

Appliance Wise Guide

Save money and help the environment.

Learn about products that can make a difference.



Easy-to-follow tips your family can use to lower your electric bill.
Smart choices to make when it's time to buy an electric appliance.

nationalgrid

The power of action.™

Top 10 Electricity Saving Tips

For one month:

1. Replace five lights with ENERGY STAR® light bulbs and save 62 kWh for a total savings of \$9.
2. Turn off lights, appliances, TVs, stereos and computers when not in use. You'll save 58 kWh and \$9.
3. If you have a large television (greater than 32"), turn it off when not watching. You can save 50 kWh and \$8.
4. Unplug your electric space heater or hot tub and save \$41 (270 kWh).
5. Unplug and recycle your old, second refrigerator and you can save \$23 (150 kWh).
6. Washing your clothes in cold water can save you 62 kWh and \$9.
7. Turn off your air conditioning for 2 hours a day and save 77 kWh and \$12.
8. Unplug chargers, laptops, anything with remote control or "instant on" features and save \$4 (29 kWh).
9. Use a timer to run your pool pump for 2 hours less per day and save 73 kWh and \$11.
10. When buying new appliances, always choose ENERGY STAR. This can save you 75 kWh and \$11 or more.

Estimated Monthly Energy Savings: 906 kWh

Estimated Monthly Cost Savings: \$137

Savings will vary significantly from home to home. Data based on monthly residential usage at 15 cents per kWh per month.

If you have any questions,
please contact

National Grid

www.nationalgrid.com

1-800-322-3223

ENERGY STAR

www.energystar.gov

1-888-STAR-YES

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ENERGY STAR®

The Symbol for Energy Efficiency

The U.S. Environmental Protection Agency (EPA), the U.S. Department of Energy (DOE) and National Grid are working together to promote the use of energy-efficient electric appliances. The EPA and DOE set strict criteria for energy efficiency. Products that meet or exceed these criteria are permitted to display the ENERGY STAR label. The label is your guide to top quality electric appliances that will not only save energy, but also save money and help prevent air pollution. In addition, ENERGY STAR-labeled products offer better performance than less efficient models.

Remember to look for the ENERGY STAR label whenever you're shopping for an electric appliance. You can find ENERGY STAR information included throughout this guide or check out the ENERGY STAR website located at www.energystar.gov.

What does this mean for you?

It means that when you are shopping for a refrigerator, dishwasher, lighting fixture or other appliances, an ENERGY STAR label will assist you in choosing an energy-efficient appliance. It's as simple as that. You save money and you help protect our environment.

Purchasing Used Appliances

It's very difficult to compare energy costs without the help of an Energy Guide label or ENERGY STAR label, which is found only on new appliances. Used appliances are generally much less efficient than new appliances. A 20-year-old appliance will often use about twice as much electricity as a new one. That means that the second price tag, the cost of operating the appliance over its lifetime, is almost always going to be higher for a used appliance than for a new one.

If you decide to purchase a used appliance, look for an ENERGY STAR model.





ENERGY STAR® Saving You Money

By using products with the ENERGY STAR label, you can avoid energy waste and save money on your electric bill.

Whenever you buy an electric appliance, the appliance really has two price tags. The first price tag is the amount of money it costs to buy the appliance. This cost is easy to determine. The second price tag isn't as obvious. It's the cost of the electricity that the appliance will use over its lifetime of service in your home or business. Look for the yellow Energy Guide label to help determine the second price tag.

For example*, let's say Refrigerator A costs \$120, while Refrigerator B costs \$90. You might think that Refrigerator A is the better buy, but not necessarily. The electricity needed to operate Refrigerator A costs \$80 per year, but Refrigerator B is an ENERGY STAR model, which means it uses much less electricity than most other models. The electricity needed to operate Refrigerator B costs only \$68 per year.

This example shows how important the second price tag (the cost to run the appliance) is when buying an appliance. Because this second price tag is hidden in your monthly electric bill, it's easy to overlook. But the second price tag can be costly. So when you're comparing models, remember the second price tag before you buy. Products with the ENERGY STAR label come with a smaller second price tag, which means lower electric bills every month for years to come.

*Energy Guide annual kWh usage ratings for these two moderately typical side-by-side refrigerators on the market 46-41262 Kenmore 22 SS, 46-59912 Kenmore 22 SS.

ENERGY STAR Helping the Environment

A household that buys ENERGY STAR-labeled equipment (including appliances, heating and cooling equipment and electronics) instead of standard new equipment could prevent the release of 70,000 pounds of carbon dioxide over the lifetime of these products. That pollution savings is equivalent to taking a car off the road for eight years!

That same ENERGY STAR-equipped household can also cut, by nearly one-half, the release of nitrogen oxides, which are primary contributors to smog and acid rain.

So when you use ENERGY STAR-labeled products, you're being kind to your wallet and to Mother Nature!

Air Conditioners and Fans

Air conditioning can be expensive, but comfort doesn't have to be. Consider these suggestions to stay cool, and use fans and air conditioners wisely.

Room Air Conditioners

Use your air conditioner only when you need it. Don't leave it on if the room is unoccupied.

Cool only the rooms you use. Close off unused rooms to reduce the work of the air conditioner.

Consider buying and using a heavy-duty plug-in timer to control the hours of use.

Set the thermostat to 78°F or higher.

Clean cooling coils and filters monthly in the summer.

Seal air leaks around the home, particularly at the room air conditioner. Use foam pipe insulation cut lengthwise to seal between the top and bottom of windows with window air conditioners.

Use the Recirculate setting so your air conditioner doesn't have to work as hard.

Plant trees or shrubs to shade air conditioning units but not to block the airflow. A unit operating in the shade uses as much as 10% less electricity than the same one operating in the sun.

How to Choose the Right Size Room Air Conditioner

Area to be cooled (in square feet)*	Capacity (in Btu/hour)
100 to 150	5,000
150 to 250	6,000
250 to 300	7,000
350 to 400	9,000
400 to 450	10,000
450 to 500	12,000
550 to 700	14,000
700 to 1000	18,000

Notes:

If the room is heavily shaded, reduce capacity by 10%.

If the room is very sunny, increase capacity by 10%.

If more than two people regularly occupy the room, add 600 Btu/hour for each additional person.

If the unit is for a kitchen, increase the capacity by 4,000 Btu/hour.

Source: U.S. Department of Energy and U.S. Environmental Protection Agency, How to Buy an Energy Efficient Room Air Conditioner.

**Calculate by multiplying the length times the width of the room*



Fans

Use ceiling, window and table fans for cooling. Fans use less energy than air conditioners.

Don't leave a fan running unless it is cooling people or moving cool air into your house. Fans make heat when turned on, so use them only when you're in the room.

Take advantage of cool nights and cross ventilation. Open windows and use fans to blow air out of the house in the evening. Open windows on all sides of the house to maximize cross ventilation.

Shut off lights and appliances such as coffee makers and fans when not needed, especially during the hottest part of the day.

Keep the heat out. Close windows, doors, shades and drapes during the day to keep the sun's heat out.

Plant leafy green trees on the sunny side of your home. Their summer leaves provide cool shade, and their bare winter branches let the warm sunlight through.

When it's time to buy a new room air conditioner,

Choose an ENERGY STAR® model

Choose the correct size. The chart on page 4 can help you with that decision.

Look for the Energy Efficiency Ratio (EER) on the unit.

The higher the EER, the less electricity the unit will use to cool the same amount of air.

Good insulation in the home will improve the air conditioner's efficiency.



Central Air Conditioning

Schedule regular maintenance with a qualified service person to check your system's coils, blower motor, compressor and refrigerant.

Set thermostat to 78° F and use a fan to increase comfort at that setting.

Clean your air conditioner filter at least once every two months during the cooling season.

Have a technician check your central air conditioner's duct system for air leakage. Seal leaks with a mastic duct tape or mastic if necessary. Poorly performing ducts, especially attic ducts, can leak conditioned air and reduce your system's efficiency by as much as 20%. For more information and a copy of ENERGY STAR's® "Duct Sealing" brochure, visit www.energystar.gov/ducts.

Insulate cooling and return ducts that run through the attic with foil or vinyl-faced fiberglass insulation. Secure this insulation with metallic tape or plastic insulation ties that wrap around the duct.

Changing your AC thermostat fan setting from "continuous" fan operation to "auto," so the fan runs only when cooling, may save up to \$100 per cooling season.

Turn off your air conditioner when you leave your house for more than one hour. You may want to install a programmable thermostat to shut down the unit while you're out or at night after the outdoor air has cooled.

Good insulation in the home improves the air conditioner's efficiency.

Remove bushes, leaves and debris from around the outdoor compressor, leaving **at least two feet of clear space** around the unit.

Consider installing a whole-house fan instead of (or as a supplement to) central air conditioning. Whole-house fans are powerful fans installed in your attic that draw out the day's hot air and pull in the evening's cool air. Whole-house fans need to run for only half an hour or less per evening and should not be run at the same time as air conditioning.



When it's time to buy a new central air conditioner,

Choose an ENERGY STAR® model

Choose a system with a higher SEER (Seasonal Energy Efficiency Ratio). Look for a rating of SEER 14.5 and EER 12. The higher the SEER the less electricity the unit will use over the season to cool the same amount of air. Replace the indoor coil and outdoor condenser together and have your contractor check to be sure the coil combination meets the ENERGY STAR requirements.

Buy better, not bigger

Air conditioning units which are “oversized” in terms of cooling capacity typically cost more to purchase and operate. They cycle on and off too often and don't dehumidify correctly, which decreases comfort. Hiring a contractor who uses ACCA Manual J Version 8 or an equivalent “right sizing” method is important. Repair or install ducts to permit adequate airflow to match the “right sizing” to maximize comfort and energy savings.

Additional indicators of a quality installation

Hire a contractor who tests and measures the system to verify that it has been properly adjusted for refrigerant charge and airflow. Inadequate air flow is a common problem and reduces the cooling capacity of the system and wastes energy.

It's also a plus if your contractor employs technicians certified by North American Technician Excellence (NATE). The “ENERGY STAR Guide to Energy Efficient Heating and Cooling” provides more information and is available at www.energystar.gov/hvacguide.



Clothes Washers and Dryers

Part of the cost to run your washing machine depends on how much hot water it uses. If you reduce the amount of your hot water use, you'll save money. Save more by avoiding over-drying clothes and keeping your dryer in good condition.

Clothes Washers

Wash and rinse in cold water. Use warm water only for extremely dirty clothes. Hot water won't sterilize clothes.

Cold water detergents are designed to clean well in cold water and help clothes last longer. If you have an electric water heater, using cold water will save over 60¢ per load, or \$180 per year, compared with washing with warm or hot water.

Wash full loads when possible. Use your machine's Water Level control to match the amount of water used to the size of the wash load.

Check the spin cycle performance of your washer. A clothes washer with a defective spin cycle will not spin enough water out of the clothes and will cause the clothes dryer to work longer and harder than it should.

Run the spin cycle a second time to remove excess water from clothes, especially those made of heavy fabrics. This will speed dryer operation and save on electric dryer costs.

How an ENERGY STAR® Clothes Washer Can Save You Money

In the United States, clothes washer technology is changing dramatically for the first time in 20 years, as manufacturers are introducing models that get clothes clean while helping to protect the environment.

Studies indicate that these washers can save 35 to 50% on water and 50% on energy, when compared with other models. The secret to this improved energy efficiency: less water per load.

Many ENERGY STAR-rated clothes washers are front-loading machines, which means that the washtub is turned horizontally, like a clothes dryer. The benefit is that these washers use one-third less water and are gentler to your clothes than traditional agitator cycles. New top-loading ENERGY STAR washers also save energy and water. Most full-sized ENERGY STAR-qualified clothes washers use 10 to 20 gallons of water per load, compared to the 30 to 35 gallons used by the standard machine.

ENERGY STAR-rated washers also spin faster, which removes more water from wet clothes and saves energy in the clothes dryer.

Clothes Dryers

Air dry your clothes whenever possible. If you have an electric dryer, each load you air dry saves 37¢.

Avoid over-drying. Use timer settings that match the size and type of load.

Remove clothes from the dryer promptly to avoid ironing. Clothes that may be hung on hangers or a rack to finish drying may be removed when still damp to save even more electricity.

Clean lint screens before or after each load.

Check the dryer exhaust vent regularly. Make sure the dryer hose and the flapper are clean and free of lint and the flapper opens fully.

Vent dryer to outdoors. Check the dryer hose to be sure that it vents to the outside, not to the basement or house. Be aware that a dryer vented inside creates moisture that may contribute to allergies and health problems. Also check that the exhaust hose is not kinked or compressed.

When it's time to buy a new clothes dryer,

Look for a model with:

A Moisture sensor, which turns the dryer off when the clothes are dry.

A Cool Down cycle, which tumbles clothes in cooler air at the end of the dry cycle to save energy and produce fewer wrinkles.

When it's time to buy a new clothes washer,

Choose an ENERGY STAR® model

Consider one of the front-loading washers, which save energy costs and lower water usage.

Choose a model with a Water Level control, which matches the amount of water to the size of the load.

Look for a model with a Water Temperature control, which selects the wash and rinse-water temperatures.

Choose a size that meets your household needs. ENERGY STAR-qualified models are available in many sizes, ranging from 1.6 to 3.8 cubic feet.



Cooking Appliances

Some households use 50% more energy than others to cook the same food. Smart energy cooking choices can make a difference in your bill.

Ovens and Ranges

Use the smallest available cooking appliance. Toaster ovens, crock pots and microwave ovens all use less than half the energy required by a full oven.

Don't peek. Open your oven door as little as possible when you bake. Heat escapes each time you open the door.

Double up. Bake several dishes at the same time.

Avoid preheating the oven. Generally, food that requires more than 40 minutes cooking time can be started in a cold oven. When required, preheat only 5 to 8 minutes.

Reduce the use of the oven's Self-Clean feature. Wipe up spills regularly to avoid the need for frequent cleanings. Use the Self-Clean feature when the oven is still hot.

Use the smallest pan possible for stove top cooking. **Match the burner size to the pan's size** to increase efficiency.

Microwave Ovens

Cook in the serving dish. Heat liquids in microwave-safe coffee cups to reduce the number of dishes that need cleaning. These actions will save hot water and energy. Use the microwave oven instead of the range or oven for cooking and reheating efficiently. A microwave uses less than one half the energy of a stovetop burner and less than one quarter of the energy of an oven for the same task.

Defrost food in the refrigerator instead of the microwave oven.

Clean the inside surfaces of the microwave oven.

Heat water for beverages in the microwave oven. It saves time and energy. When heating a cup of water it's important to avoid super heating it. Place a wooden stirring stick in the cup and set the timer for no more than two minutes for an 8 ounce cup.



When it's time to buy a new range or oven,

Look for a well-constructed unit with good insulation levels.

Look for a Self-Cleaning feature. The unit will be well insulated with good door seals to withstand up to 600°F for cleaning.

Choose the right size. A larger oven will use more electricity.

Consider a convection oven. The oven fan evenly distributes heat, reducing cooking time and saving energy.

Dishwashers

A significant amount of energy is required to heat water for washing dishes. These actions can help you save.

Wash full loads. A full load washed in the dishwasher uses at least six gallons less of hot water than washing the same dishes by hand.

Don't rinse dishes before loading them in the dishwasher. Most new dishwashers are designed to clean dishes that have only been scraped; rinsing only duplicates this effort. If you must pre-rinse, soak dishes in cold water.

Air dry the dishes. To save energy and money, use the Air Dry or Energy Saver feature, or open the door at the end of the wash cycle. Avoid using the Heat-Dry, Rinse-Hold and Pre-Rinse features.

Use the Short Cycle feature, which allows a more efficient wash, for light loads.



Use a basin when washing or rinsing dishes by hand. Dip dishes in clean rinse water and you can save \$100 per year.

Buy an ENERGY STAR® dishwasher and get more for your money. Most of the energy consumed when washing dishes is used for heating the water. The less water you use, the more energy you will save.

Dishwashers with the ENERGY STAR label offer energy-efficient features – such as a booster heater and a no-heat drying option that will save you money for years to come. So even though an ENERGY STAR-labeled dishwasher may cost more when you purchase it, it will save you money every month for the next nine years (the average life of a dishwasher), and you'll often enjoy premium features such as quieter operation and additional wash and rinse cycles.

When it's time to buy a new dishwasher,

Choose an ENERGY STAR model

They use 40% less energy than the federal minimum standard for energy consumption.

Choose the right size dishwasher for your home. Standard capacity models hold more than eight place settings and six serving pieces. Compact capacity models hold eight place settings and six serving pieces or less. If you have to operate a compact model more frequently, you may actually use more energy than you would with a standard model over time.

Select a model with a booster heater, which heats water for the dishwasher only, allowing you to lower the temperature of your main hot water heater.

Consider a model with a Short Cycle setting, which allows more efficient washing of light loads.

Look for a model with an Air Dry or Energy Saver feature, which shuts off the electric heater during the drying cycle, cutting electricity use.

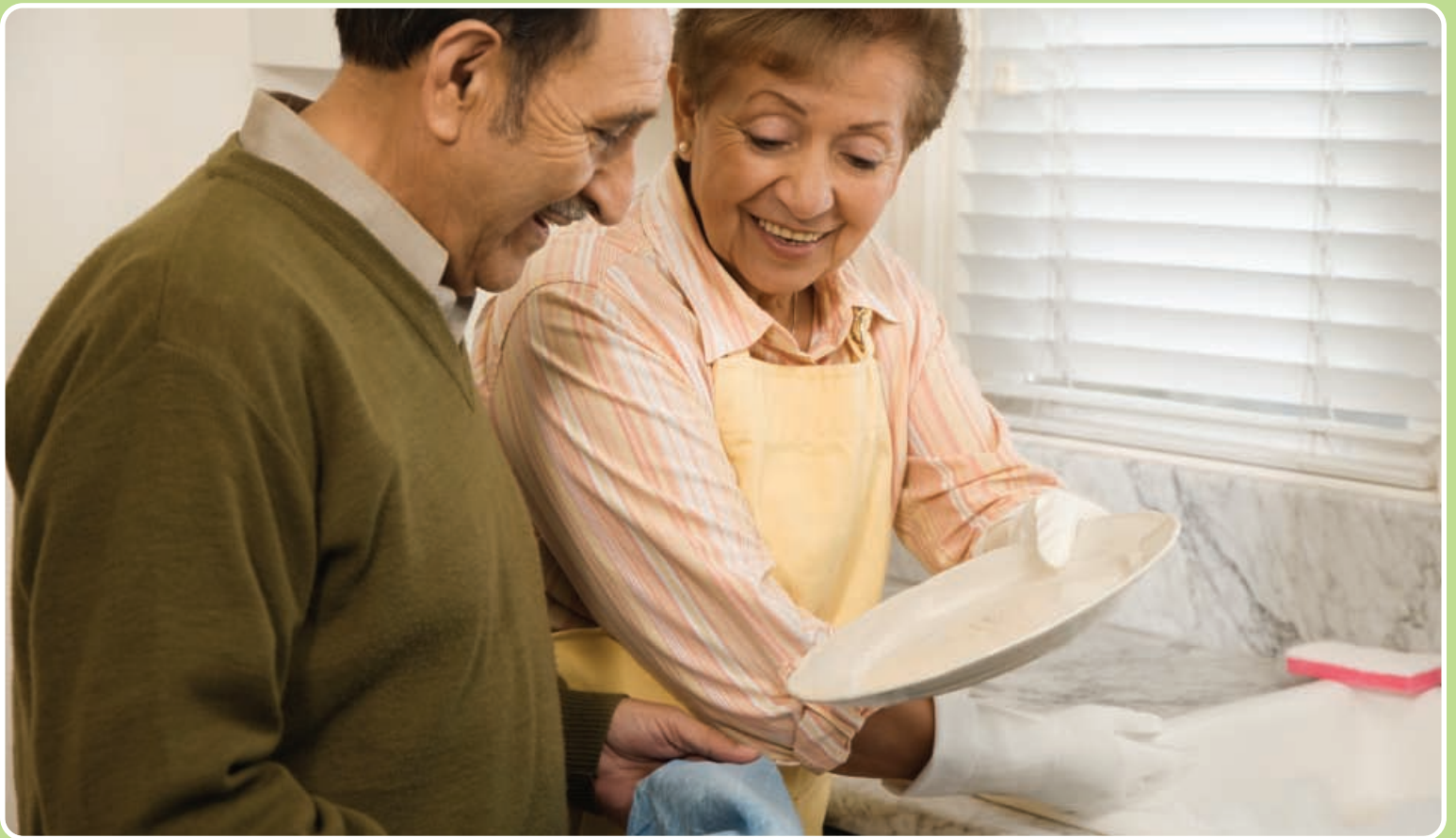


Electric Water Heaters

Water heaters are high energy-use electric appliances, using anywhere from 3,000 to 10,000 kilowatt-hours of electricity per year. Following these tips can save you money year round.

Lower the thermostats. Keep water temperatures at 125°F for maximum efficiency and safety. Remember: Higher water temperatures increase the risk of injury due to scalding burns.

Control shower times. Typically a shower costs approximately 4¢ for each minute of shower time if you have an electric water heater.



Take showers instead of baths. Typically showers use up to 40% less hot water.

Repair leaky faucets. Even small leaks are costly. For example, a very small hot water leak of one drip per second can waste as much as 200 gallons of water per month. That would cost you about \$35 to \$75 per year if you have an electric water heater.

Use energy-efficient shower heads and faucet aerators to save hot water and cut energy costs by 10% to 15%.

Insulate hot water pipes at the tank and in cold spaces.

Don't run the water continuously while shaving, brushing teeth or doing the dishes.

Think about replacement now. Most water heaters have a lifespan of 10 to 15 years. But if your heater is more than seven years old and out of warranty, have a plumber take a look at it and advise you on how much useful life it has left. If you replace your hot water heater before it fails, you are more likely to choose one that most appropriately fits your needs and offers the highest level of energy efficiency.

Vacation Tip: Turn off your water heater at the circuit breaker if you'll be away for three days or more. Caution: This could increase the risk of pipes freezing in winter if your water heater is the only heat source in your basement.

When it's time to buy a new water heater,

Look for one with a heat trap, which prevents heat loss from the water pipes and tank.

Be sure to buy a well-insulated heater. It will store heat more effectively.

Choose the right tank size for your needs.

Consider purchasing an ENERGY STAR® model.

Home Office and Entertainment

More and more people are working at home. As the use of equipment like computers, printers, fax machines and copiers increases, it is wise to save energy by powering down when equipment is not in use. This strategy applies to home entertainment centers as well.

Computers

Consider the type of monitor you purchase for your computer. The energy consumption of an average LCD display is 60 percent of that for an average monitor.

Turn off your computer and printer when it will not be in use for an hour or more.

Modify the power-management settings on your computer to shorten the settings for the monitor to sleep and to make the processor sleep as well.

Turn off your display monitor when it will not be in use for a few minutes or more. Unlike your computer, your monitor can be turned back on instantly.

Shorten the setting for your monitor's "power down" function.

Copiers

Purchase a copier based upon your needs. A mid-volume copier installed in a low-volume office can use 70% more energy per page than an efficient, low-volume copier.

Use the duplexing feature whenever possible to create double-sided copies.

Run copies in batches to decrease the time your copier spends in high-power mode.

ENERGY STAR® in the Home Office

Office equipment that has earned the ENERGY STAR helps eliminate wasted energy through special power-management features. When equipment is not in use, it automatically enters a low-power "sleep" mode. An ENERGY STAR-qualified computer in sleep mode consumes about 80% less electricity than it does in full-power mode. Overall, ENERGY STAR-qualified office products use about half as much electricity as standard equipment.

Entertainment

Look for the ENERGY STAR® label whenever you purchase home electronics.

In the average home, 40% of all electricity used to power home electronics is consumed while the products are turned off, since these products are using energy to power features like clock displays and remote controls. Those that have earned the ENERGY STAR use as much as 50% less energy to perform the same functions.

Unplug VCRs, stereos, televisions and other home electronics when not in use. Consider plugging these into a power strip and turning the power strip off when these products are not in use and save \$5 to \$15 per year.

When purchasing a television, the type and screen size can have a major effect on your energy use. For every 10 inches you increase your screen size, the unit will use between 50 to 70% more energy. LCD TVs use roughly 30% less energy than plasma TVs.

Save \$7 to \$40 per year for each of the following actions:

- Unplug tool battery chargers, TV game machines and appliances with external power adapters when not in use.
- Consider smart power strips to automatically turn off home entertainment and computer system components when not in use.
- Unplug clocks, TVs and VCRs if they are used rarely. Features like clock displays and remote controls use power continuously.



Lights and Lighting Fixtures

Most customers spend between \$75 and \$225 per year to light their homes. Unfortunately, much of the energy used for lighting is wasted in the form of heat rather than light. New technology and old-fashioned common sense can help you reduce your household lighting costs.

An Introduction to Energy-Saving Light Bulbs

Most lighting in the home today is incandescent lighting. In an incandescent bulb, electric current heats up a metal filament making it glow white-hot. This gives off light (10% of energy use), which we use, and heat (90% of energy use), which is wasted. During the winter months, incandescent lighting is an expensive form of electric heat. During the summer months, it makes your air conditioner work harder.

Fluorescent lighting produces light with less heat. Fluorescent lighting moves a controlled current of electricity through a tube containing gas so that the gas glows and gives off light, but much less heat.

ENERGY STAR® Lights

ENERGY STAR compact fluorescent bulbs (CFLs) produce the same quality light as incandescent bulbs, but use a fraction of the electricity. One CFL will last 10 times as long as a standard bulb – and it uses 75% less electricity.

Also, when comparing ENERGY STAR-qualified bulbs to traditional bulbs, compare the light output, or lumens. While watts equal the energy used, lumens equal the amount of light. In other words, if the package of a 60W incandescent bulb tells you that it puts out 800 lumens, to get the same amount of light you should look for an ENERGY STAR-qualified bulb that puts out 800 lumens or more.

CFLs look like incandescent light bulbs on the outside and are designed to screw into any standard light bulb socket. The environmental benefits of these lights are dramatic. A single 20-watt CFL used in place of a 75-watt incandescent bulb will save about 550 kWh over its lifetime.

Note: Many CFLs cannot be used with regular dimmer switches and three-way sockets.

Incandescent Equivalent	Efficient Bulb	Lifetime Savings*
30-40w	11w	\$28-\$43
50-60w	15w	\$52-\$67
60-75w	18/20w	\$63-\$85
75-90w	22/23w	\$78-\$100
100w	28w	\$106
100-120w	30w	\$105-\$135
150w	34/38w	\$166-\$172

**Savings based on 10,000-hour bulb lifetime, at 15¢ per kWh.*

Concentrate light where it's needed, for example at the kitchen sink or on a desk. Keep background lighting low.

Control lighting hours. Timers, photo sensors and motion detectors save energy by reducing the hours of operation of security lighting.

Use natural daylight by opening curtains and shades.



When you must use an incandescent bulb, use the lowest wattage possible while safely lighting an area. At night, use a four-watt night light in place of a lamp or hall light.

Lighting fixtures that carry the ENERGY STAR® label meet or exceed federal energy efficiency and quality guidelines without sacrificing performance. They include indoor, outdoor, portable and hardwired lighting you can use throughout your home.

Most ENERGY STAR lighting fixtures are designed to operate only with energy-efficient bulbs. They are safe, reliable and attractive, providing the same quality light you are accustomed to with traditional incandescent bulbs.

Some models are equipped with dimming and switching capabilities. One popular fixture, the **ENERGY STAR-labeled torchiere**, can save you \$150 or more over the life of the fixture and can replace an inefficient, potentially dangerous halogen torchiere. Halogen lighting fixtures are very inefficient and expensive to operate. In addition, the U.S. Consumer Product Safety Commission has issued a warning that halogen bulbs, because of their high temperatures (300° to 1,100° F), can cause fires. An ENERGY STAR-labeled torchiere is a safe, efficient, attractive alternative to a potentially unsafe halogen lamp.

Please make sure to recycle spent CFLs. Never throw them out in the regular trash, as they contain a small amount of mercury.

Imagine... If every U.S. household changed its five most frequently used light fixtures or the light bulbs in them with ENERGY STAR-qualified ones, together we'd keep more than one trillion pounds of greenhouse gases out of our air. This would be equivalent in air pollution to taking more than eight million cars off the road for an entire year.

Refrigerators and Freezers

Today's refrigerators and freezers are much more energy efficient than older models. A new ENERGY STAR® qualified refrigerator uses less than half as much energy as models manufactured before 1993. However, even with these advances, refrigerators and freezers remain one of the largest energy users in the home.

Switch to the Energy Saver mode. In many refrigerators, small heaters are built into the door frame to prevent moisture build-up. Keep the Energy Saver switch on, or turn the humidity switch off to keep this heater off, except on hot muggy days if you see moisture condensing between the doors. This often reduces electricity use by \$30 per year.

Thaw frozen foods by leaving them in the refrigerator overnight. This stops food from spoiling and provides some “free cooling” so your refrigerator doesn't have to work as hard.

Defrost regularly, if you have a manual defrost appliance.

Check the temperature inside your freezer and refrigerator with a thermometer. The recommended refrigerator temperature is 38° to 40°F. The freezer should be 0° to 5°F. A refrigerator that is 4° too cold may be wasting up to \$37 per year.

Clean condenser coils and grills at the back or base of the refrigerator or freezer every three months.

Make sure your refrigerator door seals are air tight. Test them by closing the door over a dollar bill. If you can pull the bill out easily, the magnetic seal may need adjustment or replacement.

Cover liquids and wrap foods stored in the refrigerator. Uncovered foods release moisture, which makes the compressor work harder.

Position your refrigerator or freezer away from heat sources, such as a stove, dishwasher or direct sunlight. To promote air flow, allow four inches between the back of the unit and the wall.



Open the door as seldom as possible. Every time you open your refrigerator, all the cold air falls out.

Unplug a second refrigerator when not in use. You'll save energy and money (typically \$40 to \$80 per year if your second unit is unplugged half the time).

Retire your second refrigerator, and save twice as much.

Vacation Tip: Remove perishable foods from your refrigerator and turn the setting to "least cool." This may save you \$7 per month or more.

When it's time to buy a new refrigerator or freezer,

Choose an ENERGY STAR® model

A 20-year-old refrigerator or freezer will often cost up to \$100 more per year in energy costs than a new high-efficiency model.

Choose the right size. Smaller refrigerators generally use less energy.

Special features may use more energy. For example, automatic ice makers usually increase energy use by 15%.

Top freezers use less energy. Side-by-side models use 30% more energy.

A chest model freezer is up to 30% more efficient than an upright model.

A manual defrost freezer uses 40% less energy than an automatic model.

Other Appliances

Furnace Fans

A furnace fan typically costs \$37 to \$240 to operate each year. Have a service technician check the fan thermostat if you suspect that it is set improperly. An improperly set thermostat may cause cold air to blow out of the warm-air registers after the furnace turns off, or it may cause the fan to turn off while the furnace is still running.

Change your furnace thermostat fan setting from “continuous” fan operation to “auto.” The fan will then run only when heating and may save up to \$180 per heating season or up to \$350 if fan had been left running year round.

Check and change furnace filters at least bi-monthly to save fuel and electricity.

Waterbeds

The electric heater inside a waterbed can use as much electricity as an electric water heater or refrigerator. A waterbed heater typically costs \$75 to \$300 to operate each year.

Insulate yourself from the bed. Place thick insulating materials (such as a two-inch thick layer of foam padding) between you and the cool surface of the bed. This allows you to be comfortable with the heater off or at a very low setting.

Use a timer to turn the heater on a few hours before going to sleep and off three to five hours before waking up.

Keep the heat in the bed rather than letting it go into the room. Use a heavy mattress cover and insulate the bottom and sides with rigid foam insulation.

Cover the waterbed every day with a thick comforter or quilt.

Well Pumps

A well pump typically costs \$30 to \$120 to operate each year. Have your well pump checked by a technician if you suspect a leak or a malfunctioning pressure switch. Both of these can cause the pump to switch on more often than it should.

Reduce your water use.

Pool Pumps

A pool pump typically costs \$75 to \$375 to operate each year. Use a timer to reduce the pool pump’s use. Eight hours a day is more than sufficient for most filter systems.

Vacation Tip: Turn off your pool heater when you go away on vacation.

Spas and Hot Tubs

A spa or hot tub typically costs \$225 to \$750 to operate each year.

Keep your spa or hot tub covered with a tight-fitting insulated cover when it's not in use.

Insulate your spa or hot tub around the sides and bottom at the time of installation. Lower spa or hot tub temperature to 60° to 80°F when not in use for more than one day.

Vacation Tip: Turn off your indoor spa or hot tub heater when you go away on vacation.

Auto Block Heaters

An auto block heater typically costs \$22 to \$120 to operate each year.

Use the block heater only one hour before starting the car. Keep auto antifreeze fresh and at maximum strength to avoid engine block freezing, so you will only need the heater in extremely cold weather. If the heater is needed to help start a diesel car or truck on cold mornings, consider installing a heavy duty plug-in-type appliance timer to operate the heater for about one hour before you leave in the morning.

Dehumidifiers

Dehumidifiers can reduce high moisture levels in your house that can cause damage to your home and your health. However, dehumidifiers can use as much energy as air conditioners.

Reduce the moisture production at its source. Information to help you control moisture in your home is available at www.energystar.gov in the Home Improvement section titled "Solutions to Common Problems."

Set the dehumidifier on the lowest setting that will still provide adequate dehumidification.

Use the dehumidifier in a well-defined space with no open windows, but not in the same area as an air conditioner.

Keep dehumidifiers away from moisture-producing appliances such as coffee pots, aquariums and vaporizers.

Space Heaters

Use a space heater only when heat must be added for a special purpose. Otherwise, be sure it's turned off, and in warm weather be sure it's unplugged. A 1,500-watt space heater costs about 18¢ per hour to run. If it's used 12 hours each day, that could cost as much as \$60 per month.

Direct heaters to heat people, not empty space. Radiant (quartz) heaters are better people heaters, and they're less expensive to operate.

Turn the space heater thermostat to the lowest setting that keeps you comfortable in warm clothing.

Open your curtains and shades on the southern side of your house to let the sun heat your home at no extra charge.

Helpful Tips

Vacation Tips

Here are some suggestions to help you save energy at home while you are on vacation.

Remove perishable foods from your refrigerator and turn the setting to “least cool.”

This may save you \$7 per month or more.

Turn off pool and spa heaters, cover your pool and use a timer to reduce pool-pump operation time.

Turn off your water heater at the circuit breaker if you’ll be away three days or more. **Caution:** This could increase the risk of pipes freezing in winter if your water heater is the only heat source in your basement.

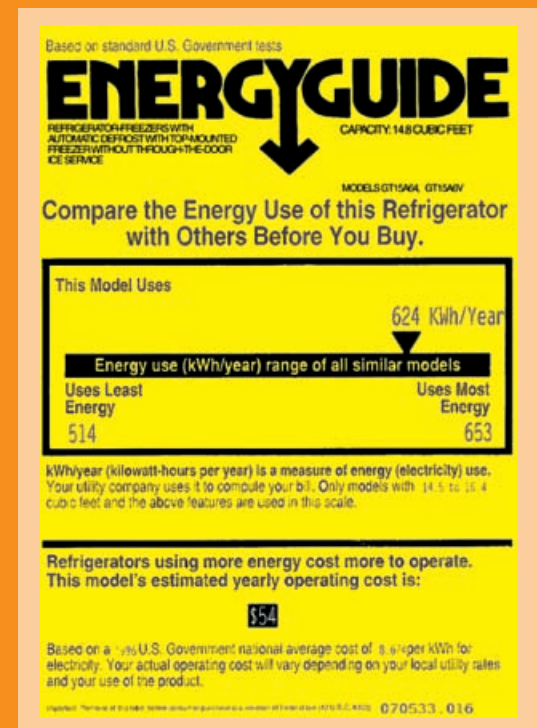
Unplug waterbed heaters, televisions, entertainment systems and battery rechargers for cordless appliances and tools so they will not draw electricity while you’re away.

Please note: Remember to turn on your waterbed and water heaters as soon as you return.

Energy Guide Labels

When you shop to replace appliances, look for the Energy Guide label – a yellow sticker required by law to be displayed on most new major appliances. The Energy Guide helps you compare operating costs of different models by showing the energy an appliance uses each year compared with similar models. The label information is based on standard U.S. government tests.

For electric appliances, the top number in the “This Model Uses” section of the label shows estimated yearly kilowatt-hour (kWh) use. The line scale immediately below the kWh usage number provides the highest and lowest annual energy usage for similar models. Select an appliance rated to have the lowest possible usage.



How Much Energy Are You Using?



Basement:	kWh/Time	Cost
ENERGY STAR® Washer	20/month	\$3.00
Dryer	72/month	\$10.80
Dehumidifier	75/month	\$11.25
Electric Lawnmower	3.33/month	\$0.50
ENERGY STAR Lightbulb/ea.	2.7/month	\$0.41
Electric Water Heater w/ENERGY STAR Washer	400/month	\$60.00

3rd Floor:	kWh/Time	Cost
Mixer - standard	1.5/month	\$0.23
Microwave	36/month	\$5.40
Ceiling Light	9/month	\$1.35
Clock - wall	7/month	\$1.05
Blender	0.4/month	\$0.06
ENERGY STAR Refrigerator	50/month	\$7.50
Color TV	72/month	\$10.80
DVD	3.2/month	\$0.48
Vacuum Cleaner	4.8/month	\$0.72
ENERGY STAR Table Lamp	2.7/month	\$0.41
Digital Clock/Radio	5/month	\$0.75
Aquarium	80/month	\$12.00
Computer/PC	30/month	\$4.50
Power Tool Charger	8.7/month	\$1.30
Electric Space Heater	270/month	\$40.50

2nd Floor:	kWh/Time	Cost
Electric Toothbrush	0.08/month	\$0.01
Razor - electric	0.01/month	\$0.01
Light Fixtures/ wall sconces	20/month	\$3.00
Night Light	3/month	\$0.45
Humidifier	45/month	\$6.75
Blender	0.4/month	\$0.06
Toaster	2/month	\$0.30
Dishwasher	8.6/month	\$1.29
Toaster Oven	15/month	\$2.25
Standard Refrigerator	180/month	\$27.00

1st Floor:	kWh/Time	Cost
Cook Top - large	13/month	\$1.95
Oven	120/month	\$18.00
Coffee Maker	6/month	\$0.90
Radio - small	5/month	\$0.75
Ceiling Fan	20/month	\$3.00
CD Player	0.9/month	\$0.14
Hair Dryer	10/month	\$1.50
Lamp - small	5/month	\$0.75

Outside:	kWh/Time	Cost
ENERGY STAR Light Fixture by door on left	1.8/month	\$0.27

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