



Energy Education and Resource Guide



Energy Savings
.....
Assistance ProgramSM

The purpose of this guide is to assist income-eligible customers participating in the Energy Savings Assistance Program to learn more about the costs of energy, the benefits of energy conservation, available programs, services, energy and appliance safety. It provides a resource to help you manage your energy needs and costs, while helping you to effectively use the services and energy conservation practices you've learned through the program.

As part of the energy education program, local service providers distribute and review this guide with eligible customers participating in low-income programs. Customers may be empowered to more effectively use the services they have received and more effectively undertake the energy conservation practices they have learned through the program.

California Public Utilities Commission (CPUC)

The CPUC was established to regulate investor-owned utility companies in California. The CPUC monitors the operations of these utilities to ensure safe, reliable utility service and infrastructure at reasonable rates.

The CPUC oversees the implementation of conservation programs and services administered by each of the four major investor-owned utilities in California: Pacific Gas and Electric Company, Southern California Edison, SoCalGas® and San Diego Gas & Electric®. This guide depicts some of the programs and services that have been developed and implemented to meet various mandated objectives of the CPUC. The CPUC is a key source for help and information for all customers of investor-owned utilities. For further information, call the CPUC at 1-800-649-7570 or visit cpuc.ca.gov.

WELCOME	2
THINGS YOU CAN DO TO SAVE ENERGY AND MONEY	3
Where Do Your Energy Dollars Go?	3
Heating & Cooling Your Home	4
Lighting Your Home	4
Household Laundry	4
Refrigerator Use	5
Stove Use	5
Microwave Use	5
ELECTRICAL SAFETY	6
Outdoors	6
<i>Downed Wires</i>	6
<i>Overhead Power Lines</i>	6
Indoors	6
<i>Safe Use of Power Cords</i>	6
<i>Water and Electricity</i>	7
<i>Electrical Fires</i>	7
Outages	7
<i>Helpful Tips</i>	7
EARTHQUAKE SAFETY	8
Before an Earthquake	8
After an Earthquake	8
NATURAL GAS SAFETY	9
Recognizing and Responding to Natural Gas Leaks	9
If You Suspect a Natural Gas Leak	9
NATURAL GAS APPLIANCE SAFETY	10
Natural Gas Appliance Safety	10
Water Heater Safety	10
Cooking Appliance Safety	11
FURNACE AND HEATER SAFETY	12
Central Forced Air	12
Central Gravity Furnace	12
Floor Furnaces	13
Wall Furnaces	13
All Unvented Natural Gas Room Heaters	13
CALL 811 BEFORE YOU DIG!	14
Call 811 Before You Dig	14
HELPING THE ENVIRONMENT	15
Water Conservation	15
Greenhouse Gas Emissions	16
CFL Disposal and Recycling	17

The information contained in this guide is made available solely for informational purposes. Although each of the four major investor-owned utilities in California: Pacific Gas and Electric Company, Southern California Edison, SoCalGas® and San Diego Gas & Electric® have used reasonable efforts to assure the accuracy of the information at the time of its inclusion, no express or implied representation is made that it is free from error or suitable for any use or purpose. None of the four major investor-owned utilities assume any responsibility for any use thereof by you, and you should discuss decisions related to this subject with your own advisors and experts.

The energy efficiency programs described in this guide are funded by California utility customers and administered by the respective participating Energy Savings Assistance Program utilities under the auspices of the California Public Utilities Commission. Program funds, including any funds utilized for rebates or incentives, will be allocated on a first-come, first-served basis until such funds are no longer available. This program may be modified or terminated without prior notice. The selection, purchase, and ownership of goods and/or services are the sole responsibility of customer. The four major investor-owned utilities in California: Pacific Gas and Electric Company, Southern California Edison, SoCalGas® and San Diego Gas & Electric® do not make any warranty, whether express or implied, including the warranty of merchantability or fitness for a purpose, of goods or services selected by customer, nor do they endorse, qualify, or guarantee the work of any contractor or other third party. Customers who choose to participate in any of these programs are not obligated to purchase any additional goods or services offered by contractor or any other third party. Eligibility requirements apply; see the applicable program conditions for details.

Thank you for enrolling in the Energy Savings Assistance Program

We look forward to making your home more comfortable and helping you save on your energy bill. Some of the no-cost home improvement measures you may receive are:

Attic Insulation. Helps keep heat in during the winter and out during the summer.

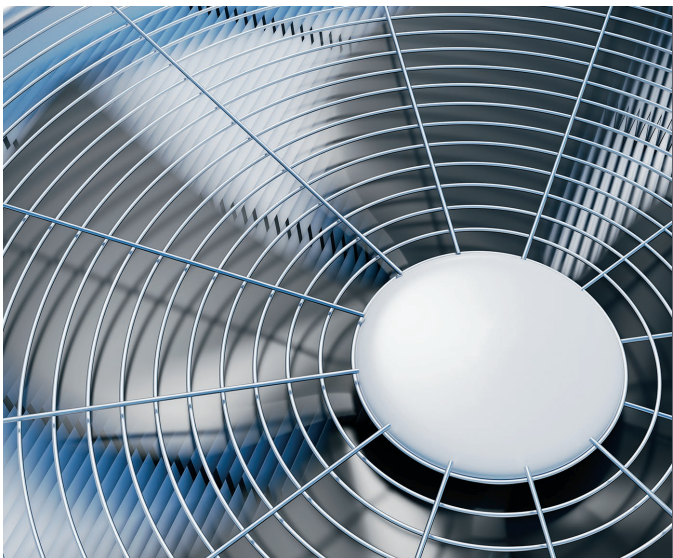
Caulking. Reduces air leaks that help other energy-efficient measures in your home perform better.

Weatherstripping. Applied to the doors in your home to make them snug and reduce air leaks.

Water-saving devices. Low-flow showerheads, faucet aerators and shower control valves reduce the amount of hot water you use and, in turn, the energy needed to heat it.

Energy-Efficient Lighting. Replacing older, inefficient lightbulbs with new energy-efficient LEDs that not only last longer but reduce your energy use.

This guide also contains additional tips on appliance safety and ways to save energy. Before we get started, it's important to know where you can save. Let's look at where your energy dollars go.

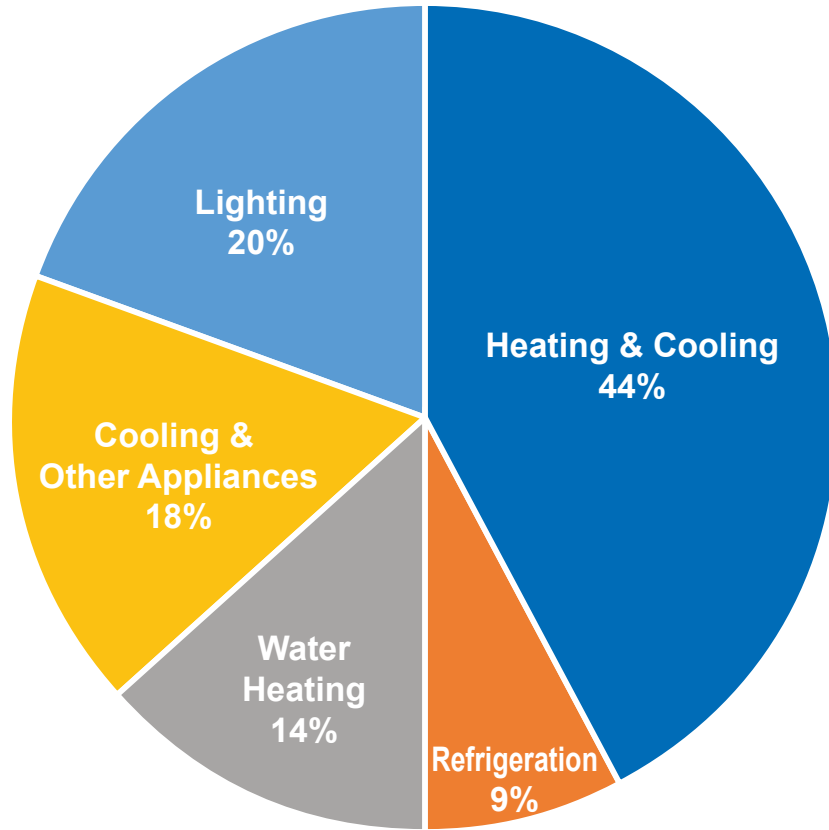


DID YOU KNOW

Nearly a quarter of your energy bill goes towards heating and cooling your home throughout the year

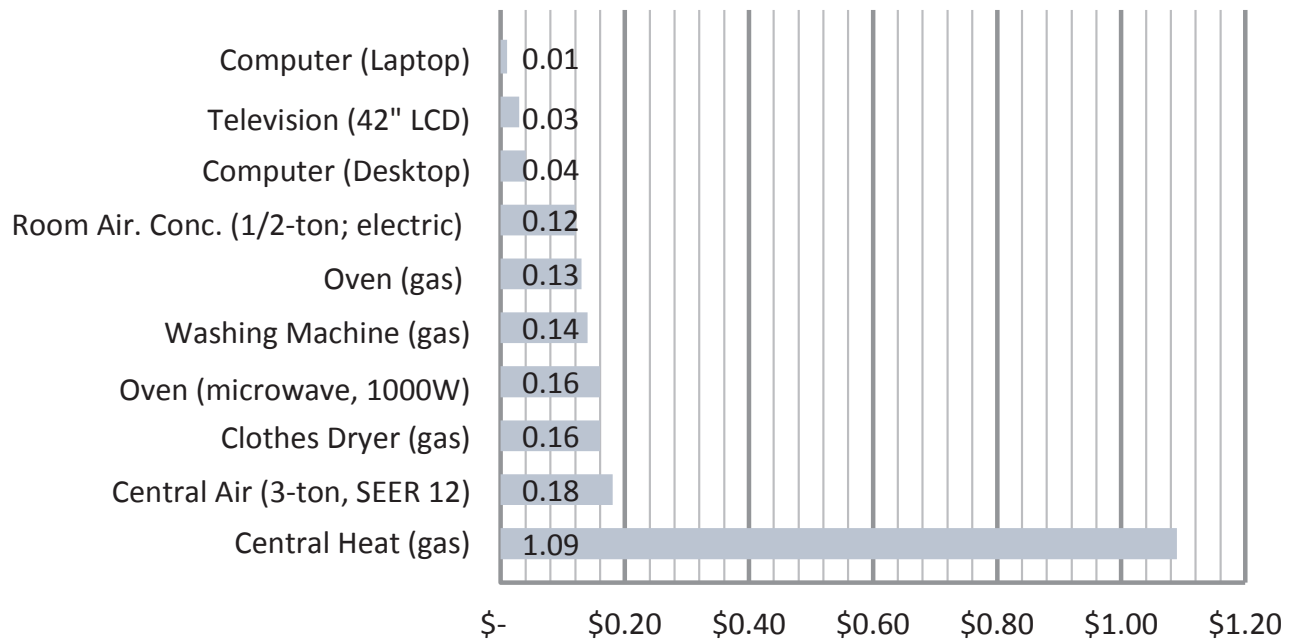
WHERE DO YOUR ENERGY DOLLARS GO?

Did you know that household appliances, electronics, and other items in your home use energy differently?



Appliance Energy Costs

avg. cost per hour of use



Sample electric costs represent a household using 300 kWh per month at a rate of \$0.16/kWh. Individual household usage may be greater than or less to this sample household, and electric rates vary by energy company.



ENERGY TIP

Keep your air conditioner thermostat at 78°F or higher in summer; 85°F when away



SAVE MONEY

Only wash full loads of laundry

HEATING AND COOLING YOUR HOME

- Keep your heater at 68°F or lower in winter; 55°F at night.
- When using the heater, use a ceiling fan on a gentle speed and reverse direction to help distribute the heat evenly¹.
- Before turning on your air conditioner, try using a room fan, and you may feel up to 5°F cooler.
- Replace or clean the system filter(s) once a month when in use to help improve efficiency.

LIGHTING YOUR HOME

- Use “task lighting”; smaller lights around the area you are working, such as a desk lamp.
- Replace older incandescent bulbs with more energy-efficient LED bulbs.

HOUSEHOLD LAUNDRY

- The average family with a top load washer could save as much as \$120 annually simply by washing their clothes in cold water.
- Use a clothes line when possible.

¹ See fan user manual for instructions. Not all fans allow bi-directional setting; if your fan does allow for bi-directional setting it is recommended that you utilize a clockwise direction for summer, and counterclockwise for winter.

REFRIGERATOR USE

- Set temperature settings to 38° to 42°F in the refrigerator section and 0°F in the freezer section; use a portable refrigerator thermostat if needed.
- Do not put hot, or warm food in the refrigerator or freezer – wait for it to cool down.

STOVE USE

- Match the right size pot, or pan, to the appropriate burner.
- Never use the stove to heat your home.

MICROWAVE USE

- Use a microwave oven for simple cooking and reheating of food.
- Covering dishes reduces cooking time and eliminates splatters.
- Use the microwave on hot days to avoid producing excessive heat from the conventional oven.



DID YOU KNOW?

By following your refrigerator's user manual for proper maintenance, you can save energy



ENERGY TIP

Cover your pots and pans when cooking or boiling

OUTDOORS

Downed Wires

- Stay away. Treat all downed wires as if they are live and energized.
- Call 911 and inform the operator there is an electrical emergency.

Overhead Power Lines

- Always be aware of overhead power lines.
 - When working or playing in or around trees, check to make sure you are not close to overhead power lines.
 - Stay at least 10 feet away from overhead power lines and electrical facilities. Contact with electrical wires can cause severe injury or even death – keep all objects away from overhead power lines.

INDOORS

Safe Use of Power Cords

- Remove power cords from outlets by pulling the plug, not the cord.
- Never attach a cord to another surface with nails or staples.
- Never remove the third prong from a three-pronged plug. The third prong grounds the device and protects from faulty electrical devices.
- Never plug a space heater into an extension cord.
 - Always plug it directly into a wall outlet.



SAFETY TIP

Downed wires: Stay away! Call 911. Do not approach or touch the wire or any person or object in contact with the wire

Water and Electricity

- Keep electrical appliances and power tools away from water.
- Never use electrical appliances or tools in or near water, including the shower or bath.
- Dry hands thoroughly before coming into contact with any electrical appliance, outlet, or wall switch.

Electrical Fires

- Call 911.
- If an appliance catches fire, immediately unplug the appliance if safe to do so.
- Use an appropriately rated fire extinguisher (one rated for electrical and grease fires).
 - Baking soda may also be used to extinguish an electrical fire.

OUTAGES

Helpful Tips:

- If you are cold, wear multiple layers of warm clothing.
- Switch off your lights (except one). Also, to prevent damage when the electricity is restored, consider unplugging all electrical equipment.
- Listen to a battery-powered radio for storm or emergency-related updates.
- Keep refrigerator and freezer doors closed. Check food for spoilage before eating.



SAFETY TIP

DO NOT throw water on an electrical fire. You could be electrocuted



SAFETY TIP

Use flashlights instead of candles to avoid a significant fire hazard

BEFORE AN EARTHQUAKE

- Identify places to “duck, cover, and hold.”
 - Take cover under a sturdy desk or table; and hold on to it so that it doesn’t move away from you and remain there until the shaking stops.
- Create an emergency plan for your family:
 - Identify two places for the family to meet; a place outside your home and a location away from your neighborhood in case you can’t return home.
 - Develop and practice your family’s earthquake plan (Home, Work, and School); remember to include pets and livestock. Evacuation shelters may not allow animals.
 - Designate a friend outside the area who family members can call if separated.

AFTER AN EARTHQUAKE

- Do not turn off your natural gas unless you smell natural gas, hear natural gas escaping or see other signs of a leak. If you smell natural gas, IMMEDIATELY EVACUATE the area, and from a safe location, call your utility company or 911.
- If there is damage to the electrical wiring, switch off the electrical power at the circuit box, and then call your electric utility.
- Stay informed of the situation through local radio and television.



IN CASE OF AN EMERGENCY

Prepare an evacuation kit, including food and water, personal hygiene items, change of clothes, bedding and medication

RECOGNIZING AND RESPONDING TO NATURAL GAS LEAKS

Your sense of sight, hearing or smell can alert you to a natural gas leak.

Look

- A damaged connection to a natural gas appliance.
- Debris, water or dirt being blown in the air could be caused by a leak in an underground pipe. Pipes can be just inches below the surfaces, so these signs can alert you to a natural gas leak.
- Dead or dying vegetation (in an otherwise moist area) over or near natural gas pipeline areas.
- Exposed pipeline after an earthquake, fire, flood or other disaster.

Listen

- An unusual sound, such as a hissing, whistling or roaring sound near a natural gas line or appliance.

Smell

- The distinctive odor of natural gas such as rotten egg or hydrogen sulfide.

IF YOU SUSPECT A NATURAL GAS LEAK

- Evacuate the area, and from a safe location, call your local natural gas utility and call 911 from a safe distance.
- Do not smoke or light a match, candle or other flame.
- Do not turn electrical devices or light switches on or off; or use any device that could cause a spark.
- Do not start an engine or use any device, including a telephone, which could cause a spark.
- Do not attempt to control the leak or repair the damaged pipe or meter.
- Safely abandon any motorized or powered equipment or vehicles. Natural gas leaking from a plastic pipe can create static electricity that can ignite the natural gas.

NATURAL GAS APPLIANCE SAFETY

- Have your natural gas appliances inspected annually by a qualified professional.
- Never store anything near a natural gas appliance that might be flammable, combustible, or interfere with normal appliance airflow.
- If you have decorative natural gas logs, permanently lock the damper in the open position by using the damper lock included with the log assembly kit.

WATER HEATER SAFETY

- Water heaters may have a burner flame and many also have a pilot flame. To reduce the risk of flammable vapors being ignited by these flames.
 - Water heaters installed in garages must be elevated so the pilot or other source of ignition is a minimum of 18 inches above the floor or installed per local building codes or the manufacturer's installation instructions.
- Lowering your temperature setting can help prevent scalding accidents and lower your energy costs. Water temperatures above 120°F can cause severe burns or even death. Please refer to your water heater manufacturer's recommendation for safe water heater temperature settings.
- Earthquakes can cause an improperly secured water heater to move or topple. To help prevent this, strap it firmly to the wall studs in two places – the upper and lower one third of the tank – with heavy bolts and metal strapping. Be sure to place the lower strap at least four inches above the thermostat controls. Kits are often available at your local hardware store and we recommend having a licensed, qualified professional install it for you.



ENERGY TIP

Lowering your temperature setting on your water heater can help prevent scalding accidents and lower your energy costs

COOKING APPLIANCE SAFETY

- Never use your range or oven to heat your home; these appliances are not designed for this purpose.
- Do not install aluminum foil in the oven or on the range top, doing so may restrict exhaust vents and affect air-flow and result in carbon monoxide poisoning.



SAFETY TIP

Keep burners and the range top area clean of grease. Grease is flammable and excessive buildup may result in a fire

CENTRAL FORCED AIR

- Many natural gas furnaces use air from the room to operate. Lint and dust carried by air or items stored in or around the furnace can block airflow. To operate safely and efficiently, your natural gas furnace must be kept free of dust and lint buildup or other obstructions stored near the furnace, such as newspapers or cleaning equipment.
- Most forced-air furnaces have a filter; check furnace filter monthly for lint buildup during periods of furnace use and clean or replace if necessary.
- When installing filters, be sure to reinstall the front panel door of the furnace properly so it fits snugly. Never operate the furnace without the front-panel door properly in place because doing so may create the risk of carbon monoxide poisoning.
- Most current forced-air furnaces have a safety switch that prevents furnace operation when the filter compartment door/panel is not in place.
- Some older forced-air furnaces do not have a safety switch and can be operated with the filter compartment door/panel off or not properly in place. These older furnaces, when installed in a closet and operated with the panel/door not in place, will circulate carbon monoxide throughout the home.

CENTRAL GRAVITY FURNACE

- Keep furnace heat registers free of obstructions.
- Don't store items nearby that might restrict airflow.



REMEMBER

Check furnace filter monthly for lint buildup during periods of furnace use and clean or replace it if necessary

FLOOR FURNACES

- Avoid lint buildup by vacuuming the floor furnace and the area around it on a regular basis.
- Avoid fires—don't place rugs, furniture or combustible items over or near the grill and do not restrict the airflow.

WALL FURNACES

- Clean inside the burner compartments of built-in, vented wall furnaces once a month during the heating season to prevent lint buildup.

ALL UNVENTED NATURAL GAS ROOM HEATERS

Using an unvented natural gas heater in your home is a violation of the California Health and Safety Code. These heaters are not approved for use in homes in the State of California.

- Poor operation can result in an accumulation of hazardous fumes, such as carbon monoxide, which could cause illness or death.
- Unless a room heater has enough air from an outside vent or an open window, all the oxygen in a room can be used up, resulting in illness or death.
- The flames in these heaters are not fully covered, which could result in fires.



SAFETY TIP









Keep children away from heater grills as they can become very hot

CALL 811 BEFORE YOU DIG

- Underground pipelines and wires can be anywhere. They are often made of or encased in plastic, and may be just inches below the surface. Before doing any kind of digging, call 811 or submit a request online at least two business days before you dig to have your utility company mark the locations of buried utility-owned lines.
- 811 can help prevent injury, costly property damage and temporary loss of utility service.
- To have customer-owned lines located and marked before a project, contact a qualified pipe-locating professional.
 - Please be aware that natural gas companies do not mark customer-owned natural gas lines, which typically run from the natural gas meter to the customer's appliances and equipment.
- Use only hand tools within 24 inches of each marked utility line to carefully determine its exact location before using any power excavation equipment in the area.
- Report even minor natural gas line damage so that the natural gas utility inspects the lines and perform any needed repairs.
 - A slight gouge, scrape or dent to a pipeline or its coating or any component attached to, or running alongside the pipe, such as a wire, may cause a dangerous break or leak in the future.



**Know what's below.
Call before you dig.**

	WHITE – Proposed Excavation
	PINK – Temporary Survey Markers
	RED – Electric Power Lines, Cable, Conduit, and Lighting Cables
	YELLOW – Gas, Oil, Steam, Petroleum, or Gaseous Materials
	ORANGE – Communications, Alarm, Cable or Conduit
	BLUE – Potable (Drinkable) Water
	PURPLE – Reclaimed Water, Irrigation and Slurry Lines
	GREEN – Sewer and Drain Lines

WATER CONSERVATION

When you use energy and water wisely, you're not only saving money, you're also helping to conserve precious natural resources. Taking the initiative to reduce your home's energy and water usage can help reduce carbon dioxide emissions.

"California's water-related energy use consumes 19% of the state's electricity, 30% of its natural gas, and 88 billion gallons of diesel fuel every year – **and this demand is growing.**"²

Take steps to cut water use:

- Save up to 10% of hot water costs by washing full laundry loads in cold water.³
- Hand washing dishes can use 8 times as much water as an energy-efficient dishwasher — per dishwasher load. If you use hot water for dishwashing, you can save up to \$40 in annual savings simply by using your efficient dishwasher instead.
- Fix leaky toilets to save 30-50 gallons per day per toilet.
- Showering accounts for approximately 17% of residential indoor water use; low flow showerheads can save up to 1.2 gallons per minute or 10 gallons per average 10-minute shower.
 - Try taking 3 to 5-minute showers.
- Water plants at night, when evaporation is much lower. Avoid runoff, overspray, and water only when needed.

² www.energy.ca.gov

³ www.bewaterwise.com



GO GREEN

Water plants only
when needed, not by
the clock or calendar



SAVE MONEY

Check your tire pressure regularly; Underinflated tires can cause excessive tire wear and can reduce your miles per gallon by 3%

GREENHOUSE GAS EMISSIONS

Greenhouse gases (GHG) trap some of the infrared radiation from leaving our atmosphere. The trapped heat makes the earth hotter and can lead to global warming. Greenhouse gases include: carbon dioxide, methane, ozone, and the fluorocarbons.

Small and simple changes in driving behaviors can yield an opportunity for safety, cost savings, fuel economy and reduction of GHG emissions⁴.

- Use the recommended grade of motor oil. You can improve your gasoline mileage by 1-2 percent by using the manufacturer's recommended grade of motor oil. Select motor oil with "Energy Conserving" on the API performance symbol. It contains friction-reducing additives.
- Keep your engine properly tuned. Fixing a car that is noticeably out of tune or has failed an emissions test can improve its gasoline mileage by about 4 percent, according to the U.S. Department of Energy. DOE adds that replacing a faulty oxygen sensor can improve gasoline mileage up to 40 percent.
- Check and replace air filters regularly.
- Don't speed. Gasoline mileage declines rapidly above 60 mph. Each 5 mph increase above 60 is like paying an additional 10 cents a gallon for gasoline.
- Avoid excessive idling.
- Take advantage of cruise control. Using cruise control on the highway helps maintain a constant speed and, in most cases, saves gas.
- Use your overdrive gears to lower engine speed, save gas, and reduce engine wear.

⁴ Adapted from: <https://www.reefrelief.org/act/tips-for-eco-friendly-driving/>

- Take advantage of available carpools and ride-share programs. Sharing your commute with others cuts weekly fuel costs, reduces wear on your car, and may allow you to use less-congested High Occupancy Vehicle (HOV) lanes.

CFL DISPOSAL AND RECYCLING

The energy efficiency of CFLs is significant, but unlike traditional incandescent light bulbs, there is a hidden danger sealed inside each little bulb that requires special handling and disposal. CFLs contain tiny amounts of mercury. Even at low levels, mercury can have detrimental health effects. When a CFL breaks, the Environmental Protection Agency recommends the following guidelines for safe cleanup and disposal:

- Open all doors and windows to ventilate the area.
- Turn off your AC/Fan/Heater so as not to circulate any mercury vapor.
- Young children and pregnant women should leave the area during cleanup.
- Wear appropriate personal protective equipment, such as a dust mask and gloves to keep bulb dust and glass from being inhaled or contacting your skin.
- Carefully remove the broken pieces and any visible dust; put all collected material into a sealed container.
- Pat the area with the sticky side of duct, packing or masking tape. Wipe the area with a damp cloth.
- Put all waste and materials used to clean up the bulb in a secure closed container and label it "Universal Waste Broken Bulb."
- Take the container for recycling to your nearest household hazardous waste facility.



GO GREEN

Sharing rides with friends, family, neighbors and coworkers reduces your driving, and helps to reduce greenhouse gas emissions



A series of 20 horizontal black lines for writing, spaced evenly down the page.



Handwriting practice lines consisting of 20 horizontal black lines.

Energy Savings

Assistance ProgramSM