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EDUCATE

SWITCH

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ADJUST



Live green

SAVE GREENSM

AN ENERGY CONSERVATION
AND EFFICIENCY GUIDE

www.LiveGreenSaveGreen.com



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**Here are some websites
you may find useful:**

www.LiveGreenSaveGreen.com

www.ahs.com

www.amerispec.com

www.energysavers.gov

www.energystar.gov

www.irs.gov

www.epa.gov

www.energy.gov

www.science.gov

LIVE GREEN. \$AVE GREEN.

Living green isn't only the **right thing** to do...it's also the **smart thing** to do.

It's a well-known fact that energy conservation and efficiency efforts are good for the future of our planet. In addition to being good for our planet, did you know these same efforts can be good for our pocketbooks? Taking steps to minimize energy consumption can often help lower heating, cooling, water and utility bills.

At American Home Shield®, our home warranty plans can help you protect your budget from unexpected breakdowns on covered home systems and appliances. In this guide, we'd also like to help you protect your budget with some practical, more energy efficient ideas that you can use in your own home. Living green isn't only the right thing to do...it's the smart thing to do.

Live Green. Save Green.
It's easier than you may think.

Look For The ENERGY STAR® Label

Look for home appliances and systems labeled ENERGY STAR. These products meet and exceed minimum, strict energy efficiency guidelines set by the U.S. Department of Energy and the U.S. Environmental Protection Agency. For more information, visit www.energystar.gov.



HOME APPLIANCES AND ELECTRONICS



Clothes Washer

- Front-loading washers use less water and power than top-loading washers.
- Wash clothes only when needed, and use cold water when you do. Using cold water can save energy used by your washer.
- Wash only full loads of clothes.
- Select the proper cycle for the type of clothes you are washing, and match the water level to the size of each load to help conserve energy and water.

Clothes Dryer

- Clean the lint filter in the dryer after every load.
- Make sure the dryer vent is clear too. This saves energy and may prevent fires.
- Don't overdry clothes. In addition to using more energy, clothes may not last as long.
- Look for a dryer model with a moisture sensor that automatically turns the machine off when clothes are dry.
- Air dry clothes when possible.
- If your dryer has a cool-down cycle, use it.
- ENERGY STAR does not rate dryers because most of them use comparable amounts of energy.

Dishwasher

- Wash only full loads of dishes.
- Check your model's manufacturer's instructions for dish preparation. Most new dishwasher models only require that dishes are scraped, and not rinsed, before loading which can save you money and time. Soaking or pre-washing dishes is only needed if food is burned or dried on.
- Air dry dishes instead of using the heated drying cycle. If your model doesn't have an air dry option, stop the dishwasher before the drying cycle and prop the door open to let air circulate among the dishes.
- Keep dishwasher drains and filters clean.
- Select the right cycle for each load's needs, using light washing cycles as often as possible.
- ENERGY STAR dishwashers use about 40% less energy than required by federal standards.²

Oven and Stove

- Use an electric kettle to heat or boil water which requires less energy than heating a kettle on the stove top.
- Use a toaster oven for heating small amounts of food instead of heating the large oven. Toaster ovens use 1/3 the energy of a full-size oven.²
- An electric slow cooker uses less energy than the stove.
- Range hood vents are usually more efficient than downdraft vents.
- Match the burner size to the corresponding pot or pan size for greatest efficiency and minimal heat loss.
- Make sure the oven door seals tightly. During cooking, open the oven door only when absolutely necessary to avoid unnecessary heat loss.
- Self-cleaning ovens are actually more energy efficient because of better insulation.



HOME APPLIANCES AND ELECTRONICS CONTINUED...

Refrigerator and Freezer

- Refrigerator/freezer models with the freezer on top are typically more efficient than side-by-side models.
- Save energy by regularly checking to see that the temperature is at the correct setting. The refrigerator temperature should be 37°F and the freezer temperature should be 5°F.¹ Purchase an appliance thermometer at the hardware store. To check the refrigerator temperature, place the appliance thermometer in a glass of water on a center shelf of the refrigerator for 24 hours. To check the freezer temperature, place the appliance thermometer between two frozen food packages for 24 hours.¹
- Make sure the refrigerator and freezer doors seal tightly. Doors should hold a piece of paper tightly in place without the paper slipping.¹
- Wait until hot foods have cooled before storing them in the refrigerator. Thaw frozen foods inside the refrigerator to lower the temperature and require less power during the thawing time.
- Vacuum the coils in the back of the refrigerator regularly to keep it running efficiently.
- Look for refrigerator models that have automatic moisture control.¹
- ENERGY STAR refrigerators use at least 20% less energy than required by federal standards.¹



Microwave Oven

- Microwaves cook food in less time than stove tops or ovens, so they require less power. However, they are best used for smaller food servings. For larger portions, stove top cooking is more efficient.
- When purchasing a microwave, look for features that improve energy efficiency and cooking performance, such as temperature probes, sensing controls and variable power settings.

HOME APPLIANCES AND ELECTRONICS CONTINUED...

The Power of Power Strips

When plugged into electrical outlets, appliances such as televisions, VCRs, DVDs, computers and kitchen appliances continue to draw small amounts of power, called “phantom loads,” even when turned off. To decrease phantom loads, unplug the appliances when you’re not using them, or use power strips to turn the appliances off to cut all power use.



Television and DVD Player

- Television sets consume about 4% of all household electricity in average households.¹
- Smaller Liquid Crystal Display (LCD) televisions use the least amount of power, and larger plasma sets consume the most. In fact, some large plasma televisions draw more power than large refrigerators.²
- Look for television sets that save power when they are in both active and standby modes.
- To help save energy, turn television sets off when leaving the room.
- Don't leave DVD players on standby when not in use; turn off instead to help save energy.
- Look for DVD units that have “on” mode and low power “sleep mode” consumption limits.

Computer

- Laptop computers use about 25-50% less energy than desktop computers.³
- Shut down your computer at night, or if you don't plan to use it for two hours or more. (Take care to shut it down properly, per manufacturer's instructions, to avoid data loss or system damage.)
- Re-use/refill computer ink cartridges.
- Print documents on recycled paper, and print on two sides as often as possible. Use the “draft” printing option to save ink.
- Unplug battery chargers when the battery is full or when chargers are not in use. (Remember to do this for cell phones and MP3 players, too.)
- Consider buying refurbished computers and donating old computer equipment instead of throwing it away.
- ENERGY STAR computers use up to 70% less electricity!¹

INSULATION AND AIR SEALING



Insulation

- Areas of your home where you can check to see if they have proper insulation include attic, ceilings, exterior and basement walls, floors, and crawl spaces.³
- If you have high energy bills, often feel drafts or hear a lot of outside noise in your home, then you may need additional insulation.
- You can usually decrease energy bills by adding more insulation. To find out what type of insulation you have, first check with the builder. If that isn't possible, determine the type and amount of insulation through a professional energy audit (see "Get an Energy Audit" in this publication for more information). You can also inspect the insulation yourself and determine the type and thickness by examining an exposed area, often found in an attic, basement or crawl space.
- R-value measures insulation's effectiveness and resistance to heat flow. The higher the R-value, the more effective the insulation.³

SAVE GREEN TIP:

Plant a vegetable garden! You can save grocery money and enjoy fresh, organic, healthy food.

Air Sealing

- Make sure windows and doors seal tightly when closed.
- Install weather stripping, caulking and draft stoppers around door frames. Consider installing storm doors and storm windows. If you don't choose to install permanent storm windows, then replace window screens with storm windows during winter months to keep cold air out.
- Check for holes, tears, leaks or worn spots around ducts throughout the home. Seal any gaps with metal or mastic tape. Insulate exposed ducts in the attic, garage, basement or crawl space, but take care not to block them.
- Basements can be a common area for air leak problems, particularly along the rim joist where the basement connects to the first floor. Seal this area with caulk or expanding foam. Take care to seal any wiring or pipe openings in this area too.
- Sealing exterior walls, ceilings, floors and windows can save up to 20% on heating and cooling costs, and can make your home less drafty and more comfortable in all seasons. This can be a do-it-yourself project or there are professional contractors who specialize in exterior or home "shell" sealing.¹
- Dryer vents often have large holes or gaps where they open to the outside of a home leaking air in and out of the structure. Pests can enter through these holes too. Seal small gaps with caulk or tape, and close larger spaces with spray foam or a combination of foam board and spray foam.

INSULATION AND AIR SEALING CONTINUED...

Moisture Control and Ventilation

- When taking steps to seal your home for heating and cooling efficiency, remember that ventilation is important too. Due to conservation efforts and security concerns, most people don't open windows and doors very often for air exchange. Air should be able to circulate properly year-round.
- To keep the roof dry and to help prevent ice dams, make sure your home's attic is properly ventilated. Also, check to see that attic soffit vents and gable vents are not blocked.
- Spot ventilation can be achieved by running exhaust fans in the kitchen and bathroom when rooms are in use.
- There are several types of ventilation systems for the entire house:
 - Exhaust ventilation systems depressurize the structure, and commonly use a single fan and single exhaust point. Such systems are usually best for cold climates.
 - Supply ventilation systems pressurize the home by employing a fan to bring outside air in and leaking inside air out through holes, ducts and vents. These systems are usually best for hot or combination climates.
 - Balanced ventilation systems usually have two fans and two duct systems to exchange equal portions of outside and inside air. These systems are used in all types of climates, but may increase heating and cooling costs.
 - Energy recovery ventilation systems ventilate the home and minimize energy loss. There are different types of energy recovery systems, but most can recover 70-80% of the energy used in the air exchange process. These systems are best for climates with extreme temperatures, or where fuel costs are high. In other areas, the incremental electricity costs may outweigh the benefits. Energy recovery ventilation systems must be cleaned regularly for maximum efficiency and to prevent mold and bacteria growth in the system.²



LANDSCAPING



General

- Plant trees, shrubbery, plants and flowers that are native to your area. Plants from other locales will likely require more water, fertilizer and care, thus requiring more energy and resources, as well as time.
- Buy drought-resistant plants that need less water.
- Learn how much water your trees, shrubbery and plants truly need – don't just guess. You may be overwatering them without realizing it.
- Water in the early morning when evaporation rates are low and to give your plants moisture as heat rises.
- Mulch plants to protect the roots, minimize evaporation and to insulate them.
- Leave grass clippings on the lawn as natural fertilizer.
- Start a compost pile with yard trimmings and food scraps.

Shading

- Planting trees helps reduce your carbon footprint!
- Trees planted near your home can help minimize solar heat coming in through windows and the roof, reducing air conditioning costs in warm months. In fact, shading from trees can reduce air temperatures around a home by as much as 9° F.²
- Deciduous trees provide shade in summer but let heat from the sun in during winter months when the trees drop their leaves. Evergreen trees provide shade year round.
- Trees, shrubs and ground cover also shade the ground and pavement surrounding the home, reducing heat radiation into the structure.

Windbreaks

- Windbreaks are landscaping elements that provide wind protection for the home, reducing wind chill and lowering heating costs.
- The benefits of windbreaks increase as trees and shrubs grow.
- Windbreaks are usually planted on the north and northwest sides of the home.
- The best windbreaks use dense plantings, such as evergreen trees and shrubs.
- For best results, place plantings close together, keeping in mind the mature plant size.
- Windbreak plantings are often combined with a wall or fence for maximum effectiveness.



LIGHTING



Design

- Lighting makes up almost 15% of a home's electrical use, so paying attention to your home's lighting design can be advantageous to your bottom line. Incorporating new lighting technologies can reduce lighting energy use by over 50%.²
- Don't assume every room needs overhead lighting. Lamp lighting is more attractive, functional and practical for many rooms, such as living rooms and bedrooms.
- Use task lighting judiciously instead of bright overhead lights.
- Open the curtains to maximize daylight instead of turning on artificial lights.
- Use fluorescent fixtures for ceiling lights and wall sconces that will be turned on more than two hours a day.

Controls

- Dimmers are inexpensive ways to reduce wattage and can save wear on most types of bulbs. Dimmed light is also more appealing for many rooms, such as dining rooms and bathrooms. Most hall fixtures can be dimmed significantly and still supply adequate light.
- Occupancy sensors can automatically turn lights on and off when a person enters and leaves a room. In lieu of installing occupancy sensors, put notes or stickers on switch plates to remind family members to turn lights off when they exit.
- Timers are useful for indoor and outdoor light control, and can save energy by switching lights off at pre-determined times.
- Motion sensors are useful for conserving outdoor light use and have security benefits as well. Lights with motion sensors only come on when movement is detected, saving energy and giving the impression that someone inside the house has switched on the light.

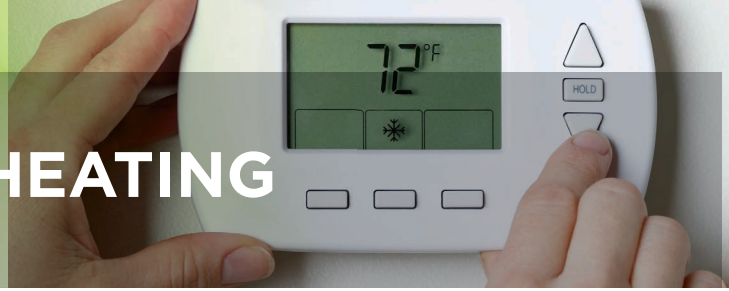
- Photo sensors are a good idea for outdoor lights that need to be on continuously during evening hours. They switch off automatically when daylight is detected.
- Consider installing solar power outdoor lighting, which has the advantage of lower electricity costs and the convenience of no wiring.

Replacement and Maintenance

- Linear fluorescent bulbs and compact fluorescent bulbs (CFLs) last up to 10 times longer than standard incandescent bulbs and use less energy to give off just as much light. CFLs also produce 75% less heat, so they can help with cooling costs. Because they don't need changing as often, CFLs also help reduce waste.²
- Regularly clean lamp shades and light fixtures to reduce dust that interferes with light output.
- Light Emitting Diodes (LED) are more expensive but use less electricity than incandescent bulbs and last longer.



SPACE COOLING AND HEATING



Heating and cooling is likely your largest energy expense so changes made here may have the biggest impact on your budget. Heating and cooling costs comprise 50%² or more of the average American utility bill. One of the best ways to curb heating and cooling bills is to use a programmable digital thermostat set to accommodate your family's schedule. The thermostat will automatically raise and lower temperatures as needed, conserving energy and keeping your home at comfortable temperature levels.

Cooling Systems

- In general, central air conditioners are more energy efficient than room air conditioners.
 - To save on energy costs, turn your thermostat up two degrees in the summer. Your family will likely not notice such a small change but you'll use less energy. Also, turn the air conditioner up when the house is empty.
 - Switching to high efficiency air conditioning units can reduce energy use by 20–50%², so consider replacing the outdoor compressors of older units with newer systems. Even if your air conditioner is only ten years old, you could save significantly on energy costs.
 - Look for a model with a high efficiency rating. Central air conditioners are rated according to Seasonal Energy Efficiency Rating (SEER), which measures the amount of energy needed to provide a specific cooling output. Many older systems have SEER 6 or less. The minimum SEER allowed today is 13. The higher the SEER, the greater your energy savings. (Look for ENERGY STAR labeled central air conditioning systems with SEER 13/14 or greater.)
- The efficiency of room air conditioners is lower than central air conditioning units, but the costs to operate room units may be less. Room air conditioning efficiency is measured by Energy Efficiency Ratio (EER). The higher the EER, the more efficient the unit. Room air conditioners built after Jan. 1, 1990, must have EER of 8.0 or greater. Look for units with EER of 10 or more.²
 - Placing the condensing unit in a shady spot can reduce cooling costs by up to 2%.² If moving the condensing unit isn't feasible, consider adding some shade plantings around it, but take care to regularly remove leaves and other debris that may fall into or onto the unit.
 - Installing a lighter color roof or reflective roofing can also lower cooling costs.
 - Ceiling fans can help keep rooms cool and take some stress off your cooling system.
 - Attic fans help cool attics and reduce cooling costs, too. Some newer attic fans are even solar powered. Make sure the roof is properly vented for maximum benefits.
 - White window treatments reflect heat away from the house, reducing air conditioning needs as well as letting in more light and reducing the need for artificial lighting.
 - Close off all rooms that are not in use.

Heating and cooling costs comprise **50%² or more** of the average American utility bill.

SAVE GREEN TIP:

Instead of buying and tossing magazines, paperback books and DVDs, check them out from your local library.

One of the best ways to help curb heating and cooling bills is to **use a programmable digital thermostat** set to accommodate your family's schedule.

SAVE GREEN TIP:

Keep your car properly maintained with inflated tires for the best gas mileage. Don't let your car idle, slow your speed, use cruise control and carpool.

Heating Systems

- Most home heating systems have furnaces or boilers. Furnaces heat air and distribute heat throughout the house; boilers heat water and provide hot air or steam for heat.
- Central furnace or boiler efficiency is measured by Annual Fuel Utilization Efficiency (AFUE). AFUE is a ratio of heat output compared to the total energy consumed by the furnace or boiler. An AFUE of 90% means that 90% of energy in the fuel becomes heat. The minimum allowed AFUE rating for a non-condensing, fossil-fueled warm air furnace is 78%. The minimum AFUE for fossil-fueled boiler is 80% and the minimum AFUE for a gas-fueled steam boiler is 75%. Older furnaces often have AFUE ratings of 50% while newer models have AFUEs of 90% or higher. Energy efficiency upgrades and higher efficiency heating systems can cut fuel bills and pollution in half.²
- Older furnaces also often have pilot lights that use fuel continuously but new models employ electronic ignition, which saves energy.
- If you have a forced air system, change the filter at least every four months, or per manufacturer's instructions. The unit will function more efficiently and you'll enjoy cleaner inside air.
- Make sure heating ducts and sources aren't blocked or obstructed by furniture, carpeting or draperies.
- If you have hot-water radiators, bleed trapped air once or twice every heating season or call a professional to have it done.
- In cold weather, close curtains and shades at night and open them during the day to let sunlight in to warm the house.
- Close off rooms that are not in use.

WATER AND WATER HEATING



Faucets and Showerheads

- To conserve water and lower your water bill, turn off the faucet while brushing your teeth, washing your face or shaving. Take showers instead of baths and limit shower time.
- When using faucets or showerheads, use the least water pressure necessary.
- Repair leaking faucets promptly.

Water Heaters

- Water heating can account for 12% of the average utility bill.²
- One of the best ways to lower water heating costs is to lower the temperature on the water heater to 120° F. Lower water temperatures help prevent scalding accidents too.
- Consider purchasing a tankless water heater, which can increase energy savings. Instead of heating and holding water in a tank until the water is used, water is heated on demand.
- Reducing the time hot water travels can save energy. When building or redesigning a home, ask your designer or builder to locate water heaters as close as possible to the primary location in the home that will likely have the highest water use.
- Wrapping a water heater with insulation material can save energy and can prevent CO₂ from entering the upper atmosphere. Check the manufacturer's instructions for information on how to wrap the tank properly.
- It's also a good idea to insulate the first six feet of the hot and cold water pipes connected to the water heater.²
- Every three months, drain a quart of water from the hot water tank to remove sediment, which reduces effectiveness and heating efficiency. Be sure to follow the manufacturer's instructions for doing this.

- Consider solar water heating if you have an unshaded, south-facing roof or other surface suitable for the equipment.

Toilets

- Replacing older toilets with newer models can save water and money. Older toilets use up to eight gallons of water per flush; newer, low-flow toilets use only one to two gallons.
- Dual flush toilets give options for flushing two different quantities of water and can save up to 30% more than even high efficiency toilets.¹
- Toilet leaks can cause high water bills. One signal of a leak is when a toilet continues to run after flushing. An easy way to check for toilet leaks is to add food coloring to the tank. Wait 30 minutes to one hour, and if the color appears in the bowl there is a leak.

Pools

- Replace pumps older than ten years old and that could help you on energy bills for the pool.
- Use a pool cover to minimize evaporation and water loss.
- Consider solar water heating for swimming pools or hot tubs. Most solar pool heating systems are actually comparable in cost to conventional systems but use less energy.
- If you have an automatic pool-sweeping system, turn it on only when the bottom and sides of the pool are dirty. Running it continuously uses energy and places wear and tear on the motor and moving parts.
- Only use pool lights, fountains and other electrical features when the pool is occupied.

WINDOWS, DOORS AND SKYLIGHTS



Windows

- Consider replacing single-pane windows with double-pane windows and high-performance glass. In addition to double panes, look for low emissivity coating.
- If you live in a warm climate, consider awnings on the south and west facing windows to keep summer sun and heat out.
- Storm windows can reduce heat loss through windows by 25–50%.²
- Window treatments, such as heavy draperies, can be closed at night during cold weather to help keep rooms warm.

Doors

- Exterior doors that allow air leakage or heat transfer can cause energy loss. If you have older exterior doors, consider replacing them with newer ones that have better fit and insulation.
- Check weather stripping on doors at least once a year for cracks, gaps or deterioration. Replace weather stripping if necessary.

Skylights

- Skylights let natural light into the home decreasing the need for artificial light throughout the year and warming the home during winter months. Some skylight models open for venting as well.
- To get the maximum comfort and benefits from skylights, it's important to consider their placement and room use. For example, east-facing skylights will introduce the maximum light and heat into the home during morning hours, while west-facing skylights will do the same during afternoon hours. If south-facing skylights introduce too much heat, especially during summer months, you might want to consider shading that part of the roof with trees or adding a retractable window covering or special glazing on the skylight.



Skylights let natural light into the home **decreasing the need for artificial light** throughout the year and **warming the home** during winter months.

GREEN CLEANING TIPS



Green Cleaning Tips

Some commercial cleaning products contain harmful chemicals that can adversely affect waterways, rivers, streams, aquatic life and indoor and outdoor air quality. Cleaning products can also be harsh to human skin, eyes and respiratory systems, particularly for allergy sufferers. Fortunately, there are some effective and often less expensive green alternatives that can be made with readily available natural products.

Kitchen

- Use a biodegradable dishwashing powder which works without bleach and phosphates and doesn't leave a chemical residue behind. Mix baking soda and water to clean sinks, counters and refrigerators.
- White vinegar cuts grease on cooking utensils, stove tops and counter tops. Rinse with warm water.
- Oven cleaners often contain a lot of strong chemicals and can irritate respiratory systems, eyes and skin. Instead, make a paste of baking soda and water. Rub the paste on the inside of a cool oven and wait a few hours or overnight before scrubbing. Rinse any residue with a damp cloth.
- Clogged kitchen drain? Instead of using a commercial drain cleaner with harsh chemicals, remove as much standing water as possible and try pouring boiling water (or baking soda followed by boiling water) down the drain. It may take several pots of boiling water to do the trick.
- Use kosher salt or other coarse salt to clean copper cookware and ceramic baking dishes.

Bathroom

- To clean tubs, mix baking soda and liquid soap to a thick consistency and add about a tablespoon of white vinegar. For tough spots that need more abrasion add some kosher salt to the mixture.
- For a natural disinfectant, mix two cups of water, three tablespoons of liquid soap and 25 drops of tea tree oil. Or, mix 1/2 cup borax powder with one gallon of hot water.
- To treat mildew on tile and other hard surfaces, mix equal parts hydrogen peroxide and water. Spray or rub on mildew stains and wait a few minutes before rinsing. (Take care when applying this mixture; hydrogen peroxide acts as a bleaching agent and can

fade fabrics, rugs, clothing, paint, etc.)

Laundry

- To clean your washing machine safely and environmentally responsibly, remove clothes and add one cup of white vinegar before running a regular cycle.
- To brighten laundry, add 1/2 cup of fresh, strained lemon juice to the rinse cycle. To remove detergent residue from clothes and to help prevent dark colors from fading, add 1/4 cup of white vinegar to the rinse cycle.
- Instead of chlorine bleach, try using about 1/2 cup hydrogen peroxide per load. (Like bleach, hydrogen peroxide will fade colored fabrics.)

General Cleaning

- To scrub floors other than hardwood, use washing soda (sodium carbonate) for tough jobs and rinse well. For everyday washing, dilute one cup of washing soda with one gallon of warm water and add two to three tablespoons of white vinegar.
- For window cleaning, mix two tablespoons of white vinegar and one gallon of water in a spray bottle. Spray windows with the solution and use old newspapers instead of paper towels to wipe clean and shine.
- For fresh carpet stains, use club soda to pour on the stain and blot dry. For bigger carpet spills, sprinkle cornmeal on the stain. Wait a few minutes and vacuum.
- Baking soda or cornstarch makes a great carpet deodorizer. Just sprinkle it lightly across the carpet, wait a few minutes and vacuum.
- Lemon juice can clean hard water deposits, tarnish on silver and can clean buildup and dirt on wood.
- You don't really need to use dusting sprays on furniture. Instead, lightly dampen a soft cloth with tap water and dust.
- In lieu of air fresheners, simmer apple cider, pineapple juice or orange juice with cinnamon sticks and cloves on the cook top. Do not leave the mixture unattended and watch carefully to make sure that the liquid doesn't boil completely down.

TAX CREDITS, REBATES AND FINANCING

Tax Credits for Energy Efficiency

If you purchase specific energy efficient products or renewable energy systems for your home, you may be eligible for federal tax credits or tax incentives. Tax credits may be available for products that meet outlined standards, including windows and doors, insulation, roofs, central air conditioners, air-source heat pumps, furnaces, boilers, water heaters, biomass stoves, geothermal heat pumps, solar panels, solar water heaters, small wind energy systems, fuel cells and others. Qualification timeframes, deadlines and residence eligibility requirements differ, so check with your tax professional for specifics. To find out more, visit www.energy.gov, www.energysavers.gov, www.energystar.gov, and www.irs.gov.

Energy Efficient Mortgages and Financing

Energy efficient improvements can be incorporated into home mortgages enabling homeowners to pay for the upgrades over the life of the loan. Depending on the lender, there may be additional advantages such as lower mortgage rates or reduced loan fees. An

Energy Efficient Mortgage (EEM) is usually extended for the purchase of a new home that is already energy efficient, and that credits the home's energy efficiency in the mortgage, allowing borrowers to finance the energy saving measures as part of the mortgage. An Energy Improvement Mortgage (EIM) is used to purchase an existing home when there are plans for energy efficiency improvements, enabling the homeowner to use projected savings on utility bills to finance the enhancements.

Be prepared for an extra step in the mortgage application process with both EEMs and EIMs, as lenders usually require a home energy rating to be conducted to determine the estimated monthly energy savings along with the value the energy efficiency measures will provide. EEMs and EIMs are offered by most federally approved mortgage programs and conventional secondary mortgage market programs, including FHA, VA, Fannie Mae and Freddie Mac. Check with your local lender for guidelines and specifics.

Rebates for ENERGY STAR Appliances

ENERGY STAR partners periodically sponsor special offers, rebates, credits and sales tax exemptions on qualifying products, as well as recycling incentives. Visit www.energystar.gov for more information.



GET AN ENERGY AUDIT



What steps could you take to make your home more energy efficient? An energy audit can answer that question and may save you money in the process. You can conduct an energy audit yourself or you can hire a professional for more detailed results and recommendations.

If you decide to perform an energy audit yourself, first determine how much energy you use in one year. Gather your monthly utility bills and calculate electric charges (Kilowatts), gas charges (cubic feet, therms or gallons), heating oil charges (gallons) and water (CCF) costs. These numbers will give you a starting point for calculating potential savings.

The next step in your energy audit should be to check your home for water leaks. To do this, shut off all water sources in the house (faucets, showerheads, etc.), then go outside and see if the water meter is moving. A moving meter indicates you have a leak somewhere in the home. Even small leaks can be expensive over the long run, so make it a priority to find and fix the source of any leaks.

Next, review the recommended maintenance procedures for your heating and cooling systems. Check filters on the heating and cooling equipment as well as on your clothes dryer. Replace or clean the filters as necessary. Check insulation levels in the attic, walls, ceiling, floors and crawl space. Inspect your home for holes and cracks around windows, doors, plumbing fixtures, electrical outlets and wall switches. Check fireplace dampers to make sure they close securely.

Think about the interior and exterior lights in your home and pinpoint locations where sensors, dimmers or timers could reduce use and energy costs. Make a list of your home's appliances and their approximate ages. Research newer models and see which replacements might be good investments.

If you decide to hire a professional to conduct an energy audit, look for a licensed and insured auditor/inspector. Be sure to check references and the Better Business Bureau. In addition to being licensed and insured, AmeriSpec Certified Energy Inspectors have no financial interest in any improvements recommended as part of an energy audit. An AmeriSpec energy inspector

checks, measures and evaluates factors in a home that affect energy usage.

With AmeriSpec's energy audit service, homebuyers can help pinpoint cost-effective home energy improvement options. Our detailed report provides resources to help make energy-related savings a reality. You can reduce energy consumption, lower utility bills and improve your "green" potential. For more information, visit www.amerispec.com.

Here are some steps you should take to help to properly prepare for a professional energy audit:

- Make a list of problems and concerns. Talk to family members to get their perspectives too.
- Compile copies of your home's yearly energy bills.
- Know your average seasonal thermostat settings.
- Tell the auditor how many people are normally home during daytime hours and evening hours.
- Move any furniture, boxes or other items away from water heaters and heating/cooling equipment to allow easy access.
- Be present for the inspection to learn as much as you can about your home's systems and maintenance needs.

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Power Up Green

Ask your local utility company about renewable energy or "green" purchasing options, such as:

- Solar Power
- Bio-fuel Power
- Hydropower
- Wind or Geothermal Power

TERMS

AFUE	Annual Fuel Utilization Rating, which measures heating system furnace or boiler efficiency in percentages. Higher percentages indicate greater efficiency.
Biodegradable	Material that can be broken down organically
Carbon footprint	Measurement of the impact our activities have on the environment, specifically the total greenhouse gas emissions produced by activities and energy use
CFL	Compact fluorescent bulb
CO²	Carbon dioxide
Compost	Decomposed animal, plant and organic matter used mainly as a fertilizer
Cubic feet	Measurement of volume; 1 cubic foot = 28.31 liters
EEM	Energy Efficient Mortgage
EER	Energy Efficiency Rating, which measures the efficiency of room air conditioning units
EIM	Energy Improvement Mortgage
Energy Star	Joint program of the U.S. Environmental Protection Agency and the U.S. Department of Energy to help people save money and protect the environment through energy efficient products and practices; now an international standard of energy efficient consumer products
EPA	Environmental Protection Agency
Fluorescent bulb	Usually a long, narrow glass tube that produces light by transmitting electricity through mercury vapor
GPM	Gallons per minute
Gray water	Water that has been used in the home, except from toilets, that is collected and reused, usually as landscape irrigation
Green power	Renewable energy; electricity produced from sources such as solar, wind, geothermal biomass and biogas
Greenhouse gases	Atmospheric gases that absorb and emit radiation, such as water vapor, carbon dioxide, methane, nitrous oxide and ozone
Incandescent bulb	A glass, electric light with a filament
LED	Light Emitting Diodes
LCD	Liquid Crystal Display
Phantom power	Small amount of power that appliances continue to draw from electrical outlets after turned off
R-value	Measures insulation's resistance to heat flow
SEER	Seasonal Energy Efficiency Rating, which measures the efficiency of central air conditioners
Solar heat	Heat from the sun
Windbreak	Landscaping elements that protect a home from wind and cold

LEGAL

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Endnotes:

1. energystar.gov
2. energysavers.gov
3. energy.gov