

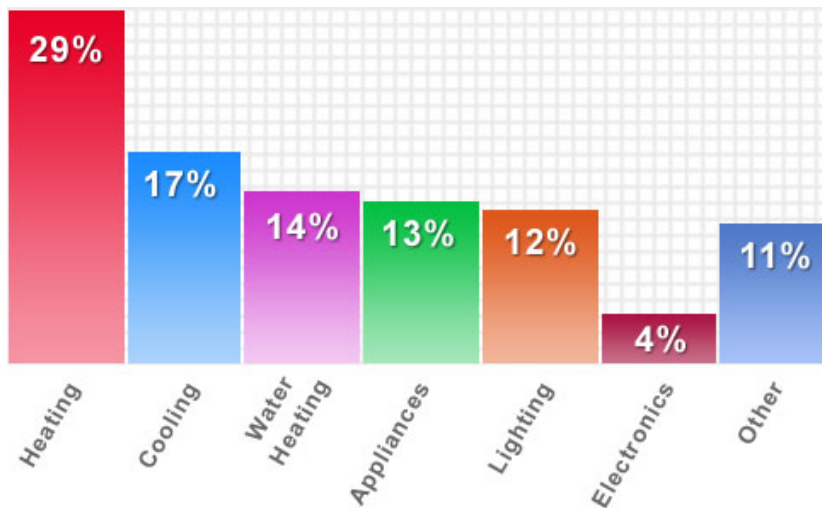
## Utility Bill Analysis & Consumer Education Checklist Conservation Audit and Performance Protocol (CAPP)

**Utility Bill Analysis:** Work with your auditor or home energy professional to evaluate how you use energy in your home and where your utility dollars are going<sup>1</sup>. This is a critical step for prioritizing energy improvements during the audit.

- Utility bill analysis using ENERGY STAR Home Energy Yardstick**
  - Compare your energy use to others across the country and get recommendations for improvement; [www.energystar.gov](http://www.energystar.gov)
  - Keystone HELP program requires Home Energy Yardstick analysis to compare your energy usage before and after (1 year after) the installation. This information is used to provide you with a measure of success, as well as important program analysis for Keystone HELP.

### Where Is My Money Going<sup>1</sup>?

The annual energy bill for a typical single family home is approximately \$2,200.



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**Consumer Education Checklist:** This checklist includes a few no cost or low cost measures that can be applied to many homes. These measures provide some basic (but often overlooked) opportunities to save you additional money.

#### 1. Turn off lights, appliances, electrical devices and equipment when not in use:

Turn lights off in unoccupied rooms and use Compact Fluorescent Lights (CFLs) or Solid State Lighting (SSL) aka LEDs (Light Emitting Diodes) in your most frequently used fixtures.

- Review ENERGY STAR's CFL [Buyers Guide](http://www.energystar.gov) for details on selecting the proper CFLs or replacement lamp for your application, [www.energystar.gov](http://www.energystar.gov)
- Recycle all CFLs properly. Visit <http://earth911.com/> for recycling information.
- Consider eliminating your halogen floor lamps or torchieres for higher energy efficiency and improved fire safety.
- Try using efficient Solid State or LED Lights.

Eliminate vampire loads: Unplug appliances (TV's, DVD players, computers, kitchen appliances, etc.) that are not being used or control multiple devices with a conveniently located power strip that can easily be switched on and off.

Don't run ceiling or room fans when you are not in the room. Fans cool people, not rooms, so they won't do you any good when you're not at home.

Activate "sleep" features on computers. Do not use screen savers, as this feature requires both the monitor and the computer's CPU to operate and use more energy.

<sup>1</sup> *Where Does My Money go?* Source: Typical House memo, Lawrence Berkeley National Laboratory, 2009 and Typical house\_2009\_Reference.xls spreadsheet. Average price of electricity is 11.3 cents per kilo-watt hour. Average price of natural gas is \$13.29 per million Btu. "Other" represents an array of household products, including stoves, ovens, microwaves, and small appliances like coffee makers and dehumidifiers

## 2. Run your appliances more efficiently:

- Use your microwave oven to save energy. Microwaves heat foods faster and use less energy than standard electric ranges and cook tops. Cover dishes to help keep the heat in and reduce the amount of energy used to heat or reheat food.
- Give your refrigerator a physical and keep it clean to save energy.



### Refrigerator Maintenance:

- Once a year, clean the coils on the back of the refrigerator. Brush off any dirt, lint, dust or hair that might be restricting air flow on the coils.
- Leave an air gap between the refrigerator and the wall to allow good air flow and circulation.
- Use a thermometer to check the temperature of your freezer and refrigerator. Freezers operate best when set between 0°F and 5°F and refrigerators between 36°F and 40°F.
- If you have two or more refrigerators, try to make do with one.
- Recycle all refrigerators properly, see <http://earth911.com/> for recycling information.

- Remove dryer lint after each load, line dry whenever possible, and wash full loads.

- Skip the dishwasher's energy-intensive drying cycle and choose the "air-dry" option.

- An electric heating element is generally used to dry dishes at the end of the final rinse cycle, consuming about 7% of dishwasher energy use. Most new dishwashers offer an energy-saving no-heat drying feature. At the end of the rinse cycle, if the feature is selected, room air is circulated through the dishwasher by fans, rather than using an electric heating element to bake the dishes dry.

- Use ENERGY STAR [www.energystar.gov](http://www.energystar.gov) , Energy Savers [www.energysavers.gov](http://www.energysavers.gov) , or American Council for an Energy Efficient Economy [www.aceee.org/consumer](http://www.aceee.org/consumer) buying guides when shopping for new appliances.



## 3. Change with the Seasons:

- At the start of the heating season, close all windows and replace screens with storm windows.
- Close any vents or openings that you may have used only for the summer.

## 4. Use shades, blinds and curtains to let warm winter sun in and keep hot summer sun out.

- In winter, let the sun in during the day, especially on the south facing side of your home. Close window coverings or use window blankets at night to slow heat escaping back out of the home.
- During hot summer months, keep window coverings closed, especially on the south, east and west windows to minimize uncontrolled heat gain from direct sunlight.

## 5. Run your furnace and air conditioner more efficiently:

- Turn your thermostat down in winter and raise it up in the summertime, based on your lowest (or highest) practical comfort setting. Set it back (or up) when you are away from home.
- If you have forced air heat or central air conditioning, make sure the fan control is set on automatic to turn off when no heat or cooling is being distributed. Ask your heating contractor to do this if you're not sure how to properly set your fan control.
- Regularly check and replace furnace and outside air filters.

Clean the registers, baseboards and radiators and make sure they're not being blocked by furniture, carpets or drapes.

Don't heat or cool unoccupied rooms. **Maintenance Alert:** HVAC systems vary and closing off rooms can sometimes have adverse effects. For example, sometimes closing off too many registers to a warm air furnace can over pressurize the system causing mechanical problems or increase system inefficiencies. Cold rooms can sometimes lead to condensation and mold problems in the home. If you have questions, you should consult an HVAC specialist or Certified Auditor to determine your options for closing off unoccupied rooms.

**6. Use room fans, ceiling fans and whole house fans to help keep cool:**

Fans cost less to operate than air conditioning, therefore use fans whenever possible instead of air conditioning.

Fans cool people by creating a low-level "wind chill" effect throughout a room. As long as indoor humidity isn't stifling, they can be quite effective. Just remember that a fan cools people — it doesn't actually reduce room temperature — so turn it off when you leave the room. Using fans to supplement the air conditioning allows you to raise the thermostat temperature, using less energy. One exception is at night when you can use fans to exchange hot indoor air with cooler night air to cool your house and reduce or eliminate the need for air conditioning.

**7. Fireplaces and supplemental heat stoves:**

Close dampers when not in use and install fireproof gaskets to prevent air leakage. Make sure the fireplace or stove doors are shut and the flue damper seal is snug. **Safety Alert:** Remember to open the flue damper the next time you operate the stove or fireplace.

When you use the fireplace, open dampers in the bottom of the firebox (if provided) to reduce heat loss and use circulators (if installed) to spread the warmth.

Add heat capacity (humidity) to your home's indoor air in the winter by placing a container of water near your stove or fireplace. Use only fire and flame resistant containers and keep them at least half full, refilling frequently.

**8. Minimize humidity in the summertime:**

When running air conditioners, try to reduce indoor humidity by only running hot-water appliances in the evening and minimize taking hot showers during the day.

Use your bathroom exhaust fans when showering.

Cook with lids on pots and use your ventilation range hoods.

Use a dehumidifier, especially in damp locations to minimize humidity load, remember to empty the pan frequently.

**9. Heating water:**

Lower the temperature on your water heater to the warm setting (120°F). You'll not only save energy, you'll avoid scalding your hands. **Safety Alert:** You should avoid setting your water heater any less than 115° F due to potential risk of Legionella bacteria growth.

Take five-minute showers instead of baths.

Do full loads when washing clothes or dishes, and use cold water.

Repair leaky faucets and other water leaks promptly. A faucet dripping at a rate of two drops per second wastes 100 gallons of water per month.

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By signing and dating this "Utility Bill Analysis and Consumer Energy Checklist" you are acknowledging that this checklist was reviewed as part of the audit process for the Keystone HELP Whole House Improvement – Unsecured Loan.

Signature of Homeowner/Purchaser: \_\_\_\_\_ Date: \_\_\_\_\_

Auditor Signature: \_\_\_\_\_ Date: \_\_\_\_\_