

**Conservation begins with you,
and the things that you do at home every day!**

**CONSERVE
YOUR
WORLD**



A publication of the Florida Public Service Commission

The word “conservation” is used a lot these days, especially when it comes to fuel, money, savings, and energy. Sometimes the word has negative connotations because people immediately think they have to do without something. But, according to *The American Heritage Dictionary*, conservation doesn’t mean doing without -- it means “the act or process of conserving -- carefully or sparingly, avoiding waste.”

Because we all want to breathe clean air, drink pure water, and ensure that future generations are able to do the same, all of us need to be concerned about protecting the environment and conserving our natural resources.

The Public Service Commission, the agency charged with regulating most utilities in Florida, has recognized the importance of educating consumers about the growing need to conserve the state’s limited energy and water resources. This booklet gets right to the heart of conservation. It contains a variety of ideas on ways to use energy and water wisely and to make homes more energy-efficient. Following these simple steps will help you save money now and in the future by helping to reduce your energy and water needs.

Many of the tips require little effort -- weatherstripping doors and windows, planting shrubs that require little water and trees to shade your home, installing low-flow shower heads and water restrictors.

Some suggestions are more involved -- wrapping your water heater, buying energy-efficient appliances, and considering the purchase of a heat pump for your home. Other conservation tips may require a change in habits -- keeping the thermostat at an energy-efficient setting, using the dishwasher only when full, and not letting your kitchen sink water run excessively.

Utilities understand that conservation and the efficient use of resources must be considered as a responsible approach to protecting the environment and reducing costs. Electric and water utilities are encouraging their customers to use less, recognizing that our resources are finite and that building new power plants is a huge economic burden. All of us working together will ensure that future generations have a safe, clean environment and an adequate supply of energy and water.



A well-insulated home saves energy by keeping heat inside during the winter and outside during the summer. Adding just 1 inch of insulation to an uninsulated wall can reduce heat loss (winter) or heat gain (summer) through that wall by 40-50 percent.

Learn To Save Energy at Home!

Much of our residential energy, about 48 percent, is used to heat and cool our homes. An additional 16 percent goes for water heating, the second-largest individual home energy user and expense. Refrigerators and freezers use 12 percent. The remaining 24 percent goes to lighting, cooking and running appliances.

We can cut our energy use and help control living costs by making our homes energy-efficient, even if we have to spend some money to do it. The money we spend now can help hold down energy costs.

Protecting your home from outside heat and cold

Millions of homes in the United States still are not adequately protected from outside weather, according to the U.S. Department of Energy. Here are some tips to make sure yours is not one of them!

Draft-proof windows, doors and other air leaks

- ◆ Test your windows and doors for airtightness. Move a lit candle around the frames and sashes of your windows. If the flame dances around, you need caulking and/or weatherstripping.
- ◆ Caulk and weatherstrip doors and windows. It's easy to do yourself. Caulking and weatherstripping materials cost about \$25 for the average house (12 windows, 2 doors). Savings in annual energy costs could amount to 10 percent or more!

Find out about R-values before you buy your insulation materials. Then buy the thickness of insulation that will give you the R-value you should have. R-values (or R-numbers) refer to the performance of insulation, measuring the resistance over time. The higher the R-number, the more effective the insulation capability.

The numbers should appear on packages of all insulation materials: mineral, glass fiber, or rockwool batts or blankets; foam or loose fill materials that are poured or blown into insulation spaces; or rigid board insulation. If the insulation you buy doesn't have the R-value written on the package, ask the salesperson to write the R-value on your receipt for future reference.

Insulate Your Home!

No matter how you heat or cool your home, you can reduce the load on your heating and cooling equipment by as much as 20 to 30 percent by investing a few hundred dollars in insulation. Insulation is an energy-efficient way to control air movement. By slowing and trapping air, insulation acts as a barrier to keep house temperatures more constant. Reducing the rate of heat flow will also result in lower air conditioning and heating costs. The benefits of insulation -- lower utility costs -- continue for years.

- ◆ Insulate your attic floor or top floor ceiling to a minimum of R-26. The attic is the most critical location, since more heat per square foot travels through your ceiling than any other house structure. If you have old insulation in your attic, you probably won't be able to judge its R-value. But if you have 3 inches or less of old insulation, chances are you need more to bring the insulation level up to the recommended level. Investment costs could range from \$100 to \$1,000. Heating and cooling savings, however, should range from somewhere around 5 percent (if you are adding to present insulation) to as much as 30 percent (if you have no insulation).
- ◆ Find out if your home needs insulation. Your needs will depend on the climate you live in and the amount of insulation that is already present. For guidance, consult with a reputable insulation dealer in your community or with your local building inspector or county agent.



Clean or replace air filters regularly.

Keep outside units free of leaves or debris that may clog vents.

Interference with the free flow of air makes the unit work harder and cost more to operate.

Move any obstructions that may be blocking the flow of heated or cooled air from vents or from individual heating or air conditioning units.

- ◆ It is vital that insulation is installed properly. Insulation that is compressed or installed with gaps will not function at its rated efficiency.

What Causes a High Electric Bill?

More than 70 percent of a normal electric bill is caused by water heating and air conditioning or heating. Unsuspected losses or misuse of electricity can cause unnecessarily high bills. Minimizing the use of these three appliances can result in substantial savings. About half of our residential energy costs comes from heating and cooling our homes. Don't waste any of that precious conditioned air.

Your air conditioning or electric heating bill can be greatly reduced by:

- ◆ Using blinds or shades for large windows situated in the east or west sides of the house. Installing awnings on windows and front and back porches also decreases energy consumption. Casement windows ventilate better than awning or jalousie windows. Jalousie windows are the most difficult of the three to seal.
- ◆ Not heating or cooling an unused room more than necessary.
Note: In a heat pump or air conditioning system, most of the air supply vents should remain at least partially open to avoid possible damage to the system.

Consider the advantages of a clock thermostat for your heating system.

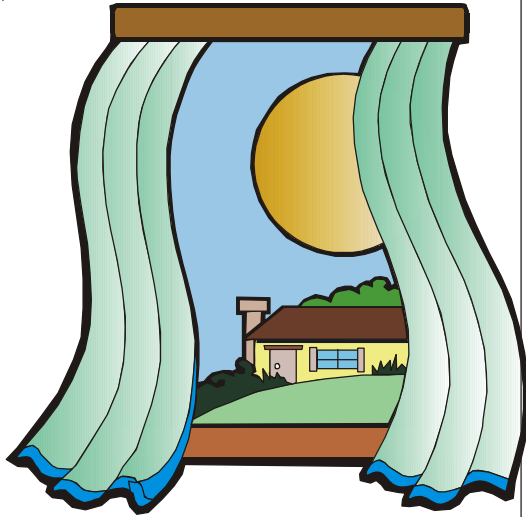
The clock thermostat will turn the heat down for you automatically at a regular hour before you retire and turn it up again before you wake.

While you can easily turn your thermostat back at night and up again in the morning yourself, the convenience of a clock thermostat may be worth the \$40 to \$90 investment.

- ◆ Keeping your fireplace damper closed unless you have a fire going. An open damper in a 48-inch square fireplace can let up to 8 percent of your heat out the chimney.

HEATING Energy Savers

- ◆ Set your thermostat as low as possible. Sixty-eight degrees is often recommended as a reasonably comfortable and energy-efficient indoor temperature. You can save on your fuel costs for every degree you reduce the average temperature in your home.
- ◆ Keep draperies and shades open in sunny windows; close them at night.
- ◆ Insulate accessible heating ducts in unheated areas.
- ◆ Don't turn the heat on until you have to. On cool evenings, use your fireplace instead (if you have one) and add an extra blanket at night.
- ◆ For comfort in cooler indoor temperatures, use the best insulation of all -- warm clothing. A light long-sleeved sweater equals almost 2 degrees in added warmth; a heavy long-sleeved sweater adds about 3.7 degrees; and two lightweight sweaters add about 5 degrees in warmth because the air between them serves as insulation to keep in more body heat.



Open the windows instead of using your air conditioner or electric fan on cooler days and during cooler hours.

Keep out daytime sun with vertical louvers or awnings on the outside of your windows, or draw draperies, blinds, and shades indoors.

COOLING Energy Savers

- ◆ Dress for warmer indoor temperatures. Casual clothes of lightweight open-weave fabrics are most comfortable.
- ◆ Overcooling is expensive and wastes energy. Don't use or buy more cooling equipment capacity than you actually need.
- ◆ Install air conditioning units on the north or shady side of the house.
- ◆ Set your thermostat as high as possible. Seventy-eight degrees is often recommended as a reasonably comfortable and energy-efficient indoor temperature. (Every degree counts -- lowering the thermostat to 76 degrees increases energy consumption by 35 percent.)
- ◆ Turn off the air-conditioning unit when there are no occupants in the home, and use ventilating fans to cool the house. Ceiling fans make you feel 2-4 degrees cooler and may postpone the need for air conditioning.
- ◆ Make sure the ducts in your air-conditioning system are properly sealed and insulated, especially those that pass through the attic or other uncooled spaces.
- ◆ Clean the condenser coil of central air and heat units periodically with a garden hose.

Don't place lamps or television sets near your air-conditioning thermostat. Heat from these appliances is sensed by the thermostat and could cause the air-conditioner to run longer than necessary. Energy-efficient water heaters initially may cost a little more, but reduced operating costs can make up for the higher outlay.

Take short showers and use water-saving shower heads to reduce hot water consumption.

Don't let the water run unnecessarily while you brush your teeth or shave.

- ◆ Keep your cooling system well tuned with periodic maintenance by a professional serviceman.
- ◆ Install a whole-house ventilating fan in your attic or in an upstairs window to cool the house when it's cool outside, even if you have central air-conditioning.

HOT WATER Energy Savers

Heating water accounts for about 20 percent of all the energy we use in our homes. Don't waste it!

- ◆ Repair leaky faucets promptly.
- ◆ Do as much household cleaning as possible with cold water.
- ◆ Insulate your hot water storage tank and piping.
- ◆ Install aerators and low-flow shower heads.
- ◆ Buy a water heater with thick insulation and use an insulation blanket.
- ◆ Wash full loads when using an automatic dishwasher or washing machine.
- ◆ If the day is nice, hang out your clothes to dry.



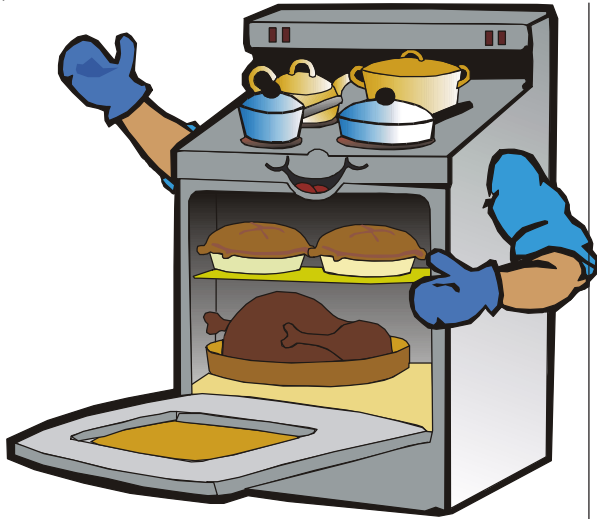
Turn off the lights in any room that is not in use and switch to energy-saving halogen bulbs.

Household Appliances

The golden rule is, "If you are not using it, turn it off!" About 30 percent of the average consumer's electric bill results from use of these appliances.

	KWH Per Month	Cost Per Month
Pool pump	259	\$ 20.72
Refrigerator-freezer (frost free)	134	10.72
Waterbed	100	8.00
Freezer	99	7.92
Clothes dryer	56	4.48
Range oven and surface	54	4.32
Television or stereo	46	3.68
Lighting	40	3.20
Electric blanket	20	1.60
Dishwasher	19	1.52
Automatic coffee pot	10	.80
Microwave oven	10	.80
Clothes washer	5	.40
Iron	4	.32
Radio	4	.32
Hair dryer	3	.24
Toaster	3	.24
Vacuum cleaner	3	.24
Clocks	1	.08

*Residential Electric Profile - based on an electric rate of 8 cents per kilowatt hour (2-3 people per household)



When using the oven, make the most of the heat from that single source. Cook as many foods as you can at one time.

Don't open the oven door excessively and release the stored heat.

Operating appliances in an efficient manner will not only save money, but will increase the longevity of the appliance.

The Refrigerator

- ◆ Clean the condenser coils behind or underneath your refrigerator every six months.
- ◆ Keep your refrigerator and freezer at the correct temperature.
Note: The refrigerator should be at 36-42 degrees, and the freezer should be at 0-10 degrees.
- ◆ Test with a refrigerator thermometer and adjust temperature control accordingly.
- ◆ All doors on the system should seal tightly. Replace seals if necessary.
- ◆ Keep refrigerator and freezer full.
- ◆ The refrigerator should be as far away as possible from the stove.
- ◆ Keep the door closed.
- ◆ Defrost refrigerator when frost builds up to one-quarter inch thick.

The Oven

- ◆ Make full use of the oven when it is heated.
- ◆ Reduce oven temperatures 25 degrees when using glass cookware.
- ◆ Don't use a range-top burner that is too large for the pot.

Microwave Oven

- ◆ The microwave oven saves money because it requires less energy.

Residential Energy Survey Program

Through the Residential Energy Survey Program, auditors give a customer written recommendations on energy saving measures and practices, and inspect the duct system and attic insulation.

The customer is also given informational brochures on conservation.

This program is available to most customers in Florida through the local electric company. Contact your utility company to schedule a survey.

The Pool Pump

- ◆ Reduce the operating time of your pool pump to 6-8 hours in the summer, and 4-6 hours in the winter.
- ◆ Empty the skimmer basket frequently.
- ◆ Clean the pool every week, and maintain the proper chemical balance.

Water Conservation

Florida is fortunate to have the country's largest underground freshwater reserves. Since Florida's aquifers hold so much potable water, many residents view the supply as endless. Unfortunately, it is not. In many parts of our state, there is visible evidence of the severe depletion that is occurring within our underground reservoir system due to population growth, development, and saltwater intrusion.

The Florida Public Service Commission feels it is imperative for consumers to become educated and active in the conservation of our water supply. The benefits of reduced water consumption will also be reflected in lower water bills.

Saving At Home

A significant reduction in water use can be made by implementing some water-saving tips in the household.



When washing your car, use a bucket for soapy water, only use the hose when rinsing, and use a low-flow nozzle.

The Bathroom

Eighty percent of in-home water use occurs in the bathroom.

- ◆ Lower the water level in the toilet.
- ◆ Throw tissues and other trash in a waste basket, not the toilet.
Five gallons of water is used on each flush.
- ◆ Avoid leaving the water running while brushing your teeth or shaving.
- ◆ Replace your toilet or shower head with a low-flow water-saving model.
- ◆ Take showers instead of baths.

The Kitchen/Laundry Room

- ◆ Wash only full loads in your dishwasher. Automatic dishwashers use 20 gallons of water per cycle regardless of load size.
- ◆ When you wash dishes by hand, don't leave the water running.
- ◆ Do not use running water to thaw meat or frozen foods.
- ◆ Use the proper load setting when you use your washing machine.
- ◆ Use your garbage disposal sparingly.
- ◆ During basic maintenance or repairs, check all pipes in order to prevent future leaks.

Your water meter can be used to detect any leaks. Turn off all sources of water inside and outside the home. Read the water meter, wait about 15 minutes, and read it again. If the reading changes, there is a leak. Leaks are often the result of a worn-out washer in a faucet. Replacing a washer is a simple procedure. Even the slightest leak can cause a significant increase in a consumer's electric or water bill.

*Check your sprinkler coverage.
There is no need to water the streets.*

*Use a rake and broom
(not your hose) to clean side-
walks, driveways and gutters.*

*“Xeriscape” refers to
water-efficient landscaping.
Your landscape can be more water-
efficient by utilizing the water-
wise concepts of xeriscape. These
concepts have been tried and tested
by industry professionals over time.*

Check for toilet tank leaks by adding food coloring to the tank. If the toilet is leaking, color will appear in the bowl within 30 minutes. Check the toilet for worn-out, corroded or bent parts. Most replacement parts are inexpensive, readily available and easily installed. (Flush as soon as test is done, since food coloring may stain the tank.)

Outdoor Water Conservation

- ◆ Water your lawn between the hours of 6 p.m. and 9 a.m.
The sun will not evaporate the water as quickly as in the afternoon.
- ◆ Use a sprinkler timer. If you don't have one, use the kitchen timer.
- ◆ Let water sink in slowly. Water applied too quickly runs off.

Xeriscape

- ◆ **Planning and design** - Create a landscape which will be easy to maintain. Keep in mind that perennials are water-efficient. Local nurseries are usually happy to advise customers on which plants and trees are efficient and grow well in the area.
- ◆ **Soil analysis** - Soil improvements allow for better absorption of water and improve water-holding capacity of the soil. Soils that have organic matter also provide beneficial nutrients to plants.

Well-planned sprinkler systems save water. Landscape plantings should be grouped according to similar water needs. Turf is best watered by sprinklers. Plants and most trees can be watered efficiently with low-volume drip or spray. Water only when needed.

In order to keep your xeriscape looking its best and to minimize water waste, it is necessary to develop and follow a maintenance plan.

Keep the landscape free of weeds. This reduces competition for water.

- ◆ **Practical Turf Areas** - Locate turf only in areas where it provides functional benefits. Groundcovers, low-water-demand plants, or mulches demand less water than turf.
- ◆ **Appropriate Plant Selection** - Many plants sold in Florida have a xeriscape tag. Try to use these plants and trees when designing a landscape. Drought-tolerant turfs are also available.
- ◆ **Mulching** - Mulched plant beds are an excellent replacement for turf areas. Mulches cover and cool soil, minimizing evaporation. Using mulch also helps reduce landfill waste.

Maintenance

- ◆ **Mowing** - Set the lawn mower at the maximum height recommended for your type of grass. Mow the grass often enough so that not more than one-third of grass height is removed.
- ◆ **Mulching** - Mulch around trees and flower beds. Plant beds should have 3 inches of organic mulch. Check and add mulch periodically.
- ◆ **Pruning** - Pruning should be done as needed to maintain the appearance and health of the landscaping plants. Prune, clip, and trim selectively according to the needs of each type of plant or tree.

CONSERVE YOUR WORLD



ways to reduce energy and water consumption and costs without adversely affecting anyone. And some improvements, such as reducing glare and overlighting, can actually add to health and productivity as well as saving money. Many of the tips listed in this booklet are not exclusively linked to one resource. For example, steps you take to reduce your water usage may lower your hot water heating costs. Other improvements you make to your home, such as adding insulation in the attic, will not only protect your home but will also lower both your cooling and heating costs. If you have any questions about the energy and water-saving tips we've listed, please call the Florida Public Service Commission's Office of Consumer Assistance and Outreach at 1-800-342-3552. You may also want to call your local county extension office, your water management district representative, or your local utility office.

Conclusion

Energy and water use are closely tied to an individual's productivity, health and comfort. Too much or too little heating, cooling, or lighting can make workers unproductive, customers unresponsive, and visitors or other occupants uncomfortable. Fortunately, there are many

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24-Hour On-line Complaint Forms
www.floridapsc.com

Florida Public Service Commission
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2540 Shumard Oak Boulevard ♦ Tallahassee, Florida 32399-0850

1-800-342-3552

You can contact the PSC via the following e-mail address: contact@psc.state.fl.us.
See our Internet home page at www.FloridaPSC.com.

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