



ENERGY TIPS

Lighting

NO COST

- Turn off the lights in unoccupied areas and where daylight is sufficient. Save 8 - 20% of lighting energy.
- Make sure lighting controllers (time clocks, motion sensors) are properly set and in working order.
- Make sure outdoor lighting is off when not needed.
Save up to 3% lighting energy.
- Keep light bulbs and fixtures clean. Dirt can reduce light intensity by up to 25%.

LOW COST

- Replace incandescent light bulbs with Energy Star compact fluorescents: save 70-90% of lighting energy.
- Replace lighted signs (e.g. Exit signs) signs with light emitting diode (LED) units: save 70-90% of lighting energy.
- Reduce general overhead lighting; use task lighting where needed: save 25-50% of lighting energy.
- Outdoor timers can cut your energy consumption in half. Motion detectors are another way to go. They switch on the lights while needed and shut them off automatically a few minutes later.
- Install occupancy sensors that shut off lights when room is not in use and save up to 20% of lighting energy
- Retrofit T12 lamps and ballasts with T8 lamps and electronic ballasts and save 20-30% of lighting energy

Heating

NO COST

- Keep doors and windows closed (even over short periods) when heating system is running. Save up to 50% of heating energy.
- Set thermostat to 68°F in daytime and 55°F at night. Save about 2% of heating energy for every degree of setback.
- Check heating equipment for proper operation. Maintain fans, pumps, filters. Save 1% of heating energy.
- Shut off gas furnace pilot light in the off-season.

LOW COST

- Install a programmable thermostat. It will reduce the temperature when no one is at home and at night when lower temperatures are adequate.
- Install locking covers on thermostats to prevent tampering. Save 10-70% of space heating energy.
- Perform scheduled maintenance on burners, air conditioner coils; replace air filters, check air ducts and pipe insulation for damage. Save 10-30% of fan energy and up to 10% of space conditioning energy.
- Ensure that doors and windows seal tightly and remain closed: save up to 50% of space conditioning energy.
- Use caulking and weather stripping to seal air leaks. A third of a home's heat loss is through windows and doors. Drafts through cracks can increase heat loss by 20%.
- In outside walls install foam gaskets behind electric outlet cover plates, to eliminate drafts.

- Install a ceiling fan. Change the direction of the fan to push warm air down in winter. The saving: 20-50%

Water NO COST

- Set your water heater to 120°F – you should not have to add much cold water for a comfortable shower. Save up to 15% of water heating energy.
- Turn off water heater when away for more than a few days. Turn heater to Off or to Pilot.
- A 5 minute shower uses up to 50% less water than a bath. If you must take a bath use only 3” of water.
- Don’t run the water while shaving, brushing teeth, doing dishes. Rinsing dishes in a sink partially filled will reduce the use of rinse water use by 80%.

LOW COST

- Insulate your water heater and water pipes to reduce heat loss. This can save up to 30% of heating energy.
- Install a solar water heater (Cost \$3,000-10,000). Benefit from state and federal rebates and save up to 80% of water heating energy, carbon emissions.
- Install an on-demand, tankless water heater. You will have all the hot water you need without having to keep a tankful of water heated at all times.
- Tankless water heaters cost more, but pay for themselves in energy savings. Combined with a solar water heater, even smaller sized units can serve as an efficient backup system

Refrigerator NO COST

- Clean refrigerator coils (if exposed) regularly. Dirty coils hinder the rejection of heat and make the compressor work harder.
- See that rubber door seals are undamaged and tight.
- Unplug that second refrigerator/ spare freezer unless it is in actual use.
- Keep refrigerators, freezers away from heat sources (direct sunlight, furnace vents, radiators, clothes dryers, stoves, ovens, dishwashers).
- Refrigerator temperature should be set between 35 and 38°F and freezer compartments at 0°F for maximum efficiency and safety.

LOW COST

- Buy Energy Star rated refrigerators and freezers.
- A 2004 or later model uses less than half the electricity of one built in 1994.
- Generally, smaller refrigerators use less energy.
- Pick the right size for your needs.

Dishwasher NO COST

- Select your dishwasher’s no-heat drying cycle.
- Avoid the Rinse and Hold cycle.
- Run dishwasher only fully loaded. (If it takes too long for it to fill, you could probably wash dishes by hand and save energy)
- Dishwashers account for about 2% of a home’s energy use; most of this goes to heating water or air.

Kitchen/ cooking

NO COST

- Use your microwave for as many tasks as possible. It uses about 1/3 the energy of your cook-top or oven (and won't heat up the place in summer). Microwaves take less time to heat food; this is why they take less energy to run.
- When cooking small amounts of food, use the microwave or a crock-pot instead of the range.
- If you have two ovens, use the smallest adequate for the task.
- With electric cook-tops, match the pan to the burner. A 6" pan on an 8" burner will waste 40% of the burner's heat.
- Unless you are baking breads or pastries, do not preheat the oven.
- Cook double or triple portions and refrigerate the extra food. It takes less energy to reheat food than to cook it and you can re-heat in seconds in the microwave.
- In a self-cleaning oven, run the cleaning cycle right after you finished baking. The left over heat of the oven will help reduce the amount of heat needed for the cleaning.
- Cover pans to cook food and heat water faster.

LOW COST

- All new gas ranges come with electric ignition instead of energy wasting pilot lights.
- Electric ranges come in a great variety of sizes and efficiencies.
- Look for Energy Star labels and compare energy requirements.

Laundry**NO COST**

- Rinse clothes in cold water. Clothes will come out just as clean and often less wrinkled. Cold water rinsing saves as much as 50% of the energy required.
- Avoid over-drying clothes. They should dry in 40-60 minutes or less. Some new dryers have moisture sensors that turn the dryer off when clothes are dry.
- Clean your lint filter after every load. It takes longer to dry clothes with a clogged filter.
- Put a dry towel in the dryer with the wet load. It will absorb moisture and the whole load will dry faster.

LOW COST

- Install a resource-efficient clothes washer.
- Horizontal axis washers use a lot less energy than vertical axis ones.
- Look for a high modified energy factor (MEF; a measure of tub capacity and energy use).
- Stricter federal standards took effect January 2007.
- Clothes washers account for 22% of household water consumption, or about 13,000 gallons of water per year.
- An efficient unit saves water and reduces the load on local water supply, sewer and septic systems.

Office**NO COST**

- Turn off computers, monitors, printers and copiers every night and on weekends.
- Turn off/unplug coffee machines, desk lamps and fans, too.
- Activate office equipment's "sleep mode" feature.
- The above steps will reduce energy use by up to 10%.
- Conserve paper. Don't print your e-mails unless necessary.
 - Print and photocopy on both sides.
 - Print drafts on used paper with a blank side.
 - Recycle all paper.
 - These steps will save up to 40% of paper used.
- To reduce use of toner and ink, set printer for "draft" quality for all but the most quality-demanding work.

- To reduce solid waste stream, recycle used inkjet printer cartridges. Manufacturers recycle and UPS delivers them at no cost to you.
- Pay bills on line: reduce paper use and unwanted advertisements.
- Reuse packing materials (envelopes, peanuts, bubble wrap, cardboard). Return to nearest shipper if you can't use.
- Use computer's sleep mode (Right click On Desktop, click on Properties, Select Screen Saver tab, then click Power button). Reduces power use while computer is not in use.
- Use a laptop computer instead of a desktop. Laptops use a fraction of the energy.

Conserve, recycle

NO COST

- Consider how your purchases contribute to household waste: buy more durable goods, fewer disposables.
- Ask for products with less packaging.
- Recycle aluminum and tin cans, glass bottles, plastic, cardboard, newsprint and waste paper. You can reduce your carbon emissions by as much as 850 lbs./year.
- Practice "grass recycling": leave grass clippings on the lawn where they will break down and fertilize the lawn.
- Water early to minimize loss due to evaporation. (More than half can be lost.)
- Use rainwater to water the garden.

Transportation

NO COST

- Leave the car home: walk, bike, carpool, use public transit. Save gas and emissions, (exercise is good for you).
- Combine errands. Cold starts use twice the fuel.
- Use the recommended oil: improve gas mileage by 2%.
- Clean out your car, especially of heavy items. Reducing overall weight can save 2% for each 100 lbs.
- Remove roof racks and travel containers: lower wind resistance and improve gas mileage by up to 5%.
- Don't idle. Idling for 10 minutes a day will produce a quarter ton of CO2 emissions a year and can cost \$85 in wasted fuel. Except in traffic, turn off the engine if you stop for more than 10 seconds.
- Use the car air conditioning sparingly. Running the A/C can increase fuel consumption by up to 20%.
- Park the car in the shade and keep it cooler.
- Parking in the shade will also decrease the evaporation of gasoline.
- Check your car's air filter; replace as needed: improve gas mileage by up to 10%
- Keep your vehicle well maintained. A poorly maintained engine can consume 50% more fuel.
- Use a block heater when the temperature drops below freezing. It will warm the oil and the engine coolant, making the engine easier to start, improving fuel economy by up to 10%. Cold engines produce 50 to 100 times more carbon monoxide, hydrocarbon and nitrous oxide emissions in the first minute of operation than pre-warmed engines.

Transportation

HIGHER FIRST COST

- Make your next car a hybrid or electric. Hybrids get up to 70 miles to the gallon; electrics run on \$1.00/gallon gasoline-equivalent electricity from a plug on the garage wall.
- Modern electrics have a range between charges of up to 100 miles. (The average American drives 29 miles a day.)

- Buy the most fuel efficient vehicle that meets your needs. Check the fuel consumption information on the window label.
- Check www.fueleconomy.gov for gas mileage estimates and more for all 1985-2007 models.
- Four-wheel drive, all-wheel drive, larger engine size, vehicle weight and tire size all influence how much fuel a vehicle uses. Consider the four cylinder instead of the six cylinder model. Buy only what you truly need.

A home energy audit

- Tells you where energy efficiency can be improved
- Helps you prioritize energy measures according to their relative cost and benefits.
- Identifies the type, size, condition and rate of energy consumption of each major energy consuming device.
- Projects savings expected from energy retrofits.
- Estimates labor and materials costs of energy retrofits.
- Notes current and potential health and safety concerns and how they may be affected by energy improvements.
- Provides a written record of decision making.

Clean power

- Choose clean power. Switch to a 50-90% renewable energy source.
- More than a third of U.S. electricity is generated in polluting coal fired plants.
- Typical power plant efficiency: 32%
- And those power plants are the single largest source of heat trapping gases.

The office

LOW COST

- Eliminate phantom loads. Many appliances use power when not in use. Plug them into a power strip and turn the strip off when not needed.
- Use solar powered calculators.
- Use recycled office paper. Recycled paper saves trees and is far less energy intensive to make than new paper.
- When purchasing a laser printer, look for energy efficient features. Printers with an automatic standby feature can save up to 65% of their operating energy.

The garden

LOW COST

- Plant a vegetable garden. On average, produce is shipped over 1,400 miles to supermarket. Save on shipping energy, enjoy fresh food, save money.
- Collect rainwater for the garden. For every inch of rain that falls on a 100 sq. ft. roof area, collect about 60 gallons of water. Conserve pumping energy, gain clean water.
- Compost kitchen waste, shredded paper. More than 20% of all landfill waste is compostable. Save on fertilizer.
- Use a hand or electric mower. Save on emissions, noise. Running an electric motor is the equivalent of using \$1.00/gallon gasoline.

Around the home

SHORT PAYBACK TIME IDEAS

- Install dense-pack cellulose insulation in exterior walls, ceilings and wall cavities: reduce heat loss by 60-90%.
- Insulating your basement and attic alone can yield a 30%

energy saving.

- Consider outdoor shading of sun-exposed glass in summer (deciduous trees, awnings, overhangs, plastic or bamboo shade rolls) and save 5-15% of cooling energy.
- Replace exterior doors without insulation or in poor repair with insulated core doors. Failing this, add storm doors.
- Weatherstrip doors, windows.
- Seal cracks with caulk.
- Block air flow around chimney with metal flashing and heat resistant caulk
- Eliminate recessed light fixtures that protrude into attic
- Arrange for an energy audit

Windows

- If your windows are single glazed, install interior or exterior storm windows or new multi glazed windows.
- One added glazing can cut heat loss by 50%.
- Look for Energy Star labels on new windows and sliding glass doors that reduce energy losses and condensation.
- Multiple glazings, the right air space between glazings, low conductivity gas fill, low emissivity (low-e) coatings, edge spacers reduce energy consumption and cost.
- Save up to 5% of heating energy by keeping window curtains open during the day in winter to allow passive solar energy to enter. Close curtains after sunset to keep the heat in.

Solar electricity

- Install a photovoltaic system (\$12,000- 30,000). Save up to 100% on your electric bill and carbon emissions.
- You can be independent of the power grid or use it in lieu of battery storage
- Benefit from state and federal rebates.
- Use solar powered yard tools. Eliminate gasoline use.