

Energy Conservation Fact Sheet

Facts: The average US household produces about 150 pounds of carbon dioxide (CO₂) per day by doing commonplace things like turning on the A/C or driving cars. This is more than twice the European average and almost five (5) times the global average, mostly because Americans drive more and have larger houses. The US produces 1/5th of the world's CO₂ emissions, about 6 billion metric tons per year. Buildings, not cars produce the most CO₂ in the US. Private residences, shopping malls, warehouses and offices account for 38% of the nation's emissions, mainly because of electricity use. It doesn't help that the average new home in the US is 45% larger than it was 30 years ago. After buildings, transportation is the next largest source of CO₂, producing 34% of the nation's emissions. Carmakers have been told by Congress to raise fuel economy standards by 40% by 2020 but the emissions will still grow because Developers keep pushing neighborhoods farther into the countryside, making it unavoidable for people to spend hours a day in our cars. The industrial sector represents the third major source of CO₂ at 28% of the nation's total. (National Geographic, March 2009)

Facts: Each gallon of gasoline adds 19.6 pounds of CO₂ to the atmosphere. A kilowatt-hour (kWh) of electricity in the US produces 1.5 pounds of CO₂. Every 100 feet of natural gas emits 12 pounds of CO₂. (National Geographic, March 2009) Recycling one glass jar saves enough energy to power one light bulb for four hours. One ton of recycled paper saves: 4,200kWh hours of electricity, 7,000 gallons of water, 100 gallons of gas, 60 pounds of air pollution.

What can homeowners do to help?

Waste less energy at home and on the highway:

General:

- Perform an energy audit of your home. Florida Power and Light (FPL) has an Online Home Energy Survey at www.fpl.com You can also schedule a free Home Energy Survey by calling 1-800-DIAL FPL. Note that FPL offers incentives for adding roof and ceiling insulation and reflective roof measures.
- Sign up for FPL's "On Call" program where you allow FPL to occasionally cycle off equipment you select such as central air conditioner, central heater, water heater, or pool pump during times of high electricity demand. Call 1-800-232-2050 or sign up at www.fpl.com/oncall.
- Some utility companies allow you to sign up for power from regional wind farms.
- Install light colored roofing, which reflects the heat and reduces the home's air conditioning needs.
- In warmer climates, select windows with spectrally selective coatings to reduce heat gain and save energy.
- Reflective window film can help reduce heat gain during the summer and it will protect your furniture and carpet.
- When buying a home, select one with the main living area facing south to make the most of passive solar heating in the winter. Keep plants and trees trimmed away from south-facing windows to get the maximum solar heating effect.
- Design protective overhangs on the west walls to reduce cooling costs in the summer.
- During the hot part of the day in the summer, close the drapes and blinds on the windows where the sun "beats in" to minimize the heat gain.
- Turn off your ceiling fan when you leave the room. A fan that runs constantly can cost up to \$7 a month depending on size and age.

Lighting:

- Lighting accounts for about 15 percent of a typical residential utility bill. So, turn off the lights when not in use.
- Wattage - Look for a sticker on your fixture that indicates the maximum wattage allowable and never put in a bulb over that recommended wattage.
- Recessed can lights typically use 75- or 100-watt incandescent floodlight bulbs. Replace them with 50-watt halogen floodlight bulbs to enjoy a 30 to 50 percent energy savings - and improve the quality of the light.
- Under-the-counter fluorescent lights in the kitchen give great energy savings. Most of the time, you can get by using them alone.
- To improve energy efficiency even more, replace the incandescent light bulbs in your home with energy saving compact fluorescent lamps. A typical kitchen will have ten 75-watt spots on much of the day. Replacing them with compact fluorescents could save a homeowner \$200 per year.
- Install dimmer switches to save energy and extend the life of light bulbs.
- Removing one light bulb from your garage door opener is a creative energy saving tip. For more energy efficiency, remove both light bulbs from your garage door opener and replace the garage wall light switch with a motion sensor control. The light will come on when someone enters the garage and go off more quickly, automatically.
- Electric lighting also adds extra heat to a space that must be cooled by air conditioning in the summer.
- Install low-voltage lighting for outside illumination.
- Motion detectors - sense the motion of someone walking up or driving within range of the sensor, which triggers the light, to come on. They're a good security measure that doesn't waste energy, since the light only comes on when motion is sensed.



Appliances, Heating & Cooling:

- Cool your Florida home at 78°F or warmer with the thermostat fan switch on "auto." For additional savings, raise your thermostat to 82°F or warmer when you're away from home. Clean or replace your air conditioner's filter every month to trim your cooling costs and help your unit run more efficiently. When you leave for the day, move the thermostat up to 82°F and turn it back down to 78°F when you come back. It costs a lot less to bring the temperature down to 78°F than it does to keep it at 78°F all day.
- Installing a programmable thermostat that will automatically adjust the temperature according to your schedule will pay for itself in less than a year. Adjust the thermostat in small degree changes - your home won't heat or cool faster by cranking it up.
- If you install your air conditioning compressor in a shady spot, it will work more efficiently. Allow plenty of room for airflow around the air conditioning compressor for most efficient operation.
- If your A/C is more than 10 years old, it may be time to replace it with a new high-efficiency model. FPL makes this process simple with an A/C Buying Guide and rebates. Call 1-800-DIAL FPL to order or download a copy from www.FPL.com/guide.
- Duct system test and repair. Schedule your low cost (~\$30/system) inspection by calling 1-800-DIAL FPL.
- Appliances should have Energy Star® labels: refrigerators, washing machines, dishwashers, and other appliances may represent half of a household's electric bill. Those with Energy Star® labels from EPA are more efficient and may come with rebates or tax credits. See www.energystar.gov



- Use the auto sensor function on your dryer, if you have one, to conserve energy by not over-drying your clothes.
- Buy a more efficient refrigerator with the freezer on the bottom. Cold air settles downward.
- Major appliances add extra heat to your home and make you're A/C work harder. Operate them in the morning or evening when it's cooler outside.
- Use ventilating fans in your kitchen, bath and utility area prudently.
- Caulk and seal air leaks where plumbing, ducts or electrical wires penetrate the exterior walls, floors and ceilings.
- Home office equipment: if you're in the market for new home office equipment, consider buying Energy Star® rated products for the most energy efficiency and savings. They go into standby or sleep mode when not in use, which can save you about 50% more money over conventional equipment. See www.energystar.gov
- Turn off home computers when not in use or program them so they go into the sleep mode.
- Turn off electronics when not in use: TVs VCRs, stereos, radios
- Vampire power can account for 8% of a household electric bill: desktop calculators, laptop computers, printers, clock radios, cable TV boxes, camera battery recharges, carbon monoxide detectors, cordless phone base, phone chargers, smoke detectors. Unplugging the appliance or using a power strip and using the switch on the power strip to cut all power to the appliance can avoid these phantom loads.

Kitchen:

- Buy locally grown foods.
- Eat the right kind of sustainable fish: see www.oceansalive.org
- Buy grass-fed, not grain-fed meat.
- Cook with your toaster, toaster oven or microwave oven whenever possible. They're more energy-efficient than your oven and add less heat to your kitchen, which reduces the impact on your A/C.
- Preheat the oven only when the recipe calls for it. There's no need to preheat the broiler.
- When you open the oven door to peek at food inside you lose 25-75 degrees of heat. Look through the oven window or wait until the food is almost done before opening the door.
- Let hot foods cool on the counter before putting them in your refrigerator or freezer. Hot foods cause the unit to work longer and harder.
- Set the temperature in your refrigerator between 35 and 38°F.
- Keep the temperature on the freezer between 0 and 5°F.
- If you have a self-cleaning oven, clean it immediately after use. Because it's already hot, it will take less energy to get to the heat cleaning stage.
- Avoid using multiple refrigerators. If you have an extra refrigerator that is not kept full or is hardly used, turn it off or get rid of it. It can save you up to \$100 a year.
- Fill the freezer during non-hurricane season. This will help keep warm air out when the door is opened.
- Dishwasher: don't run unless it's full. Turn off the "heat dry" feature of your dishwasher. Then, when the load is finished open the door and let the dishes air-dry on their own.
- Avoid pre-rinsing dishes before putting in dishwasher. This can save up to \$70 a year.
- Skip bottled water and/ or refill/ reuse water bottles. If you must drink bottled water, drink local, not imported, water.
- It takes a lot of energy to make new containers, paper products and packaging. Be diligent in recycling all your newspapers, cans, bottles, plastics, cardboard and other materials. 88 billion plastic bags are used in the U.S each year. This represents 12 million barrels of oil. When shopping, refuse a bag if you don't need it and reuse cloth shopping bags.



Laundry:

- Washing machine: don't run unless it's full.
- Use powder detergents: laundry liquids contain 70-80% water, which costs energy to bring to the consumer.
- Wash your clothes in cold water whenever possible and always rinse them in cold water. Use a cold water detergent.
- Set the water level on your washer to match the size of the load to save energy and water.
- Don't overfill the dryer.
- Over drying wears out your clothes and wastes energy. Stop your dryer when the laundry is dry by setting the timer or using the auto dry cycle.
- Empty your clothes dryer lint screen between every load to improve energy efficiency.



- Dry clothes in consecutive loads to take advantage of the warm dryer.
- Gas clothes dryers usually cost about one-third as much to operate as electric dryers.

Water Heating:

- Water heating accounts for as much as 20 percent of your utility bill. Insulate the hot water tank to reduce heat loss and save energy.
- Turn the water heater down to 120°F, if possible. Many Florida hot water heaters have only the words Hot, Warm, Vacation. Try setting yours below the word Warm and you may find there is plenty of hot water.
- Set your water heater to the “vacation” mode when you're away from home for more than two days.
- Take a shower instead of a bath and you'll use less hot water.
- Don't replace the hot water heater with a bigger one than you really need. Select the proper size to save energy.
- When your old hot water heater breaks, you may consider a tankless electric water heater model. Always check with FPL first! They have a tech brief on this issue and sometimes claims of savings are exaggerated.
- One of the little-known ways to save energy is to drain a quart of water from your hot water tank every few months to remove sediment that impedes heat transfer and lowers its efficiency.
- More than 1.5 million homes and businesses in the United States have invested in solar water heating systems. Most consider the systems to be a great energy saving idea and a good investment.

Vehicles:

- When buying a new vehicle, compare the energy requirements of various models and buy an energy-efficient one. To compare fuel economy among cars go to www.fueleconomy.gov
- A passenger car getting 30 mpg at 55 mph gets only 27 mpg at 65 mph; 25.5 mpg at 70 mph. Driving 75 mph instead of 65 mph lowers your car's fuel economy by 10 percent.
- Making a special trip to fill up the gas tank is an old habit. Fill your vehicle when you are already on the road.
- Use less fuel: minimize your acceleration and rely on your cruise control. Anticipate stops whenever you can. Letting your car coast to a stop is a good way to improve your gas mileage.
- Use less fuel: on hot days, keep your windows up and the A/C on when you are driving on the highway.
- Use less fuel: try not to let your car idle. Turn off your car engine if you stop for more than 30 seconds because restarting uses less gasoline.
- Avoiding making special driving trips is one of the easiest ways to save energy. Plan and combine your errands to accomplish more on the same trip.
- Use a GPS system or Internet to map

unfamiliar routes in advance, so you won't get lost and have to drive around looking for your destination.

- When you first get into a hot car, cool it down the old fashioned way - roll down the windows, open the vents and peel back the sunroof. Then, start the car and turn on the air conditioning. One energy saving tip is to park in a shady spot in hot weather. You won't have to blast the A/C to cool it down.
- Avoid rush hour traffic if you can. Not only is stop-and-go traffic stressful and annoying, it's bad for your car's gas mileage.
- One of the simplest ways to save energy is to keep your tires properly inflated. The U.S. Department of Energy reports that four million gallons of gasoline could be saved nationwide each day for every pound per square inch (psi) of under-inflated tires.
- Drive your car wisely and maintain it properly. Get regular engine tune-ups and car engine checks.
- Choose refined motor oil. Refined oil is recycled and has already been used.

- Use your own travel mug.
- Travel light. Carrying extra weight in your car or truck cuts down your gas mileage. On the average, each 100 pounds of extra vehicle weight will cost up to one-half mile per gallon.
- Luggage racks increase vehicle drag and rob you of gas mileage. Remove them when not in use to increase energy efficiency.
- Idling in the drive through at banks and restaurants is a waste of gasoline. Instead, park outside and walk in - it's often faster plus you'll get a little exercise.
- One of the fun energy saving tips is to share rides.
- When renting a car, choose a model that gets good gas mileage.



Pool & Garden:

- Here's how to save energy if you have a swimming pool - install a new water-saving pool filter. Back flushing with a traditional filter uses from 180 to 250 gallons or more of water.
- Limit the time you run your pool pump: Summer: no more than six hours a day. Winter: no more than four hours a day. Reducing the run time of a one-horsepower pool pump from eight hours per day to four hours can save you \$13 a month.
- Keep the pool water temperature comfortable, about 80°F. Overheating wastes energy.
- How to save energy heating your pool? Purchase a solar blanket and the sun will warm the water. Plus you'll prevent evaporation.
- The National Spa and Pool Institute considers 104°F to be the maximum safe water temperature for adults, for up to 15 minutes. Children are more sensitive to heat, so limit water temperatures to 95° F and spa time to 10 minutes or less. Pregnant women and persons with heart disease, diabetes, high or low blood pressure should discuss spa use with their doctor first.



- Today's modern solar heaters work very well. They can cut pool-heating costs in half.
- Improve the energy efficiency of your pool equipment by keeping the filters clean.
- Want to learn how to save energy heating your hot tub? Install a vinyl/foam cover to retain the heat.
- Plant grass or ground cover on exposed land to prevent the loss of topsoil from erosion.
- Choose the small solar powered lights for your landscape lighting. They're easy to find online or in garden stores and are just one way to save energy in the garden.

Simple Steps To Protect Your Home While You're Away

(abbreviated from Florida Light and Power (FPL) literature)

- Set your thermostat to 85°F and turn the fan on “auto”. This setting helps your A/C to control humidity more effectively.
- Leave all interior doors, including closet doors open.
- Install a new A/C filter. Consider a high-performance pleated filter
- Adjust humidistat to proper setting recommended by contractor. FPL does not recommend these because misuse / incorrect settings can result in a high electric bill.
- Refrigerator: If left on, turn to warmest setting. If left off, clean with 1 tbsp baking soda and 1 qt of water, dry and leave doors open.
- Lighting: Use timers or daylight sensors.
- Pool: Turn off the heater at the circuit breaker and set filter pump timer to limit run time to 6 hrs/day in the summer and 4 hrs/day in the winter.
- Hassel-Free Billing has four options: Automatic bill payment, E-mail bill, Friendly reminder and extended leave.
- To see how these tips can impact your electric bill, log onto www.fpl.com and take the Online Home Energy Survey.

Reading list: Low Carbon Diet: A 30-Day Program to Lose 5,000 pounds by David Gershon. Type Energy Saving Ideas into your computer search engine for more than 8.2M hits.

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