ENERGY SAVING TIPS

for Warm Weather Climates

Saving

Saving energy at home

Every month you pay to power your home. You pay for electricity. You pay for air-conditioning. You pay for water. All of those costs add up. But you can save money on each of those bills.

How? 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 of it through poor insulation, a wasteful air-conditioning system, or a host of other inefficient reasons.

Creating an energy-efficient home is not a change you can make overnight. It's a series of small changes you can make every day, and in every part of your home.

ENERGY EFFICIENCY MEANS:

- Getting the most use out of each unit of energy you purchase.
- Using energy wisely.
- Eliminating the ways your home wastes energy.

MAKING YOUR HOME MORE EFFICIENT WILL:

- Make it more comfortable.
- Make it safer.
- Save you money.

Your energy bill

Where does the money go?

Our energy bills don't come with a detailed receipt showing which appliances and systems use the most energy. But you can look for clues, like changes in your water or electric bill at different times of the year. By understanding how much energy your appliances should be using, you can figure out which systems are too costly and need to be replaced or adjusted. This tip book will make suggestions that can save you energy and money.

Here is a look at where the average U.S. home in the South uses the most energy:

Space Cooling	14%
Space Heating	20%
Water Heating	16%
Other Appliances and Lighting	25%
Refrigeration	7%

Source: U.S. Department of Energy, Buildings Energy Data Book

Lighting

About 10% of your energy bill is spent lighting your home.

There's an easy way to save on lighting: switch to light-emitting diodes (LEDs). Start with the lights you use most often. Any light you use more than two hours per day is a good candidate for an LED bulb.

INSTEAD OF THIS:

USE THIS:

LED Lightbulbs:

- **Make more light with less electricity.** An LED lightbulb uses only 12 watts to produce as much light as a 60-watt incandescent bulb.
- **Last longer.** LEDs can last 25,000 hours longer than incandescent lightbulbs!
- **Save money.** LEDs cost a little more, but they save so much electricity that they pay for themselves through energy savings. An LED bulb cuts energy use more than 80%.

What you can do:

Turn off the lights
Why? One 100-watt bulb left on overnight costs $25 per year.

Switch to LEDs
Why? A typical home can save $80 per year, according to the U.S. Environmental Protection Agency.

Shop for sales
Why? Stores often have sales on LEDs, especially during October, which is Energy Awareness Month.

Get the right bulb
Why? Bulbs with dimmer switches, three-way sockets, and other specialty shapes need specialty LEDs.

Buy Energy Star light fixtures and lamps
Why? They use one-quarter of the energy traditional fixtures use.

Keep lights clean
Why? Dust can cut a bulb's light output by 25%.

Dispose of LEDs
Like paint, batteries, and thermostats, LEDs should be disposed of properly. Do not throw them away in your household trash. If possible, deposit at a hazardous waste facility in your community.

Water

The water heater is the second-largest energy user in most homes.

The water heater accounts for 16% of your energy bill, second only to your home's space-heating system, according to the U.S. Department of Energy.

One reason is we use a lot of water. Another reason is we actually pay twice for water. You pay one bill for the cost of the water itself. Then you pay a second bill for the cost of heating that water.

Reducing the amount of hot water you use will save money on both bills.

TURNING DOWN THE TEMPERATURE:

Set the thermostat on your water heater to 120°F.
It's one of the easiest ways to save. This change:

- **Saves energy.** Water is usually heated to 140°F; turning it down will save between 6% and 10% on your energy bill, according to the U.S. Department of Energy.
- **Prevents scalding** from extra-hot water.
- **Slows buildup** of minerals and corrosion in the water heater and in the pipes.

Only leave your water heater thermostat at 140°F if you have an older dishwasher with no booster heater. Consult your owner's manual or call the manufacturer to see if yours has a booster heater.

When you go on vacation, turn down the thermostat even more. If there is no risk of freezing, you can turn it off completely when you will be away for several days.

What you can do:

Install low-flow showerheads
Why? They use one-third to one-half the water that regular showerheads use.

Turn the water heater thermostat down to 120°F
Why? You will save money and save yourself from scalding accidents.

Buy a water heater that fits your needs
Why? If you buy a new water heater that is too big, you will pay to heat up water you don't need. That's a waste of both energy and money.

Take short showers
Why? They use less hot water than baths.

Fix leaky water faucets
Why? Thirty drops of water per minute can waste up to 50 gallons of water per month.

Install low-flow aerators on faucets
Why? They reduce the amount of water that flows from your faucet, saving both water and energy.

Laundry

Washing machines use two types of resources. They need electricity to power their motors and they need water to do their work.

Some machines are far more efficient at using these resources. To find the most efficient ones, look for the Energy Star label. Conventional washers can use 40 gallons of water on just one load of laundry. But Energy Star–rated washers can use fewer than 10 gallons of water. They use less energy, too.

Don't look for the same designation with clothes dryers, though. Most dryers use similar amounts of energy, so the Energy Star program doesn't certify them.

ENERGY STAR WASHERS:

- Cut utility bills by an average of $50 per year. That's a total of $550 saved over 11 years, the average life span of a washing machine.
- Save an average of 7,000 gallons of water each year.
- Come in two designs: front-load washing machines and redesigned top-loading machines. Neither have a central agitator.
- Have a faster spin speed to remove more water from your clothes, which helps clothes dry faster.

What you can do:

Wash with cold water instead of hot
Why? Hot water is only necessary for very dirty laundry.

Wash and dry only full loads
Why? The machines use roughly the same amount of water and energy to wash or dry one item as they do a full load.

Separate fast-drying clothes from slow-drying ones
Why? It helps you use the dryer only as long as you need to.

Clean the lint filter in the dryer after every use
Why? A clogged filter can prevent your dryer from doing its job.

Dry clothes outside in good weather
Why? Sunlight is free.

Choose Energy Star washing machines
Why? They use less than half the water and energy of standard machines.

Use the high-speed spin cycle in your washer
Why? It extracts more water, so your laundry won't need to dry as long.

Buy a dryer with automatic shutoff
Why? The dryer will sense when your clothes are done and automatically turn itself off, saving energy.

Kitchen

We pay $69 a year to operate a new fridge, $5 a year to power a coffeemaker, and $51 a year to run a separate freezer, according to the U.S. Department of Energy.

Kitchens are home to appliances that use a lot of electricity, such as the fridge, and ones that use a lot of water, such as the dishwasher.

We use these appliances several times a day, so using them as efficiently as possible will help your savings add up quickly!

REFRIGERATORS AND FREEZERS: A BIG PART OF YOUR ENERGY BILL

The fridge accounts for 4% of the average home's utility bill, according to the U.S. Department of Energy.

To save energy:

- Stick to the right temperature. Keep your fridge between 36°F and 38°F. Set your freezer between 0°F and 5°F.
- Keep the freezer full. It works more efficiently full than empty.
- Defrost manual-defrost models to keep them efficient.
- If you have a second fridge, unplug it. It can cost between $100 and $200 a year to operate.
- When buying a new fridge, choose an Energy Star model. It will be 15% more efficient than a regular model.
- Check the door seals. If they are loose, replace them.

What you can do:

Use your dishwasher
Why? You can save 5,000 gallons of water each year and $40 in utility costs using a dishwasher instead of washing dishes by hand, according to Energy Star.

Wash only full loads of dishes
Why? It costs exactly the same to wash one dish as it does to wash a full load of dishes.

Check your refrigerator's temperature
Why? You lose money if you keep it too cold. To check, put one thermometer in a glass of water in the center of the refrigerator and another between packages in the freezer. Read them after 24 hours. The temperature should be between 36°F and 38°F in the refrigerator and 0°F and 5°F in the freezer.

Use the air-dry option on your dishwasher
Why? It saves energy and keeps the machine from using a heating element to bake your dishes dry.

Scrape dishes instead of pre-rinsing them
Why? Dishwashers made in the past 5 to 10 years can clean even heavily soiled dishes without pre-rinsing.

Use microwaves and crockpots to cook small meals
Why? They use less energy than the stove or oven.

Keep the inside of your microwave clean
Why? It improves the efficiency of your microwave.

Use lids
Why? When cooking, lids keep steam in and help food cook more quickly, which saves energy.

Appliances

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 that appliance over its lifetime.

Over time, the cost of running your appliance adds up. Usually, this price is higher than the actual price tag of the appliance at the store.

Choosing the most energy-efficient appliances will help reduce operating costs. A yellow EnergyGuide 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.

ENERGY STAR: A LABEL FOR SAVINGS

Products with the Energy Star label meet strict energy efficiency guidelines set by the U.S. Environmental Protection Agency and the U.S. Department of Energy.

Before you go to the store to buy a new appliance, see if the program certifies the type of machine you need. It certifies:

- Clothes washers
- Room air conditioners
- Dehumidifiers
- Home audio equipment
- Dishwashers
- Freezers
- Refrigerators
- Televisions
- DVD players
- Light fixtures
- Heating equipment
- Cooling equipment

What you can do:

Always buy Energy Star appliances
Why? They are more efficient than other appliances, so they will cost less to operate.

Look at the EnergyGuide label when buying appliances
Why? It will show the appliance's second price tag: its operating costs. It will also give comparisons to similar machines.

Don't just look at one appliance
Why? It's better to compare the efficiencies of different machines than to look only at one option.

Get the right size
Why? 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
Why? Things like soil-sensing detectors on dishwashers and automatic shutoffs on clothes dryers save energy and money.

Recycle old appliances
Why? It reduces waste. Fridges and other appliances can be used for scrap metal or other uses. Find a real recycling program, not one that resells inefficient second-hand machines.

Living Room

Americans spend more money powering home entertainment systems, computers, and other electronics when they're off than when they're in use.

Living rooms are home to most of the electronics in our house. We watch TV, turn on the computer, and pick up the phone from our living area. And the costs add up, even when those electronics are off.

You'll find even more opportunities to save energy in the living room if it has multiple windows, a fireplace, or several air vents.

POWER STRIPS: A SMART WAY TO SAVE

Your electronics can draw energy even while they are off—and that costs you money. Power strips help prevent that.

- Plug electronics into a power strip. Flip the switch off when you're not using them.
- If you have many electronics, group them into several power strips. Put things you use at the same time, such as the computer and printer, on the same strip.
- Put power strips in easy-to-reach places. They won't save energy if you don't turn them off regularly!
- Don't put your TV on a power strip. Many TVs need to be reprogrammed if they are completely turned off, making them a bad fit for power strips.
- Make use of advanced or smart power strips. They automatically turn off the power to certain appliances when not in use.

What you can do:

Turn off the TV when no one is watching
Why? It's the easiest way to save.

Use the sleep function
Why? An average household can cut 60% of the energy their electronics use by using the sleep mode.

Unplug power adapters and chargers
Why? When cell phones, digital cameras, or laptops are done charging, the charger still draws energy unless you unplug it.

Check your air vents and registers
Why? If they're blocked by furniture or drapes, the air you pay to warm up or cool down won't reach the rest of the room.

Consider your window coverings
Why? They should be closed during the day in summer to keep the heat out and open during the day in winter to let sunlight warm your home.

Shut the flue on your fireplace
Why? An open flue lets air escape from your home, wasting energy. If you never use the fireplace, have it sealed up permanently.

Weather-strip windows
Why? Windows are a common location for air leaks. Seal them up with weather-stripping or caulk for a more efficient home.

Yard

In some areas, watering the yard can account for 50% of a home's total water use in summer months.

When it comes to the outdoors, most families like to use a lot of water—for the lawn, the garden, and even washing the car.

Learning to use less water outside makes a big impact on your bills. You can save tens of thousands of gallons by taking simple steps like selecting a better watering system and not mowing too often.

WATCH THAT SPRINKLER

Sprinklers can use more than 260 gallons of water per hour, and the bills add up quickly.

To save water:

- Check your aim. The sprinkler should only water your lawn, not a nearby yard or sidewalk.
- Use a drip hose instead of a sprinkler, if possible. Sprinklers spray water onto the top of plants, where it evaporates. Drip hoses deliver water to a plant's roots.
- Water early in the morning or late at night, when temperatures are lower.
- Check the forecast. Never water when it's going to rain.
- Install an automatic shutoff device if you have an irrigation system.

What you can do:

Let your grass grow
Why? Longer grass loses less water to evaporation than short grass. Mowing too frequently means your yard will need more water.

Use a shut-off nozzle when watering
Why? It saves water when you use a hose to water plants.

Plant trees that lose leaves on your home's south side
Why? It protects your home from the summer sun, and after the leaves fall, the winter sun will help heat your home.

Rethink your outdoor lights
Why? You save energy by switching to efficient outdoor lights. Also consider installing a motion sensor to increase security and savings.

Don't hose down the driveway, garage, or sidewalk
Why? Use a broom instead to save water.

Choose drought-resistant plants
Why? If maintained properly, a landscape of drought-resistant and native plants will use less than half the water of a traditional yard.

Use a bucket of water when washing a car
Why? It saves more water than using a hose.

Cooling

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. Only turn on the air conditioner if these measures aren't enough. Make sure your air conditioner is running as efficiently as possible, too.

SIZE MATTERS

When you buy a new air conditioner, make sure to get one that's the right size for your home. Don't base the size of a new system on the size of an old one; it could have been the wrong size to start with.

If you buy one too big, it won't remove the humidity from your home and it will turn on and off more frequently than a properly sized system. That increases wear and shortens its life span.

If you buy one too small, it won't be able to cool your home enough on the hottest days of summer.

For a central air-conditioning system, your contractor will use software to calculate what size equipment you need, based on the amount of heat your home gains during the summer.

For room air conditioners, check EnergyStar.gov for sizing recommendations. Energy Star suggests a 14,000 BTU model, for example, for a space of 550 to 700 square feet.

What you can do:

Clean filters monthly
Why? Dirty or clogged filters block airflow and reduce efficiency.

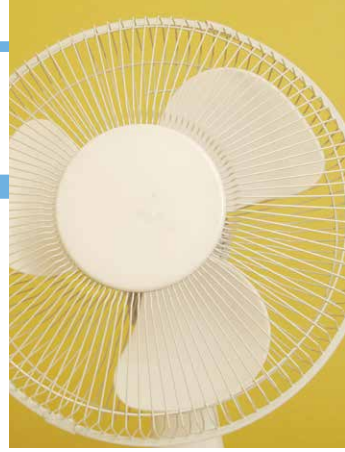
Use a fan first
Why? Ceiling fans create a windchill effect by moving air through your home. If you use fans along with an AC, you can raise the temperature on your thermostat by 4°F without decreasing the comfort level.

Install room air conditioners correctly
Why? If the unit is not installed tightly, cooled air will escape from your home.

Place your room air conditioner properly
Why? 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 will not be heated by sunlight.

Set the thermostat to 78°F in summer
Why? The smaller the difference between the inside and outside temperatures, the lower your cooling bill will be.

Use a dehumidifier
Why? It can help keep humidity down, allowing the room temperature to be slightly higher without sacrificing comfort.



Seasonal

Heating and cooling accounts for 34% of the average energy bill in southern states, according to the U.S. Department of Energy.

Heating and cooling needs vary by season, but the same tactics apply. A tightly sealed home keeps the air you heat or cool inside and the outdoor air outside.

If you plan to live in your home a long time, think about planting trees that lose their leaves on the west and south sides of your house. In the summer, they will shade your home from the sun. In the winter, they'll lose their leaves and let the winter sun heat your home.

CHOOSE ENERGY-EFFICIENT SYSTEMS

The easiest way to find an efficient heating or cooling system is by looking for the Energy Star label. But there are a few other indicators of how efficient a system is.

For furnaces or boilers: Look for a high Annual Fuel Utilization Efficiency (AFUE) rating, which is a ratio of how much heat the machine creates compared to the amount of energy it consumes. The higher the AFUE, the more efficient the system.

For central air conditioners: Look for a Seasonal Efficiency Rating (SEER) of 14.5 or higher. This is the cooling output divided by the power input. The higher the number, the more efficient the air conditioner.

For room air conditioners: Look for a high Energy Efficiency Ratio (EER), which is the cooling output divided by the power input. Choose one with an EER of 10.8 or higher. Energy Star models save the most energy.

What you can do:

IN THE SUMMER

Use fans
Why? They use less energy than air conditioners.

Close shades and windows during the day
Why? It keeps out sunlight and heat. Open them at night to help ventilate your home.

Set the thermostat at 78°F
Why? It helps save energy. Use a fan before turning up the air conditioner.

IN THE WINTER

Keep drapes open during the day
Why? It lets the sunlight heat your home. Close them at night to keep the chill out.

Repair windows
Why? Cracks in windows let cold air into your home, driving up your energy bills. Install weather-stripping if your window is loose.

Install storm windows
Why? They pay for themselves by keeping out cold air and preventing moisture from collecting on the windows.

Use timers instead of leaving lights on
Why? If you don't like coming home to a dark house in the short days of winter, save energy by using timers, motion detectors, and daylight sensors.

Insulation

Sealing and insulating your home can reduce your heating and cooling costs by as much as 30%, according to the U.S. Department of Energy.

Heat flows naturally from warm areas to cool ones. If your home isn't well sealed, the air you pay to heat and cool can flow right out of your home.

Several areas are prone to air leaks, including the attic, basement, windows, doors, baseboard moldings, electrical outlets, wall- or window-mounted air conditioners, and dropped ceilings above bathtubs and cabinets.

HOW TO FIND AIR LEAKS

To find air leaks, look for daylight around the frames of windows and doors. If you see light, it means there's an air leak.

You can also light a stick of incense and use it to locate leaks. Hold it in areas you think are drafty. Moving air makes the smoke waver, showing you where there's an air leak. You can also put water on your hand and hold it near potential air leaks; the water will make you more sensitive to cool air.

What you can do:

Caulk cracks and gaps less than ¼-inch wide
Why? Caulk is flexible and a good way to seal air leaks. Apply it when the outdoor temperature is above 45°F and not very humid, or the caulk may not dry properly.

Weather-strip doors and windows
Why? It is an easy way to seal leaks. Compression and V-strip weather-stripping are good for windows. For doors, either replace the threshold or attach a door sweep to seal the air gap at the bottom of the door.

Use insulating blinds, shades, or curtains
Why? Windows are a frequent source of air leaks. Interior window quilts or cellular shades can reduce the draft and increase the insulation when they're drawn.

Find programs in your area
Why? The Weatherization Assistance Program helps low-income families nationwide insulate and weatherize their homes. State energy offices and utility companies also frequently offer programs.

Insulate your water heater tank
Why? If your water heater uses a tank, it can easily lose heat through the walls of the tank.

Know how much insulation you have
Why? Only 20% of homes built before 1980 are well insulated, according to the U.S. Department of Energy.

Safety

Every year, more than 25,000 residential fires are associated with the use of space heaters, according to the U.S. Consumer Product Safety Commission.

Your home uses energy in many places and with many machines, and you must take care to operate each of these as safely as possible.

Decreasing your energy use means making changes throughout your home. Make each change as safely as possible and install some additional safety features like carbon monoxide alarms to keep your family safe at home.

SPACE HEATERS: SAFETY FIRST!

Every year, fires and carbon monoxide poisonings are caused by space heaters. More than 300 people die in these fires. Each year 6,000 people are treated at emergency rooms for burns associated with space heaters, mostly in non-fire situations.

Do not use an unvented gas space heater; they are very dangerous. If you do have one, always keep the door or window open when using it to keep dangerous pollutants from building up. Better yet, invest in an electric space heater and keep these safety tips in mind.

Make sure your electric space heater:

- Meets the latest safety standards. These standards were recently updated for greater safety.
- Has no frayed cords or damaged plugs. Do no plug a space heater into an overloaded electric outlet or extension cord.
- Is only used in an open area. Air needs to circulate around the space heater. Only use it on level, hard, nonflammable surfaces.
- Is at least three feet away from flammable items. Any closer is a big fire danger!

What you can do:

Buy smoke detectors
Why? You should have one on every level of your house and one outside each sleeping area. Replace the batteries twice each year.

Get a carbon monoxide alarm
Why? This odorless gas is deadly and can be produced by defective heaters.

Know symptoms of carbon monoxide poisoning
Why? It's deadly. Symptoms include dizziness, headache, nausea, irregular breathing, and confusion. If you think you have the flu but get better when you leave the house, carbon monoxide could be the cause.

Never leave an engine running in an attached garage
Why? The fumes can be toxic. Never leave a snow blower, lawn mower, car, or anything else running in the garage—even if the door is open!

Keep the area around your furnace clear
Why? The furnace needs air to do its job. Never store anything flammable near your furnace; it's a fire hazard.

Open windows and use fans around chemicals
Why? If you don't ventilate your home or garage when you are using chemicals, it can cause health problems.

Never insert metal objects into an appliance
Why? Doing this—putting a knife in a toaster, for example—puts you at risk of being shocked. Unplug the appliance first.

Windows

Replacing old, inefficient, single-pane windows with energy-efficient windows can save up to $501 per year in energy costs.

If you are replacing old windows, choose Energy Star–qualified products over regular double-pane windows to save energy.

Window coverings on the inside and shading on the outside of your home can help keep the sun's rays from making your home too hot. Making sure your window frames don't leak can keep hot summer air from making its way through the walls of your home.

ENERGY-EFFICIENT WINDOWS

U-factor: Windows with a low U-factor are better at keeping heat outside during the summer and keeping warmth inside during the winter. U-factors are affected by the thickness of glass, the space between panes, and frame construction.

Solar Heat Gain Coefficient: The SHGC is the amount of solar radiation that passes through a window and is released as heat inside. In warm climates, look for windows with a low SHGC to limit heat gain.

Low-E coatings: Low-E coatings prevent heat from radiating between a window's panes.

Air space: Windows with two or three panes of glass have an air space between the panes that adds insulation. In some high-efficiency windows, the air space is filled with an inert gas that works even better than air.

What you can do:

Install awnings outside your windows
Why? Overhangs can be used to block summer sun from entering south-facing windows, while allowing lower winter sun angles to warm the inside of your house.

Use window coverings inside your house
Why? Blinds, drapes, and shutters allow you to control how much sun enters your home from the inside. Draw them closed on warm days so your AC doesn't have to work as hard.

Use caulk around your window and door frames
Why? Caulking small cracks, gaps, and joints is a good way to seal air leaks around window frames, door frames, and other leaky parts of your home. Putting caulk in cracks and gaps is a key step in sealing your home to prevent infiltration, which is the unwanted leaking of air through openings in your home's envelope.

Install weather-stripping in your windows
Why? Weather-stripping creates an insulating cushion between the window and its frame to prevent air from leaking into your home.

Sources

All estimates for energy savings vary by region and for each individual family. We have used typical savings. The following is a list of key sources used in preparing this tip book:

American Council for an Energy-Efficient Economy **www.aceee.org**

U.S. Department of Energy **www.energy.gov**

U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy **www.eere.energy.gov**

Energy Star **www.energystar.gov**

Alliance to Save Energy **www.ase.org**

Rocky Mountain Institute **www.rmi.org**

U.S. Consumer Product Safety Commission **www.cpsc.gov**

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