

Ontario Conserves



Air



Earth



Energy



Water

**www.ontarioconserves.gov.on.ca
1-866-608-4824**

 **Ontario**

MESSAGE FROM THE PREMIER

Thanks for taking the first step towards a healthier, brighter future for all of us.

Simply by picking up this guide to conservation, you'll discover how you can start to make a difference to your family's finances and the health of our province.

When you think about it, conservation makes a lot of sense. It reduces the amount of garbage that ends up in landfills. It cuts your energy bill down to size. And it reduces the reliance on energy sources that pollute our environment, especially the coal-fired electricity plants that are Ontario's number one source of smog.

And yet, for far too long, we simply haven't thought about it. We've taken our natural resources for granted. We've developed wasteful habits. It's time to break those habits.

We'll provide the leadership that creates opportunities for Ontarians to become better at conservation. But we can't do it alone — to get there, we need you to become part of the solution.

It's really about doing all the little things that can make a huge difference, things that are spelled out in this guide. This guide is intended to inform, challenge and give practical advice on how we can become a culture of conservation.

You can also visit www.ontarioconserves.gov.on.ca to find out more about what government is doing, what others are doing and what you can do to make Ontario a leader in conservation.

We can save resources, money, even people's health, if we work together. I know we can do it. But we need to start now.

A handwritten signature in black ink that reads "Dalton McGuinty". The signature is written in a cursive, flowing style.

Dalton McGuinty
Premier

ONTARIO CONSERVES

Conservation. It's an urgent need and a significant challenge.

We are consuming our resources at an unsustainable rate. Being wasteful puts our future and that of our children at risk. By accepting the challenge to become a conserving culture we can save our resources, protect our environment and health and invigorate our economy.

Using our resources wisely is good for the environment, but it also makes economic sense. Households and businesses that use only what they need, save money and run more efficiently. Wasted resources in the form of electricity, gasoline or natural gas eventually also mean wasted dollars.

Why conserve?

Conserving saves your hard-earned dollars: Being efficient when using fuel, electricity, and water can reduce your monthly bills. On top of it all, you can feel good about helping Ontario's environment.

Conserving can save your health: Air pollution from cars and power stations is making people sick. Our seniors, our young and people who have breathing difficulties are the most vulnerable. The Ontario Medical Association, which represents Ontario's doctors, estimates that smog contributes to the premature deaths of 1,900 people in Ontario a year. The related health costs are estimated at up to \$1 billion annually.

Conserving saves our resources: The costs of not conserving will have a lasting impact that will fall to our children and grandchildren.

Government cannot do it alone.

The Ontario government is working to make this province a North American leader in conservation, however government cannot do this job alone.

Our governments protect public health by setting environmental standards and energy efficiency standards. Governments can encourage citizens to conserve by offering incentives. Governments can set environmental targets for the future.

For everything in between — from turning off the lights when leaving a room, to taking public transit to work — we all need to be committed to conservation and do our part.

SOMETHING TO THINK ABOUT

What role should citizens and governments play in keeping their communities clean and green?



Air



Air pollution carries significant economic and health costs. Here are the facts.

Smog

- ▶ Health and environmental experts have linked exposure to smog pollutants to a number of cardio-respiratory ailments and premature mortality.
- ▶ The Ontario Medical Association states that smog in Ontario contributes to 1,900 premature deaths per year. It is estimated that 10,000 hospital admissions, 13,000 emergency room visits and 47 million sick days for employees each year occur in Ontario as a result of ground level ozone and fine particulate matter.
- ▶ Direct health costs have been estimated at \$1 billion a year, but if indirect costs are included, that estimate rises to \$10 billion a year.

Climate change

- ▶ Climate Change, which has been linked to air pollution, poses long-term consequences. Some of these include extreme weather characterized by an increase in the frequency of destructive and dangerous events such as tornadoes, ice storms, floods, drought and heat waves.
- ▶ Current trends and modelled predictions indicate that impacts of global warming during the next 100 years will be significant and widespread. All ecosystems and their constituent organisms, including people, will be affected. There will be implications to natural resource management programs in Ontario.

To help address these challenges, Ontario is replacing coal plants with cleaner electricity sources to reduce harmful emissions. By mandating repairs for heavily polluting cars and trucks, the government will continue to reduce smog causing pollutants from vehicles. In its own operations, the government is updating its vehicle fleet with more fuel-efficient vehicles.

ONTARIO CONSERVES

To reduce smog, Ontario is reducing provincial emissions of key smog-causing substances by 25 per cent of 1990 levels by the year 2005, and by 45 per cent by 2015.

Ontario will achieve Canada-wide standards for the smog-causing chemicals, fine particulate matter, and ozone by 2010.

Ontario is reducing key acid-rain-causing emissions province-wide by 80 per cent by 2015, compared to 1980 levels, including the above reductions.

Shut the engine off, even for short stops.

One minute of idling uses more fuel than restarting your engine.

Air Facts

- ▶ *One hour of using a gas-powered 3.5 horsepower lawnmower produces the same amount of air pollution as a car driven for 550 kilometres.*
- ▶ *One poorly tuned vehicle can emit as much pollution as 20 properly tuned cars.*
- ▶ *The average total cost of driving one kilometre in Canada is 46 cents per person. On public transit, this cost drops to 12 cents.*

Many of the government's actions to reach targets set for smog and acid rain also contribute to lowering our emissions of greenhouse gases. Greenhouse gases are the key contributors to the threat of climate change.

The Ontario government is committed to working with the federal government toward achieving Canada's commitments under the Kyoto climate change accord.

SOMETHING TO THINK ABOUT

What suggestions do you have for reducing smog and cleaning our air?

ONTARIO CONSERVES



Earth



Although we may not think about it, reductions to our natural green spaces can ultimately result in a loss of biodiversity, quality of health and economic sustainability.

Protecting Biodiversity

- ▶ Loss of Ontario's biodiversity, particularly with population growth and development pressure, is causing habitat loss. Biodiversity is defined as the diversity of life on Earth and the interconnections that support this variety of life. Biodiversity includes the diversity of species, genes, populations and communities or ecosystems.
- ▶ Invasive species already present in Canada cause an estimated \$7.5 billion annually in damage to agricultural crops and forestry. Invasive species such as the Zebra Mussel have permanently altered the Great Lakes ecosystem and require millions of dollars in expenditures each year to keep water intake pipes clean.

Greenbelt Protection

- ▶ Our available recreation and open spaces within growing urban areas are being threatened by continuing urban sprawl.
- ▶ When we lose green space, we also permanently lose unique ecological features and functions of the natural environment.
- ▶ The permanent loss of viable agricultural land affects the availability of a continuing commercial source of food and also employment. The prosperity of the agricultural sector is important to many of Ontario's regional economies.

Waste Disposal and Diversion

- ▶ In order to protect green space, extend the lifespan of existing landfills, reduce the need for additional landfills, and maintain safe, clean, liveable communities, Ontario must take action to increase the waste diversion rate.

Ontario is blessed with abundant natural resources, but those resources are becoming scarcer because our population is growing along with our consumption of those resources. Ontario is protecting and recovering species that are at risk through its stewardship and endangered species programs. Ontario boasts 9.5 million hectares in protected lands, which is equal to about 9 per cent of Ontario's land area. The Ontario government is protecting our land resources through environmental protection legislation and our extensive parks systems. Ontario is introducing legislation that will establish a permanent greenbelt around the Golden Horseshoe, as well as a new commission to protect it. The government is developing a strategy to address the threat of invasive species to the province's biological diversity.

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Many communities have developed programs to reclaim old industrial sites, called “brownfields”, or are reclaiming wetlands for bird habitats. Others have taken steps to reduce pesticide use. Ontario communities with 5,000 people or more are required to have active recycling programs to reduce waste and landfill use. Ontario now diverts a little over a quarter of its waste. This has to improve. The Ontario government wants to work with Ontarians to deal with our garbage and meet the goal of keeping 60 per cent of Ontario’s waste out of landfills.

Litterless lunch programs reduce the amount of packaging in children’s school lunches by about 60 per cent.

Earth Facts

- ▶ *In 2002, Ontarians sent approximately 10 million tonnes of garbage to disposal. One tonne is equivalent to the weight of a small car.*
- ▶ *The average Canadian household produces 20 to 40 litres of hazardous waste annually.*
- ▶ *It would take about 1 million years for a glass bottle to break down by natural processes.*

In its own operations, the Ontario government is managing a workplace recycling program that diverts paper, glass and metal out of the waste stream.

In addition, the government is reducing paper use by using electronic forms for internal administration and for the public.

SOMETHING TO THINK ABOUT

How can we encourage consumers and businesses to be better waste reducers?

ONTARIO'S CONSERVATION STRATEGY



AIR

Key Targets

- Replace coal-fired generation by 2007
- Meet Canada-wide standards for particulate matter and ozone by 2010
- Reduce toxic emissions from industry
- Reduce greenhouse gases and manage risks of climate change
- Reduce smog and acid rain causing emissions by 45% and 50% by 2015 respectively

Initiatives

- Regulate smog and acid rain emissions from electricity and industry sectors
- Set stronger tough air standards for toxic emissions from industry
- Fund public transit
- Sign a Memorandum of Understanding with federal government on climate change
- Develop cleaner sources of electricity generation



ENERGY

Key Targets

- Reduce electricity demand by 5% by 2007
- Reduce government electricity consumption by 10% by 2007
- Increase capacity of renewables to 5% of total electricity capacity by 2007, 10% by 2010

Initiatives

- Direct Ontario Energy Board to roll-out smart meters by 2010 and introduce time-of-use rates
- Ensure Local Distribution Companies spend up to \$225 M on conservation measures over next five years
- Implement Ontario Public Service Energy Conservation Strategy
- Issue Request For Proposals for renewable energy sources and for demand-side management
- Move towards full-cost pricing of electricity

STRATEGY

Making Ontario a
North American leader
in Conservation

ONTARIO'S CONSERVATION STRATEGY



EARTH

Key Targets

- *Protect sensitive land in the Golden Horseshoe through a permanent greenbelt*
- *Increase protection of species at risk*
- *Target 60% waste diversion from disposal by 2008*

Initiatives

- *Create a permanent green belt around the GTA*
- *Implement Growth Management Strategy in the Golden Horseshoe*
- *Develop a green space initiative for private land protection*
- *Consult on Protected Areas Legislation*
- *Develop an Ontario Invasive Species Action Plan*
- *Create a Species at Risk Strategy*
- *Improve the Environmental Assessment processes*



WATER

Key Targets

- *Implement all of Justice O'Connor's recommendations*
- *Introduce Source Protection Legislation in 2004*
- *Implement Nutrient Management rules*
- *Implement the Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem (COA)*

Initiatives

- *Enforce Ontario's Water Regulations*
- *Require certification and training for water operators*
- *Develop and implement source protection plans for all Ontario watersheds*
- *Improve Permit-to-Take-Water program*
- *Fund Great Lakes conservation efforts through COA*
- *Consult on Great Lakes Charter Annex agreements*

ONTARIO CONSERVES

Energy

Energy consumption rates are rising faster than our current ability to generate power. Through conservation we can help reduce the gap.

- ▶ Ontario faces an electricity supply-demand challenge as coal-fired generation is taken out of service and existing nuclear plants approach the end of their operational life. By 2020, Ontario needs to replace, refurbish and conserve 25,000 megawatt of capacity which is equal to 80 per cent of current generating capacity.
- ▶ Some of the province's coal-fired plants (e.g., Nanticoke), because of their size and emissions reduction technology used, are among the highest polluters in North America.
- ▶ The Ontario Medical Association estimates that smog kills 1,900 Ontarians annually, and racks up a bill of \$1 billion a year, including costs to the health system and employers/employees.
- ▶ The average Ontario household uses 10,000 kilowatt per year. Generating that power produces emissions which are similar to driving a car 10,000 km.

Ontario's population of over 12 million people, its industries and communities, spend more than \$30 billion a year on energy. We use energy to heat our homes and offices, we use gasoline to transport people and goods, and tens of thousands of megawatt-hours of electricity to power our factories, schools and hospitals.

To ensure there is a reliable, sustainable supply of electricity, we need the development of new clean generation. By 2007, 5 per cent of Ontario's electricity is to come from alternative, renewable electricity sources such as wind power and bio-products. By 2010, this number is to rise to 10 per cent.

To help consumers conserve electricity and save money, the Ontario government plans to have "smart meters" in every home by 2010, with an interim target of 800,000 meters in place by 2007. Smart meters will tell you how much power you consume at various times of the day to help you use power when electricity rates are lowest.

SOMETHING TO THINK ABOUT

What examples of waste have you noticed in your neighbourhood?

How can we use less energy in our homes and communities?

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Between now and the year 2020, we will need to refurbish over 80 per cent of Ontario's current electricity generation capacity. This calls for a balanced approach of introducing new supply on the one hand and conservation on the other. Ontario has set an ambitious target of a 5 per cent province-wide reduction in Ontario's electricity demand by 2007. The government also set a target of a 10 per cent reduction of electricity consumed in buildings it owns.

The best way to reduce air pollution in Ontario is to use fuels more efficiently or to reduce overall fuel use.

Energy Facts

- ▶ *Increase your highway speed from 100 km/h to 120 km/h, and your fuel consumption can increase by as much as 20 per cent.*
- ▶ *Compact fluorescent light bulbs use 75 per cent less electricity than regular lightbulbs and last years longer. Replacing frequently used regular light bulbs with compact fluorescent bulbs can save 200 kilowatt hours per year, which translates into roughly \$20.*
- ▶ *An older, more inefficient refrigerator running in the basement for occasional refreshments could cost you \$150 or more per year in electricity.*
- ▶ *Setting air conditioners up two degrees Celsius can save 100 kilowatt hours or \$10 a season. During heating season, set a lower temperature for overnight or when you are away. A set-back of six degrees Celsius for eight hours daily could reduce your heating bill by 10 per cent, which means a savings of \$120 a year for the average Ontario family.*

Retrofits, upgrades, energy audits and new building standards in government buildings are helping the province achieve this target. Detailed energy audits in selected locations have helped the government identify retrofit projects that would reduce electricity consumption by 10% and possibly more.

Ontario's 62,000 public servants are also reducing the amount of electricity consumed in government workplaces by turning off lights and office equipment at the end of the workday.



Water



Safe, clean drinking water is fundamental to our health and well being.

Water Quality and a Competitive Agriculture Sector

- ▶ The Walkerton Inquiry recommended the province “develop an integrated approach to managing the potential impacts of agriculture on drinking water sources. This approach would include four separate elements: planning, education, financial incentives and regulatory enforcement.”

Source Protection and Drinking Water Systems

- ▶ Communities that depend on groundwater or smaller lakes for drinking water are concerned about sustainability. Industrial permits to take water have been a contentious issue in a number of communities.
- ▶ The *Report of the Walkerton Inquiry Part Two: A Strategy for Safe Drinking Water* was released in May 2002 and contained 93 recommendations.
- ▶ The availability of affordable quality water will impact industrial competitiveness and quality of life.

We can all help ensure our children and future generations have an adequate supply of clean water. The key is using less water and using water responsibly. Walkerton has shown us why protecting Ontario’s watersheds is a key part of the strategy to protect the province’s drinking water from source to tap.

The Ontario government is consulting with municipalities, non-municipal drinking water system owners/operators, and health officials on implementing the drinking water system regulations to ensure safe, clean drinking water.

The provincial government is proposing legislation that will require source protection plans to be developed and put in place for every watershed in the province. This recognizes that water crosses municipal boundaries and needs to be managed on the basis of an entire watershed to support sustainable and wise water use.

ONTARIO CONSERVES

The government recently proposed tough new rules for water-takings that will protect the supply of drinking water and foster strong communities. In addition, in December 2003 a one-year moratorium was placed on new and expanded water-taking permits that remove water from watersheds. The governments aim is to have new rules in place before this moratorium is lifted. Conservation will be a clear part of those rules.

Installing low-flow showerheads and faucet aerators will help conserve water and reduce energy and water bills.

Water Facts

- ▶ *Dripping faucets can waste 7,500 litres of water each year.*
- ▶ *Leaky toilets can waste as much as 750 litres each day.*
- ▶ *Reduction in pesticide use and proper use of pesticides reduces the potential environmental impact.*
- ▶ *Waterpower supplies almost one-third of Ontario's energy needs.*

Ontario is helping to protect and conserve the Great Lakes, an important water resource.

The province is investing \$50 million over five years to help clean up the Great Lakes and protect the shorelines. Through the Great Lakes Charter Annex draft agreements, the eight

Great Lakes States, Quebec and Ontario have all committed to strengthening the regulation of water uses in the basin.

The Ontario Government recently announced the expansion of power generation in the Niagara region through the Niagara Tunnel project.

By increasing the amount of water flowing to existing turbines, an additional 1.6 terawatt-hours of clean, renewable electricity will be produced each year — enough power to meet the annual needs of 160,000 homes, or a city twice the size of Niagara Falls.

SOMETHING TO THINK ABOUT

Do we take water for granted?

How can we use less and save more?

ONTARIO CONSERVES

Partners in Conservation...some programs of note

- ▶ The City of Mississauga, with the help of Natural Resources Canada, conducted a successful year-long **anti-idling campaign** which reached an estimated 69 per cent of residents. Canadians voluntarily idle their vehicles for a combined total of more than 75 million minutes a day – equivalent to one vehicle idling for 144 years. For more information, visit www.123turnyourkey.com
- ▶ “**20/20 The Way to Clean Air**,” is a campaign of Public Health Units that provides tools to help individuals reduce home energy use and vehicle use by 20 per cent. For more information about “20/20,” please call 416-392-2020 or 1-866-583-2020. Find out more online at www.toronto.ca/health/2020/
- ▶ The federal government’s “**One Tonne Challenge**” program asks Canadians to reduce their annual emissions of climate-change-causing greenhouse gases by one tonne. The site www.climatechange.gc.ca/onetonne/english offers numerous resources, including a greenhouse gas emissions calculator.
- ▶ **The Town of Leamington** and area has developed a strategy to draw and store water in off-peak times for use during peak usage periods. This strategy attracted new industry and, as a result, 3,000 jobs and \$400 million in investment were created in the area.
- ▶ Ontario’s Clean Air Foundation offers programs that offers incentives for consumers to trade in outdated, polluting appliances/cars for cleaner, updated models: The “**Car Heaven**” program makes it easy to trade in ‘clunkers’. “**Keep Cool**” takes care of old window air conditioners, and “**Mow Down Pollution**” is an exchange program for polluting two-stroke lawnmowers. For more information, visit www.cleanairfoundation.org
- ▶ The Regional Municipality of Peel created a new division called **Corporate Energy** to engage all government departments in developing a work plan for energy conservation.
- ▶ The **Green Communities Association** is a national umbrella organization for local environmental organizations, offering programs such as residential energy audits and rural waterprotection programs to interested homeowners More information at www.gca.ca
- ▶ **WindShare**, a Toronto-based wind energy co-operative, owns and operates the wind turbine located at Exhibition Place with Toronto Hydro. More information at www.windshare.ca
- ▶ Milton Hydro and Woodstock Hydro have implemented simple **smart metering/pay-as-you use programs** that have received favourable response from their customers for helping them conserve.

*These are some of many initiatives that are making a difference. Please let us know about your community’s efforts by writing **Town Hall Ontario, Box 40, 77 Wellesley St. West Toronto, ON M7A 1N3**, e-mail us through www.ontarioconserves.gov.on.ca or fax us at **416-326-5348***



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Design Your Own Conservation Action Plan

Start building Ontario's culture of conservation by exchanging conservation ideas with others.

Go online and submit your tips and ideas on how to conserve our resources. Check the great ideas posted by other concerned citizens. Identify the tips and ideas that you can use to create or add to your personal "conservation action plan."

You can also obtain a copy of the Conservation Tips booklet by calling 1-866-608-4824.

For more information, visit www.ontarioconserves.gov.on.ca or mail or fax your ideas to

Town Hall Ontario, Box 40, 77 Wellesley Street West, Toronto, ON, M7A 1N3

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