and 5°F.

## HOW MUCH DOES IT COST TO RUN AN APPLIANCE?



# Heating

Heating accounts for 45% of an average home's energy bill. It's the single biggest energy expense in the home.

## Turn down the thermostat by 5°F

Each degree saves 2% on your heating bill, so turning the thermostat down five degrees saves about 10%. Install a programmable thermostat and it will do the work for you.

## Tune up your furnace

A professional should check your oil-burning furnace every year. A gas-burning furnace should be checked every two years.

## Check filters

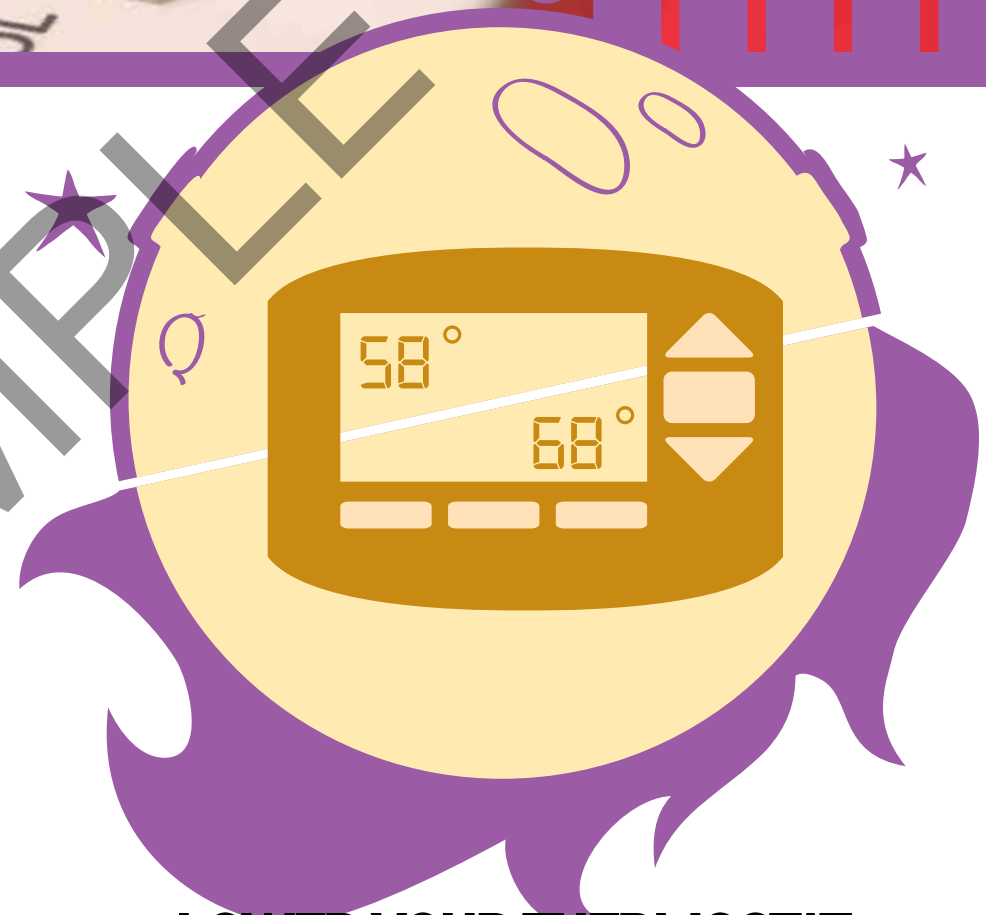
Forced-air furnaces and heat pumps have filters that need to be cleaned or replaced monthly.

## Don't block air vents, registers, or radiators

If they're blocked by furniture or drapes, heat won't get into the rest of your home, and your system will have to work harder.

## Wear a sweater

If you're cold, try putting on a sweater before turning up the thermostat.



**LOWER YOUR THERMOSTAT  
10°F–15°F AT NIGHT**

# Air Sealing & Insulation

Finding the air leaks in your home and then sealing them will cut your heating and cooling bills significantly.

## Caulk cracks and gaps

Caulk is easy to use and it's a good way to seal air leaks. Apply it to gaps less than 1/4-inch wide when the outdoor temperature is above 45°F and not very humid.

## Weather-strip windows and doors

For windows, use compression or V-strip weather-stripping. For doors, either replace the threshold or attach a door sweep to seal the air gap at the bottom of the door.

## Insulate your water heater tank

If your water heater uses a tank, it can easily lose heat through the walls of the tank. Insulate exposed hot water pipes, too.

## Find a weatherization program in your area

The Weatherization Assistance Program helps low-income families across the United States insulate and weatherize their homes. Check with your state energy office and utility company for local programs.



● Air leaking out of house    ● Air leaking into house

**REDUCE HEATING & COOLING BILLS BY 30%  
WITH PROPER INSULATION & SEALING**

# SOURCES

**The American Council for an Energy-Efficient Economy**

[www.aceee.org](http://www.aceee.org)

**The U.S. Department of Energy**

[www.energy.gov](http://www.energy.gov)

**Energy Star, a joint program of the U.S. Department of Energy and the  
U.S. Environmental Protection Agency**

[www.energystar.gov](http://www.energystar.gov)

**U.S. Department of Agriculture, Natural Resources Conservation Service**

[www.nrcs.usda.gov](http://www.nrcs.usda.gov)

**U.S. Geological Survey**

<http://water.usgs.gov>

**U.S. Environmental Protection Agency, WaterSense**

[www.epa.gov/watersense](http://www.epa.gov/watersense)

For more information about Project Energy Savers, visit

[www.projectenergysavers.com](http://www.projectenergysavers.com)

Notice: This booklet was produced by Project Energy Savers™, LLC. Neither Project Energy Savers nor any person acting on behalf of Project Energy Savers makes any warranty, expressed or implied, with respect to the use of any information disclosed in this booklet, or assumes any liability with respect to the use of, or for damages resulting from the use of, any information contained in this booklet. The recommendations, statistics and information provided are strictly for the purposes of informing the user. The savings listed are estimated based on research and other findings. They are meant to be suggestive. Actual savings will depend on climate, home size and other factors.