

TAKING ACTION ON CLIMATE CHANGE

AT HOME



AT WORK



ON THE ROAD



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Taking Action on Climate Change

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WE'RE ALL
PART OF THE
SOLUTION

Are you concerned about climate change and what it means for our environment, our economy and our future? Then you're probably wondering what you can do about it.

The answer is – lots! All Canadians produce greenhouse gas emissions, and reducing these emissions is a big part of the solution to the problem of climate change. Actions by individuals at home, at work and on the road are an essential part of Canada's climate change response. The energy-using habits of individual Canadians account for about 28 percent of Canada's total greenhouse gas emissions – almost five tonnes per person every year!

The easiest way to be part of the solution is to use energy more efficiently. Small steps really do make a difference in reducing Canada's total energy consumption, especially when millions of Canadians from coast to coast are taking those steps.

Using less energy not only cuts greenhouse gas emissions, it reduces pollutants that cause smog and acid rain. And let's not forget one of the most important benefits of all: energy efficiency will save you money – possibly hundreds of dollars a year!

This brochure offers dozens of tips on how to reduce your energy consumption and costs, and contribute to Canada's climate change efforts. Remember, your actions *can* make a difference!



THERE'S NO PLACE LIKE HOME

There are many practical things you can do to reduce greenhouse gas emissions, and a great place to start is at home. Research shows that the average Canadian home produces 6.5 tonnes of carbon dioxide every year.



Here are some ways to reduce emissions, make your home more comfortable and save money.



YOUR LIVING AREA

- Use caulking and weatherstripping to reduce air leakage around windows, doors, baseboards and the attic hatch. This simple step can save up to 20 percent on your home heating costs.
- Foam insulation and caulking can be used to seal other areas where air leaks are common – around plumbing vents, holes for electrical wiring, exhaust fans and junction boxes, as well as gaps at the top of exterior walls, such as where the house frame sits on the basement wall.
- Use foam gaskets and childproof plugs or combination cover plate units to seal electrical outlets and switches on outside walls.
- Upgrade the insulation in the walls and attic of your home. This is best done during a renovation project, such as when you are remodelling a kitchen or bathroom. Simply insulating your basement walls can reduce your energy bill by up to 35 percent.
- Your windows should have at least two layers of glazing. If necessary, install storm windows (either interior or exterior) to add an extra layer of glazing.
- If your windows need to be replaced, install ones that are energy-efficient. Look for windows that have a certification label issued by the Canadian Window and Door Manufacturers Association. Energy-efficient windows typically have double- or triple-glazing, a low-e coating, an inert gas sealed between the layers of glazing, insulated frames and low-conductivity spacers.
- Exterior doors that are in poor repair should be replaced with core-insulated, steel-clad doors, which have low air leakage and provide good insulation performance year after year. Storm doors can also boost your home's energy efficiency.

- Have an EnerGuide for Houses evaluation done of your home. A qualified, licensed professional will conduct a thorough inspection of your house, identify opportunities for energy savings, and provide a report that will explain how and where you can make improvements. You may be able to improve the energy efficiency of your house by up to 20 percent simply through weatherization. See page 16 to find out how you can get more information.
- If you are planning on buying a new home, ask your builder to make sure it's an R-2000 home. An R-2000 home offers not only energy efficiency but excellent indoor air quality and comfort.

MECHANICAL SYSTEMS

- Install energy-efficient space heating and cooling equipment. Information is readily available on gas and propane furnaces, air-conditioning equipment and air-to-air heat pumps that can help you compare different models based on their energy consumption. EnerGuide ratings can be found on the back of manufacturers' product brochures. Room air conditioners have an EnerGuide label affixed to them.
- Arrange to have your heating system serviced once a year, before the heating season begins. A furnace that is not operating properly wastes fuel and can endanger your health by spilling carbon monoxide and other gases into your home.

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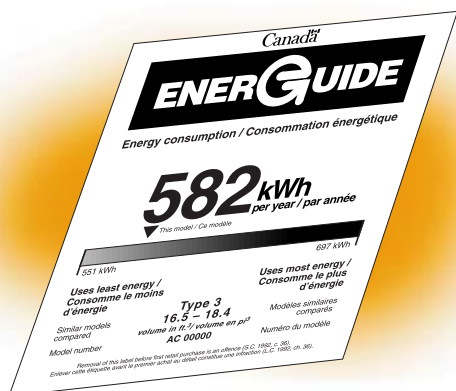
- Clean or change the filters in your forced-air system every month, and keep return air grilles and warm-air vents clean and free of obstructions. If you have a high-efficiency furnace, check the sidewall exhaust regularly to make sure it is free of obstructions.
- Seal leaky joints in your home's ductwork with aluminum duct tape or duct mastic, and insulate all warm-air ducts that pass through unheated areas, such as the basement or crawl space.
- Install a programmable thermostat to automatically change the temperature of your house at different times of the day. For example, you can program the thermostat to turn down the heat to 17°C (63°F) at night, when you are asleep, or during the day if everyone is out of the house. For every degree you lower the heating level, you'll save two percent on your heating bill.
- In summer, adjust your air conditioner's thermostat when you go out, and shut down your system when you are away for extended periods (more than 24 hours). Unnecessary cooling wastes energy and money.
- To keep air-conditioning costs to a minimum, turn off any incandescent lights that are not needed, since these generate heat. Also, turn off any electrical equipment that is not being used. Keep doors, windows and blinds/drapes closed in the heat of the day, and open your windows in the cool of the night.

APPLIANCES

- Get rid of that old beer fridge in the basement. An inefficient refrigerator with an ill-fitting door can cost hundreds of dollars a year to operate. If you need more refrigeration space consider a new, more efficient larger refrigerator. It will consume much less energy than two, provide many new features and save you from making a special trip downstairs to get your beer!

Let dishes air-dry rather than using the dishwasher's drying cycle.

- When purchasing a major household appliance – a refrigerator, freezer, range, dishwasher, clothes washer or dryer – check the EnerGuide label. The label will help you select the most energy-efficient model – it tells you how much energy the appliance will typically use in a year and compares this consumption to similar models.
- Almost all of the energy used by clothes washers is for heating the hot water used to wash the clothes. Only about 10 percent or less of the energy is used by the electric motor that runs the machine. The best way to improve the efficiency of a clothes washer is to reduce the amount of water, particularly hot water, that is needed to wash the clothes.
- Let dishes air-dry rather than using the dishwasher's drying cycle. It works, and it won't cost you a nickel in energy.
- When using your oven, turn it off a few minutes before cooking is complete; the heat already in the oven will finish the job.



- Microwave cooking can reduce energy consumption by two thirds and produces much less waste heat than your stove. Convection ovens consume up to one third less energy than standard ovens. Toaster ovens and slow cookers are also a great way to reduce energy use in the kitchen.
- When using your range, select appropriately sized pots and pans with tight-fitting lids and cook at lower temperatures. A six-inch pan on an eight-inch element wastes 40 percent of the element's heat output.
- Don't force your refrigerator or freezer to work harder than necessary by locating it near a heat source, such as a stove, radiator, washer or dryer.
- Vacuum your refrigerator's heating coils every three months: dust buildup causes the compressor to work harder and reduces its life expectancy. Make sure there are no gaps in the door seal.
- Don't overfill your refrigerator or freezer. Cool air needs to circulate freely throughout the interior of the appliance.
- Avoid over-drying clothes by letting your dryer's automatic sensor determine when the load is finished. Better yet, hang clothes outdoors to dry.
- Clean your dryer's lint filter after each load, and clean the dryer duct regularly. Clogged filters and ducts restrict airflow, decrease energy efficiency and can be a fire hazard.

LIGHTING

- Use compact fluorescent lighting wherever you can. Compact fluorescents use up to 75 percent less energy than a comparable standard incandescent bulb, produce much less waste heat and last up to 10 times longer.

- Turn off lights when they are not needed. One way to do this is with a timer that turns lights on and off according to a pre-set schedule. Photocells and motion detectors can also be used to turn on lights only when they are needed.
- Whenever possible, use task lights (such as desktop or reading lamps) rather than overhead lights. Keep your lamps and fixtures clean to avoid turning on extra lights or using higher wattage bulbs.

HOME ELECTRONICS

- When purchasing a new home computer, video, or audio system, look for the Energy Star logo – a sign that the equipment has met a high level of energy efficiency.
 - Avoid buying a laser printer unless you absolutely need one. They are by far the most expensive printers to operate. An ink-jet printer will produce almost the same quality at a much lower cost.
- Turn off computers, printers, televisions, radios and other energy-consuming devices when they are not needed. You'll not only save money and reduce greenhouse gas emissions, you'll extend the life of the equipment.

WATER CONSUMPTION

- Fix leaky faucets immediately. A dripping faucet can waste an enormous amount of hot water. At one drop per second, a single leaky washer wastes the equivalent of 16 hot baths every month.

- Lower your water heater's thermostat to 60°C (140°F).
- Consider insulating your hot water tank (consult your utility first, especially for gas heaters). In addition, insulate water pipes that run through unheated areas.
- Install low-flow showerheads, which use up to 60 percent less water than conventional showers. This do-it-yourself project takes only a few minutes but delivers big savings in water consumption and hot water heating. High-efficiency faucets can save four to seven percent of your total hot water consumption. Aerators are one kind of high-efficiency faucet.

OUTDOORS

- Think energy efficiency when doing yard work. Limit your use of power lawn mowers, leaf blowers, snowblowers, etc.
- Reuse, recycle and compost your waste. It takes much less energy to reuse or recycle a product than to make a new one. In addition, correctly composting your food and yard wastes eliminates the methane (also a greenhouse gas) they would cause at a landfill site.
- Avoid using pesticides on your lawn and garden. Chemical fertilizers are a source of nitrous oxide, a greenhouse gas.
- Plant trees. A well-placed line of evergreens on the north side of your home can provide shelter against cold winter winds and reduce your home's demand for heat. Similarly, properly placed shade trees on the south side can make your home cooler in summer and reduce its demand for air conditioning. Trees also absorb and store carbon dioxide and filter out pollution.



ENERGY EFFICIENCY IN THE WORKPLACE

Many Canadians spend a good part of their day in a work environment. Wherever you work – in an office, a store, a factory, in the great outdoors or on the road – there are bound to be opportunities to save energy. Consider the following tips and take advantage of the ones that make sense for you.

- Turn equipment off when it is not in use, including computers, photocopiers, cash registers and coffee makers, particularly overnight and on weekends (frequently switching equipment on and off will not damage the components). The last person out of the office or building every day should make this a habit.
- If your computer has integrated power management capabilities, ensure the system is configured to use them. Where printers and photocopiers have an energy-saver mode, make sure it is operating (machines are often shipped with this feature disabled).
- Avoid using a laser printer for draft-quality printouts. From an energy efficiency perspective, the order of preference is ink-jet, dot matrix and laser.

- Use as little paper as possible. Printing, photocopying and faxing all use energy. Communicating electronically through e-mail and fax/modems is quicker, less expensive, more productive and healthier for the environment.
- Print and copy on both sides of paper. Double-sided printing or copying reduces paper costs, saves filing space and minimizes the amount of energy and fibre required for paper production.
- Reuse paper for draft printouts and note taking. Ink-jet printers, copiers, fax machines and dot matrix printers can all handle used paper (reusing paper in laser printers is not recommended).
- Use recycled paper (including unbleached paper) whenever possible.
- Turn off lights when a work area is not being used. Even better, don't turn them on in the first place. Natural light saves energy and is easier on the eyes. Open curtains and blinds to bring more natural light into your work area.
- Install timers and motion sensors in areas that don't need to be lit all the time. Use photocells to turn on outdoor lighting only when needed.
- Encourage your employer to launch an awareness program to motivate employees to improve energy efficiency in the workplace. For help, visit the web site of Natural Resources Canada's Office of Energy Efficiency (see page 16).

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and is easier on the eyes.*

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into your work area.*



TAKING IT ON THE ROAD

Canadians love their cars – we own more vehicles and drive them further than ever before. But that’s taking a heavy toll on the environment. The transportation sector is the single largest producer of greenhouse gas emissions in Canada.

Reducing energy consumption by vehicles – including the family car – will be a big part of the climate change solution. Here are some steps you can take to reduce your fuel consumption, operating costs and exhaust emissions.

DRIVING YOUR VEHICLE

- One sure-fire way to reduce emissions and save money is to drive less. Take advantage of public transit or try sharing rides with neighbours or co-workers. Active forms of transportation, such as walking, cycling or inline skating, avoid greenhouse gas emissions and promote good health.

- Aggressive driving saves very little time and increases fuel consumption and emissions. A European test showed that “jack-rabbit” starts and hard braking reduced travel time by only four percent. Fuel consumption, however, increased by 39 percent and some toxic emissions were more than five times higher.
- Keep to the speed limit. Driving at 100 km/h burns 10 percent more fuel than driving at 90 km/h. On the highway, use cruise control to maintain a steady speed and reduce fuel consumption.
- Avoid needless stops and starts, which consume extra fuel. Keep an eye on cars ahead of you and adjust to changes in traffic flow gradually and smoothly.
- Turn your car off when it is stopped. Restarting the engine uses less fuel than 10 seconds of idling and produces less air pollution. In winter, don't idle a cold engine for more than 30 seconds before driving away.
- Plan your trips to avoid traffic jams and to combine errands and save fuel and time. Limit the use of your vehicle's air conditioner. In stop-and-go traffic, air conditioning can increase fuel consumption by as much as 20 percent. At low city speeds, open windows can be a fuel-saving alternative to air conditioning.
- To stay cool at highway speeds, use your car's flow-through ventilation. Avoid opening the sunroof and windows at highway speeds – this causes wind resistance, which increases fuel consumption.
- Consider using ethanol-enhanced gasoline. The use of ethanol reduces a vehicle's emissions. Check your owner's manual before using an ethanol-blended fuel.

- Roof racks, even when empty, increase aerodynamic drag and therefore boost fuel consumption. In the case of permanent, factory-installed units, the fuel penalty will be minimal but the disadvantage is that it's always there. Removable roof racks may be a better option since they increase aerodynamic drag only when they're installed.
- Use a block heater in winter when the temperature drops to -20°C (-4°F) or below. A block heater keeps your engine oil and coolant warm, which makes the vehicle easier to start and can increase winter fuel economy by as much as 10 percent. Use a timer to switch on the block heater one or two hours before you plan to drive.

BUYING A VEHICLE

- Fuel efficiency should be one of your main considerations when buying a vehicle. For new cars, vans and light-duty trucks, check the EnerGuide label, which offers standardized information on the vehicle's city and highway fuel consumption and estimated annual fuel cost.
- If you are buying a used vehicle, consult the Fuel Consumption Guide for that model year. The Guide provides city and highway fuel consumption ratings for cars, vans and light-duty trucks sold each year in Canada. See page 16 for information on how to order your free copy.
- Don't buy more car than you need. Bigger cars and bigger engines generally consume more fuel than smaller vehicles. Options such as power windows and power seats add weight to the car, make the engine work harder and burn more fuel.
- Consider purchasing a vehicle that uses natural gas or propane rather than gasoline. The use of these fuels reduces greenhouse gas emissions from vehicles. Some alternative transportation fuel vehicles are certified as low-emission vehicles.

MAINTAINING YOUR VEHICLE

- Give your car a full tune-up according to the manufacturer's recommendations. A poorly tuned engine can use up to 50 percent more fuel and produce up to 50 percent more emissions than one that is running properly.
- Change the oil and filter regularly. Oil breaks down over time and loses its ability to lubricate, cool and protect your engine.
- Check your tire pressure at least once a month when the tires are cold (when the vehicle has not been driven for at least three hours or when it has been driven for less than two kilometres). A tire that is under-inflated by only 6 psi (40 kPa) can increase fuel consumption by three percent or more. Under-inflated tires also wear out faster and are unsafe.
- Vehicle emission systems need special attention in order to ensure fuel efficiency and good environmental performance. Make sure your mechanic checks the emission system as part of routine servicing.

Don't buy more car than you need. Bigger cars and bigger engines generally consume more fuel than smaller vehicles.



GETTING STARTED

As you can see, becoming part of the climate change solution is easy. It's as simple as making a personal commitment today to live a more energy-efficient lifestyle at home, at work and on the road.

To order free publications on how to improve your energy efficiency and reduce greenhouse gas emissions, call 1 800 O-Canada (1 800 622-6232) or visit the Government of Canada's main climate change web site at <http://www.climatechange.gc.ca>.

For more information on climate change in general, visit the following web sites:

- Office of Energy Efficiency web site: <http://oee.nrcan.gc.ca>
- Environment Canada's Green Lane: <http://www.ec.gc.ca>
- Health Canada: <http://www.hc-sc.gc.ca> (click first on "Healthy living" and then on "Environment and health")
- Transport Canada: <http://www.tc.gc.ca>



SPRING AND SUMMER *Quick Reminders*

- 1.** Give your car a spring tune-up — and remove snow tires as soon as possible.
- 2.** Set your air conditioner at 25°C. When you're out of town, shut it off completely.
- 3.** Check the EnerGuide label when buying an air conditioner or major household appliance.
- 4.** Hang clothes outdoors to dry.
- 5.** Driving 120km/hr rather than 90km/hr increases fuel consumption by 20%.
- 6.** Leave the car at home: bike or roller-blade to the corner store.
- 7.** Ten seconds of idling uses more fuel than restarting the engine.
- 8.** Install motion sensors or timers on outdoor lights.



For more information call:
1 800 O-CANADA (1 800 622-6232)
or visit our website: <http://www.climatechange.gc.ca>

Canada



FALL AND WINTER *Quick Reminders*

- 1.** Declare war on cold drafts and heat loss. Seal air leaks around doors, windows and the attic hatch.
- 2.** Make sure you put all your storm windows on for the winter.
- 3.** Your car needs a fall tune-up — and so does your furnace. Have them both serviced before the cold weather sets in.
- 4.** Turn down your thermostat when you go to bed, and turn it up again in the morning.
- 5.** Don't be an idler! Turn off your car when it's stopped.
- 6.** Use a block heater for easy engine starting and better fuel economy.
- 7.** Check your vehicle's tire pressure regularly, especially after there has been a sharp drop in temperature.
- 8.** Put holiday lights on a timer to save electricity and money.



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