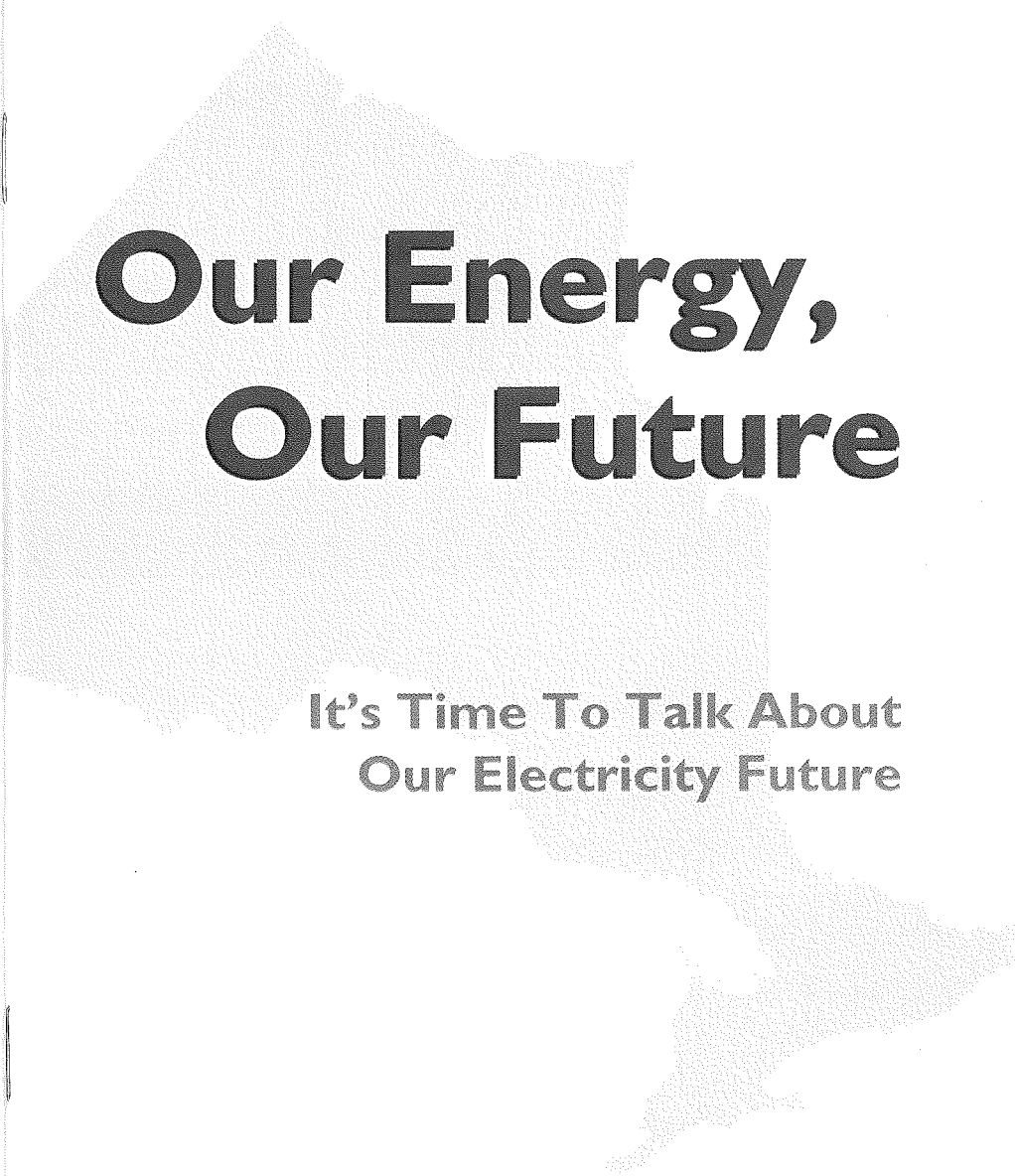




Our Energy, Our Future

**It's Time To Talk About
Our Electricity Future**

Paid for by the Government of Ontario

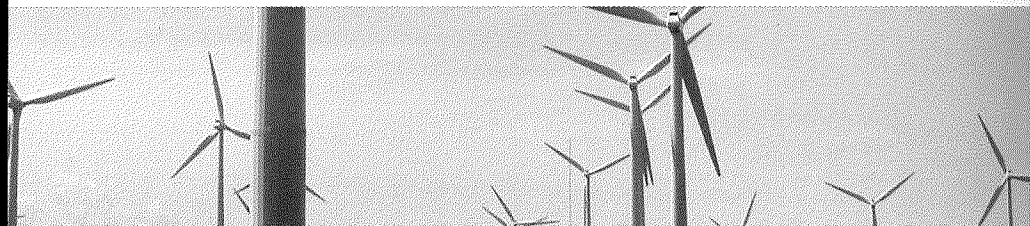
 **Ontario**

It's Time To Talk About Our Electricity Future

Our quality of life depends on a safe, clean, reliable and affordable supply of electricity. It powers our homes, our schools and our hospitals. The industries that provide good jobs throughout the province must have a reliable source of power.

But we need more electricity. Over the past twenty years, Ontario's economy and population have grown. This has increased the demand for power.

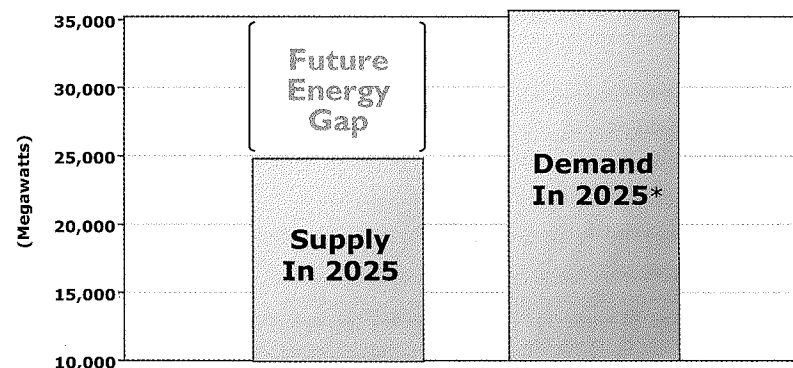
It can take years to build new power sources or for conservation programs to make a real difference. That's why the province needs to start planning now to make sure there is enough electricity for the years ahead, while at the same time moving aggressively on programs to conserve electricity.



Ontario can meet this challenge, but there are tough decisions to make. The government is asking for your ideas and opinions about the future of Ontario's power supply.

The Ontario Power Authority (OPA) has been exploring Ontario's power options and they have reported to the government. The information in this brochure reflects the expert advice provided by the OPA, but other organizations and experts may have differing views. Any statements in this brochure not attributed to the OPA are those of the Ontario government.

Ontario's ability to generate electricity will not keep pace with rising demand.



Source: OPA Supply Mix Report. *Annual peak demand plus required reserve

The Ontario Power Authority (OPA) is an agency appointed by the Ontario government to study the province's long-term energy needs. The agency has studied the facts about Ontario's future energy options and made recommendations to the government in its December 2005 Supply Mix Advice Report on what can be done to ensure a safe, clean, reliable and affordable supply of electricity.

Is The Problem Really That Serious? Why Do We Have To Make Decisions Now?

Yes, the problem is serious and Ontario needs to begin making some tough decisions now. In recent years, an additional 2,800 megawatts have come online, but many existing power plants are aging and need to be refurbished or replaced.

According to the OPA, only 12,000 megawatts of existing power supply will be operating by 2025. There are plans to build nearly 10,000 megawatts by 2010. The OPA says conservation initiatives and the development of new, renewable sources of energy will also contribute to supply.

Even with all this new electricity and conservation initiatives, the OPA estimates that demand will begin to exceed available supply by 2014. By 2025, they estimate that the energy gap will be about 10,000 megawatts.

To prevent this energy gap from happening, we have to get started now. It can take years to get the necessary approvals to create more power.

The government is asking for your input on the OPA's recommendations so that planning for the future can begin as soon as possible.

Do We Have Enough Power Right Now?

Yes. Right now, there is enough power to meet our current needs — but the OPA has made it clear that Ontario will need more investment very soon. In recent years, an additional 2,800 megawatts of generating capacity have come online. There are plans to build nearly 10,000 megawatts by 2010. In total, that's enough power to supply over four million homes.

Ontario's Conservation Bureau is working with local distribution companies to develop aggressive programs that will reduce demand for electricity. However, the OPA tells us that more supply is still needed to meet long-term demands and replace aging plants.

What About Coal-Fired Plants?

Coal-fired plants create pollution that affects the quality of the air we breathe and contributes to global warming. According to a study produced for the Ontario government, smog costs about \$9.6 billion each year in health care and environmental damage. The Ontario government is planning to replace all coal-fired plants by 2009 with cleaner sources of electricity.

What About Wind And Other Types Of Renewable Energy?

The province has signed contracts for 1,300 megawatts of wind power — enough to provide electricity for 300,000 homes. Increasing the use of renewable energy will help meet future demand.

Renewables refers to energy sources that are renewed by nature including wind, solar and water.

However, the OPA says that renewable sources alone cannot close the growing gap between electricity supply and demand. Hydroelectric plants, like those in Niagara, currently meet only about one quarter of Ontario's electricity needs. The OPA has reported that while there is potential for new hydroelectric power, it is mostly through small projects. Wind power can provide an important share of energy needs, but because the strength of the wind can vary, it can only be used in combination with other sources. Also, some of the best places to produce wind power are far from existing power lines.

What Options Do We Have?

Ontario draws its electricity from a variety of sources — such as hydroelectric and other renewables, nuclear power, coal, natural gas and imports from other jurisdictions. The challenge today is choosing the right mix to meet our future needs.

The OPA has recommended that the province consider increasing renewable energy sources, maximizing conservation and adding more natural gas and nuclear generation.

What About Clean Coal?

Gasification refers to the conversion of solid organic materials into a gas, which is then burned to produce energy.

The gasification of coal is often referred to as a clean coal option. As part of this process, the carbon dioxide that causes global warming is stored without releasing it into the atmosphere. The OPA report suggests that this technology is not developed enough to be counted on for a major energy contribution at this time. International research on this technology is underway.

What are Megawatts?

Ontario's generating capacity is measured in megawatts. On an average day, Ontario's homes, businesses, schools and hospitals need about 21,000 megawatts of power. On a hot summer day, usage can peak at over 26,000 megawatts. A city the size of London needs about 550 megawatts of power on an average day.

Can We Use More Natural Gas?

Natural gas can be a useful source of power. These plants can be built more quickly and at a lower cost than other options. While natural gas is much cleaner than coal, its cost has risen significantly over the past four years. The OPA recommends that the best use for gas-fired power is to help meet demand during peak periods.

What About Nuclear Energy?

Currently, 51 per cent of Ontario's power supply comes from nuclear energy. The OPA has reported that within the next 15 years, most nuclear units will need to be either upgraded or taken out of service. The Ontario government's experience has been that nuclear energy can help to ensure price stability and does not contribute to air pollution or global warming. While technology has improved in recent years, the OPA reports there are challenges — high up-front costs to building or upgrading facilities, long development times and complex waste disposal issues.

Nuclear power is where steam to drive turbines is produced by a nuclear fission reaction.

Can We Buy Power From Other Provinces That Have More Than Enough?

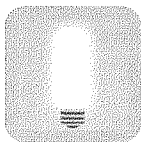
Ontario is working to obtain power from new hydroelectric projects in other provinces. This will be part of the answer to meeting Ontario's energy needs and it will require investments in new power lines into Ontario.

What Is The Least Expensive Choice For Generating More Power?

Historically, hydroelectricity has been the least expensive source of power. Natural gas plants are less expensive to build, but the price of natural gas has risen over the past four years. While still more expensive than some other forms of generation, wind power is becoming increasingly cost effective. The Ontario government's experience has been that while nuclear is expensive to build and maintain and there has been a history of cost overruns, it can provide more stable prices over the longer term.

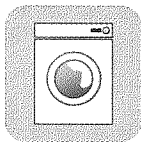
Hydroelectric is any generation method that uses moving water to drive turbines.

Conservation Tips



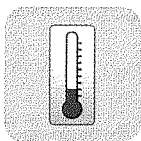
Replace your old light bulbs with more efficient ones

If every household in Ontario replaced just three 100-watt bulbs with 25-watt compact fluorescent bulbs, together we'd save 1.3 billion kilowatt hours. That translates into enough power to supply 130,000 homes, or a city the size of Windsor.



Wash your clothes in cold or warm water

About 85-90% of the energy used by washing machines is for heating the water. You can save a lot of energy by lowering the water temperature.



Use hot water wisely

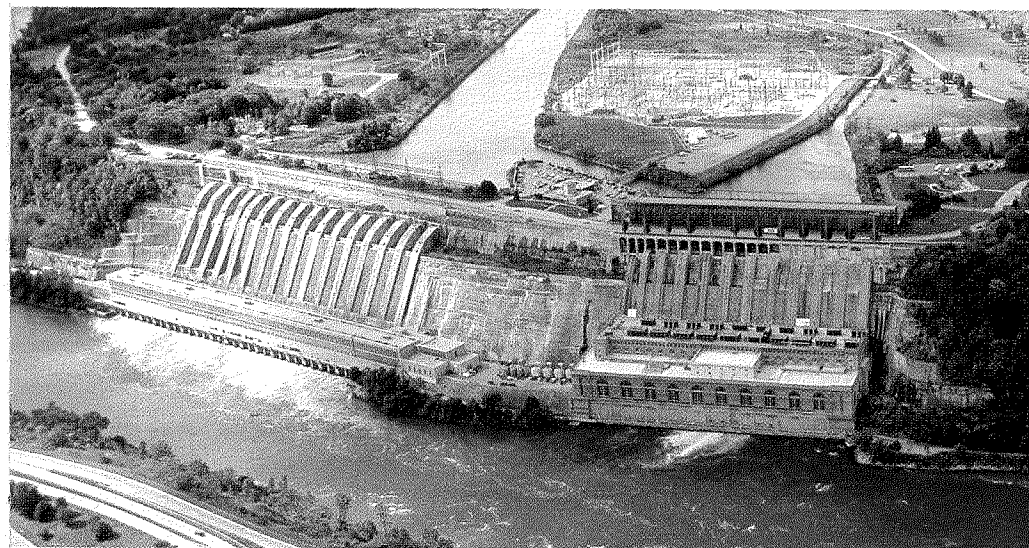
You can save up to \$150 per year on your electric water heating costs by simply fixing leaky taps, insulating your water heater and switching to low-flow shower heads.

What About Conserving More So We Don't Have To Build New Generation?

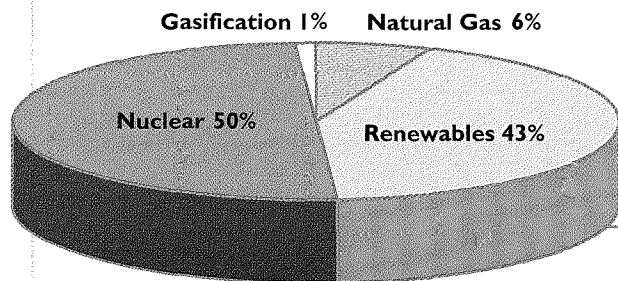
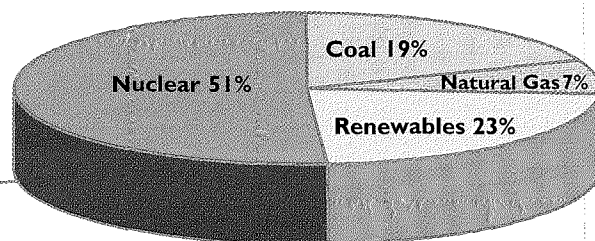
Doing more to conserve energy is clearly the best option for the environment — and it helps all of us to save money. The OPA recommends that the province maximize conservation efforts to reduce demand. However, the OPA has reported that even aggressive conservation programs, together with renewable energy supplies, cannot alone meet Ontario's needs over the long term.

What Is The Most Environmentally Friendly Choice For Generating More Power?

Renewables, like wind power and most small-scale water power projects, are the most environmentally friendly options. All generation methods have environmental benefits and costs. Although both natural gas and coal-fired plants contribute to global warming, natural gas plants produce less air pollution and greenhouse gases. Nuclear energy produces no greenhouse gases, but fuel waste must be stored properly for generations.



**Current
electricity mix**



**OPA
recommended
electricity mix
in 2025**

Based on production

Your Views Matter

The government needs your input to help make the tough choices that are needed about Ontario's future power supply. Many organizations promote different visions for Ontario's energy future that could also help inform your views.

You are invited to submit your ideas and provide your comments at:

www.ontario.ca/energy

or send them to:

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