



# SUSTAINABILITY

LITTLE THINGS WE CAN DO  
TO MAKE A BIG IMPACT



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## INTRODUCTION

Sustainability is about ensuring that the resources we have and enjoy today will still be available in the future. When resources are managed sustainably, rivers are clean enough for fish to thrive, and the water is safe to swim in. With sustainable manufacturing, the products we buy are produced in such a way that the same or better materials will be available for the next generation. Sustainability can be woven into our lives in different ways. A building can be designed to use fewer and less-impactful resources to accomplish its intended purpose. Small daily decisions, like placing aluminum cans in the recycling bin, also make a difference. This book is all about how to weave sustainability into our daily lives.

There's a common misconception that if it's sustainable, it must be more expensive. This book will detail the steps each of us can take, while spending little or no money. Some of these ideas will even lower your bills.

This book will cover three major areas of sustainability in our daily lives: energy, water, and recycling. In each of these, an individual can have quick impacts with minor changes. However, this shouldn't limit you. One of the best things you can do is research sustainability best practices based on your life and habits. For example, if you drive a lot, keeping your tires properly inflated will increase the fuel economy of your car and save you money at the pump.



## PREVENTING WASTE

The three R's, reduce, reuse, and recycle, are key to sustainability. Remembering the three R's can prevent waste from going to landfills and save you money.

### REDUCE

- The easiest way to reduce what goes to a landfill is to replace single-use items with reusable ones. Think reusable water bottles, lunch bags, and shopping totes.
- Reduce food waste by putting the items that will go bad first at the front of the refrigerator. That way you'll be reminded to use them.

### REUSE

- Find ways to incorporate reusable water bottles, lunch bags and shopping totes into your daily routine.
- You can reuse takeout containers to store future leftovers or save them for other purposes in your home.
- Hold a yard sale or post on a community forum. Many things you no longer have space for might be useful to a neighbor and save them some money.

- Most household items and personal items like clothes can be donated to local nonprofits. You might even qualify for a tax deduction for your donation. Contact your local donation center about what they accept. If you have larger items, there may be a nearby nonprofit that can arrange a pickup.

### RECYCLE

- Check with your local recycling program to find out what they take and what they don't. When everyone is careful about what they recycle, contamination is reduced and the sorting process is easier for employees.
- Don't stop with your local recycling program. Some companies have recycling programs for specialty items. Check with your local hardware store about CFL bulbs and batteries, and contact printer companies about ink cartridges.
- Identify where drop-off locations and household hazardous waste collection points are and learn about what they accept.
- Look up electronics recycling programs for your old computers and phones.
- Compost. You can turn your old food scraps into vitamin-rich soil. If you don't want a compost pile, check for local community programs that will compost your scraps.

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## GROUNDWATER & STORMWATER PROTECTION: HOW YOU CAN HELP

It's important to protect our waterways. To do so, we need to prevent pollutants from reaching our water. Follow these simple steps to protect our creeks, rivers, lakes, and oceans.

### GROUNDWATER PROTECTION

The best way to protect the groundwater in your area is to properly manage or eliminate the sources of pollution. Here are some easy ways you can help:

- Follow safe disposal and storage practices. Learn how to store and dispose of household products and chemicals properly.
- Keep up with maintenance. Maintain your household systems to prevent contamination. For example, if your AC isn't properly maintained, it could leak Freon, causing numerous problems.
- Use less. Reducing the amount of harmful chemicals in the environment lowers the likelihood of groundwater contamination.

### STORMWATER

If you've ever noticed water cascading over parking lots or rushing down roadside ditches after a rainstorm, you've seen stormwater. Stormwater is exactly what it sounds like: water from precipitation events. Stormwater can be both a great resource and a major problem. As stormwater travels from where it hits the ground to our waterways, it can pick up chemicals and debris that pollute our watersheds.

- Reduce erosion. Add vegetative cover such as trees, shrubs, and grasses to slow stormwater runoff and increase infiltration.
- Keep your soil healthy. Uncompacted healthy soils allow stormwater runoff to be absorbed more easily.
- Protect your soil from wind and water erosion by spreading mulch on the surface.
- Reduce pollution. Sweep up garbage from sidewalks, driveways, and parking lots, especially around storm drains. And always make sure to dispose of your trash responsibly.
- Never dump anything down a storm drain.
- Check your car for fluid leaks and recycle motor oil.
- Be a responsible pet owner and pick up after your pet.



# CONSERVING WATER

We use a lot of water. In fact, every American uses an average of 100 gallons a day, enough to fill two bathtubs! You can save money on your water bill by fixing leaks, taking shorter showers, and making an effort to reduce your water use. Water is a critical natural resource, so it's important to try and conserve it as much as possible.

## IN THE BATHROOM

Together, the shower, the toilet, and the faucet in your bathroom use a lot of water. In fact, toilets alone account for 30% of indoor water use in an average home. To help save water, try using a timer to take shorter showers. Here are more ways you can help save water in the bathroom:

- Turn off the faucet while brushing your teeth.
- Take showers instead of baths. A bath uses about 70 gallons of water, but a 5-minute shower uses only 10–25 gallons.
- Install low-flow showerheads. They use a third less water than regular showerheads.
- Install low-flow aerators on faucets. An aerator is a screw-on tip of the faucet. Look for a flow rate of no more than 1 gallon per minute.
- Fix leaky toilets. To see if your toilet has a leak, try a drop of

food coloring in the toilet tank. If the color shows up in the bowl without flushing, you have a leak, and you can save water and money by taking care of it.

- Purchase bathroom fixtures, toilets, and showerheads with the WaterSense label to increase efficiency and save water.

## IN THE KITCHEN

You use a lot of water in the kitchen: cooking, washing dishes, mopping the floor, and drinking from the tap. A few simple steps, such as installing a low-flow aerator on your faucet and fixing leaks, could save thousands of gallons of water per year! Here are some other tips to help save water in the kitchen:

- Fully load the dishwasher. It costs the same amount to wash one dish as it does to wash a full load.
- Run the dishwasher instead of washing by hand. It uses less hot water and could save you \$40 a year.
- To clean fruits or vegetables, put them in the sink or in a pan and fill it up with water. This alone could save 50 to 100 gallons of water per month.
- With most modern dishwashers, there's no need to prerinse plates before putting them in the dishwasher. Just scrape off any excess food.
- Keep a container of drinking water in the fridge. You won't have to run the tap every time you want a drink of cold water.

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## LAUNDRY

Washing machines use two resources: electricity to run the motor and water to wash the clothes. One of the easiest ways to save on your utility bill is to switch to a high-efficiency washing machine. Look for the Energy Star® label and you could reduce your utility bill by an average of \$50 per year. Here are some other tips to help save water while doing laundry:

- 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. Use hot water only for very dirty loads.
- Use the high-speed spin cycle. It removes more water, so your laundry won't need to dry as long.
- Choose an Energy Star® washing machine. It uses less than half the water and energy of a standard machine.
- Separate heavier cottons and towels from lighter-weight clothes before drying. It helps speed up the drying time for the latter.
- See if your dryer has a moisture-sensing option. This will automatically shut off the machine when it senses the clothes are done drying. It saves you energy and reduces the risk of over-drying.
- Clean the lint filter in the dryer after every use. Why? Clogged filters can prevent your dryer from doing its job.

## WATER HEATERS

Did you know that your water heater accounts for 11% of your energy bill? It's the second largest energy user in the house after your space-heating system. Not only that, but you're paying twice for your water heater—once for the water and once for heating the water. Check out some of our water heater tips!

- Insulate your hot water tank, especially if the tank is warm to the touch. Insulating can save up to 16% in heating costs every year. Be sure to follow the manufacturer's recommendations.

- Buy a water heater that fits your needs. If it's too big, you'll be paying to heat water you don't need. Make sure to turn down the thermostat to 120°F to prevent scalding accidents and save even more money.

## YARD/OUTSIDE

In the summer months, watering your yard can account for 50% of your total water use. Using less water outside makes a lot of sense. You can save tens of thousands of gallons of water just by using a better watering system and mowing the grass less often. There are also other outside areas, such as the driveway, car, and garage, where you might be able to save water. Here are some tips on how to save:

- Water your lawn only when necessary and check the weather forecast first. There's no reason to water if it's going to rain.
- Check your aim. The sprinkler should water your lawn, not the sidewalk or the house.
- Use a drip hose instead of a sprinkler or regular garden hose. Drip hoses deliver water directly to a plant's roots.
- Check your hose for leaks. If it leaks at the connection to the spigot, replace the hose washer and wrap the threads with pipe tape.
- Use a bucket to wash your car. You'll save 150 gallons of water every time you don't use the hose.
- Plant trees that lose leaves on your home's south side. A tree will protect your home from the summer sun, and then after the leaves fall, it will let the winter sun help heat your home.
- Install solar-powered lights. They will convert sunlight into usable energy, which helps save electricity and money.
- Choose drought-resistant plants. If maintained properly, a landscape of drought-resistant and native plants will use less than half the water of a traditional yard.
- Forgo fountains. Unless the water is recycled, don't install ornamental water features like fountains or birdbaths.

# CONSERVING ELECTRICITY

Every month, you pay to power your home. You pay for electricity. You pay for heat. You pay for water. All these costs add up. You can save money on each of these bills by making your home more energy efficient. An efficient home uses the energy you pay for as wisely as possible, with as little waste as possible. In an efficient home, the money you spend to power your home will stay in your home—instead of leaking out through poor insulation or a wasteful air-conditioning system.

## LIGHTING

Did you know that lighting your home accounts for about 6% of your energy bill? Lowering your energy costs is easy when you switch to light-emitting diode (LED) bulbs. Start with the lights you use most often. Any light you use more than two hours a day is a good candidate for an LED bulb. Here are some tips for saving energy and money with lighting:

- Turn off the lights when you leave a room.



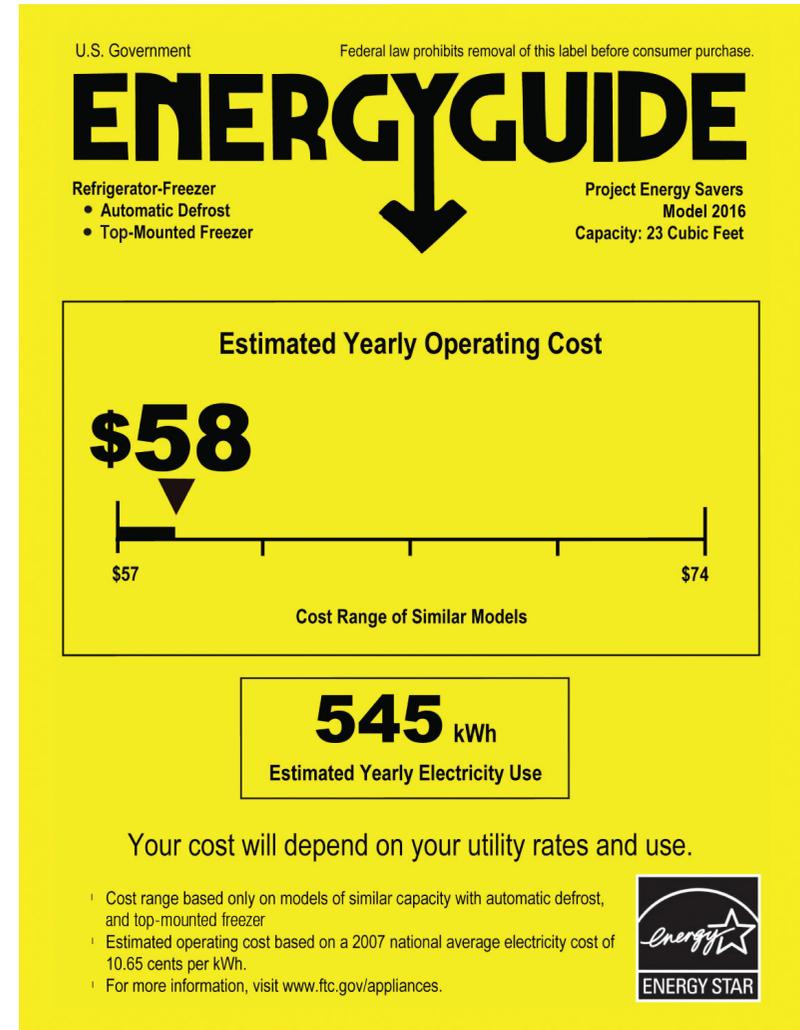
- Switch to LEDs. If you replace your five most frequently used lightbulbs with Energy Star® rated bulbs, you could save \$75 a year.
- Look for sales. Stores often have sales on LEDs, especially during October, which is National Energy Action Month.
- Check the color temperature. Lightbulbs can emit different colors of light, which are rated on the Kelvin temperature scale—2000K is close to the warm glow of a candle, and 6500K is the bright light of daylight. Lightbulb manufacturers separate lightbulbs into three categories: warm white, cool white, and daylight. Traditional incandescent bulbs are in the same Kelvin range as warm white bulbs.
- Buy Energy Star® light fixtures and lamps. They use one-quarter of the energy that traditional fixtures use.
- Keep lights clean. Dust can cut a bulb's light output by 25%.

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# APPLIANCES

Did you know that each of your appliances has two price tags? The first is the price you pay for it at the store. The second is the price you pay to run it over its lifetime. Over time, the cost of running your appliance will add up. Usually, this price is higher than the purchase price. Choosing the most energy-efficient appliances will help reduce operating costs. A yellow Energy Guide label on each appliance will show you how much energy a model will use. But also look for the Energy Star® symbol. It's only on appliances that meet strict energy efficiency standards. Here's what else you can do to help save:

- Think about shape—it matters. Fridges with freezers on top are most efficient. Front-loading washers are more efficient than top-loading machines.
- Look at the Energy Guide label when buying appliances. It will show the appliance's second price tag: its operating cost. It will also give comparisons to similar machines.
- Don't look at just one appliance. Compare efficiency across models before you make a purchase.
- Get the right size. Oversized appliances waste energy. Choose an extra-large dishwasher or fridge only if you have a large family that needs it.
- Look for high-efficiency features. Things like soil-sensing detectors on dishwashers and automatic shutoffs on clothes dryers save energy and money.
- Recycle old appliances to reduce waste. Fridges and other appliances can be salvaged for scrap metal or other uses. Find a real recycling program, not one that resells inefficient secondhand machines.



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# WINTER & HEATING

Did you know that heating accounts for 45% of an average home's energy bill? This is the single biggest energy expense in your home. There are many ways you can both reduce your energy usage and reduce your bills.

- Turn down the thermostat by 5°F. Each degree saves about 2% on your heating bill. Turning it down five degrees saves about 10%.
- Install a programmable or smart thermostat.
- Have a professional inspect and tune up your furnace. Oil-burning furnaces should be checked every year. Gas-burning furnaces should be checked every two years.
- If you use a space heater, be safe. Old or improperly used space heaters can be very dangerous. Make sure yours meets the latest safety standards, turn it off when you sleep, and use it only in an open area.
- Check filters. Forced-air furnaces and heat pumps have filters that need to be cleaned or replaced monthly.
- Check air vents, radiators, and registers. If they're blocked by furniture or drapes, heat won't get into the rest of your home.
- Clean the area around your furnace to decrease the chance of fire and improves airflow.
- Never use the kitchen stove to heat your home—it's very dangerous! Stoves are not designed to heat large areas. They can let toxic chemicals into your home and create a fire hazard.
- Be safe. Elderly people and people with medical conditions can have greater heating needs and should adjust their thermostats to meet them.
- Check to see if cold air is entering your house. If your house is drafty, you may need to seal air leaks and install additional insulation. Get a certified energy auditor to assess your house and suggest improvements.
- Install storm windows and doors. They pay for themselves by keeping cold air out and by preventing moisture from collecting on the windows. Remember to take them down once summer begins.
- Use drapes. Where windows face the sun, keep the drapes open during the day. Close all the drapes at night. This lets the sun heat your home during the day and reduces drafts at night.
- Repair cracks in windows, and caulk and weather-strip leaky frames. Even a small crack drives up fuel bills. Got a loose window? Install weather stripping. It helps to keep cold air out of the house. If your window frames have gaps, they are probably leaking cold air into your home.
- Clean and close your fireplace. Call a professional chimney sweep to perform your annual fireplace inspection. Remember to close your fireplace flue when it is not in use to keep drafts out.

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## COOLING

Did you know that nearly 9% of all electricity produced in the United States is used to air-condition homes, according to the American Council for an Energy-Efficient Economy? Cooling your home is just as important as heating it—and the cost can be nearly as high in some parts of the country. Before you turn on the air conditioner, reduce your need for cooling. Use fans and natural ventilation first. Turn on the air conditioner only if these measures aren't enough. Make sure your air conditioner is running as efficiently as possible, too. Here are some tips on what you can do to help save:

- Clean filters monthly. Dirty or clogged filters block airflow and reduce efficiency.
- Use a fan first. Fans don't use as much energy as air conditioners, and they're effective.

- Install room air conditioners correctly. If the unit isn't installed tightly, cooled air will escape from your home.
- Place your room air conditioner properly. If the thermostat of your unit is near electronics or appliances that produce heat, it will read higher than it should. Put the unit in a shaded window where it won't be heated by sunlight.
- Set the thermostat to 78°F in summer. The smaller the difference between the inside and outside temperatures, the lower your cooling bill will be and the more energy you'll save.
- Choose low-E windows. Much of your home's heat enters through the windows. Low-E windows have a special coating that helps block heat from leaving the home in the winter and repels heat in the summer. Also look for Energy Star®-rated windows.

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# RESOURCES

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Visit these sites for additional information  
about sustainability.

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## U.S. ENVIRONMENTAL PROTECTION AGENCY

[epa.gov](https://epa.gov)

## U.S. GEOLOGICAL SURVEY

[usgs.gov](https://usgs.gov)

## WATER RESOURCES

[water.usgs.gov](https://water.usgs.gov)

## ENERGY STAR®

A JOINT PROGRAM OF THE U.S. DEPARTMENT OF ENERGY  
AND THE U.S. ENVIRONMENTAL PROTECTION AGENCY

[energystar.gov](https://energystar.gov)

## U.S. DEPARTMENT OF ENERGY

[energy.gov](https://energy.gov)

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