ONTARIO ENERGY BOARD

EB-2012-0451
EB-2012-0433
EB-2013-0074

IN THE MATTER OF an application by Enbridge Gas Distribution Inc. for: an order or orders granting leave to construct a natural gas pipeline and ancillary facilities in the Town of Milton, City of Markham, Town of Richmond Hill, City of Brampton, City of Toronto, City of Vaughan and the Region of Halton, the Region of Peel and the Region of York; and an order or orders approving the methodology to establish a rate for transportation services for TransCanada Pipelines Limited;

AND IN THE MATTER OF an application by Union Gas Limited for: an Order or Orders for pre-approval of recovery of the cost consequences of all facilities associated with the development of the proposed Parkway West site; an Order or Orders granting leave to construct natural gas pipelines and ancillary facilities in the Town of Milton; an Order or Orders for pre-approval of recovery of the cost consequences of all facilities associated with the development of the proposed Brantford-Kirkwall/Parkway D Compressor Station project; an Order or Orders for pre-approval of the cost consequences of two long term short haul transportation contracts; and an Order or Orders granting leave to construct natural gas pipelines and ancillary facilities in the City of Cambridge and City of Hamilton.

ENVIRONMENTAL DEFENCE'S CROSS-EXAMINATION DOCUMENT BOOK #2

Filed September 23, 2013

KLIPPENSTEINS
Barristers and Solicitors
160 John Street, Suite 300
Toronto, Ontario M5V 2E5

Murray Klippenstein, LSUC No. 26950G
Kent Elson, LSUC No. 57091I
Tel.: (416) 598-0288
Fax: (416) 598-9520

Lawyers for Environmental Defence

Conservation First

A Renewed Vision for Energy Conservation in Ontario

Ontario

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MINISTER'S MESSAGE

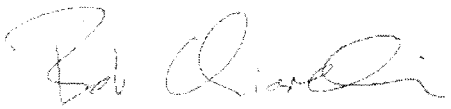
Conservation is the cleanest and least costly energy resource, and offers consumers a means to reduce their electricity bills. That's why it is at the forefront of our plan to meet Ontario's electricity needs. As we review and update our Long-Term Energy Plan, we also want to set out our renewed vision for conservation and discuss how best to achieve it.

Ontario has already made great strides in reducing electricity use. From 2005 to 2011, families and businesses across this province conserved enough to reduce demand by more than 1,900 megawatts, the equivalent of powering more than 600,000 homes. Investments in conservation allowed Ontario to avoid building new capacity that would have cost almost $4 billion, equivalent to four peaking natural gas generation plants.

But we can do much more. The government is committed to expanding and enhancing our conservation efforts. With the current Conservation and Demand Management Framework set to wind down at the end of 2014, the time is right to create a new framework and set a policy of putting conservation first. Ontario's vision is to invest in conservation first, before new generation, where cost-effective.

This paper describes what we have accomplished over the past several years and looks to how we can leverage innovation and new approaches to build on the foundation we have put in place. It sets out a vision of even broader participation in conservation efforts, supported by important elements such as offering targeted programs to different customers, increasing awareness of incentives, and unleashing innovation and flexibility at the local level.

Individuals, businesses, institutions and organizations across Ontario can take pride in the conservation savings we've achieved to date. We look forward to working together to accomplish even more for Ontario's clean, sustainable energy future. I hope that the information and questions about the future of conservation in Ontario in this paper inspire you and your organization to share your thoughts and ideas with us.



The Hon. Bob Chiarelli
Minister of Energy

INTRODUCTION

Conservation plays a central role in energy management around the world. The reasons are simple. Saving energy means saving money – for families, businesses, hospitals, schools and other public institutions. Reducing or shifting electricity use avoids the need for new generation as well as transmission, reduces strain on the electricity system and improves the efficiency of the power grid. Conservation provides significant economic and environmental benefits; for every $1 invested in energy efficiency, Ontario has avoided about $2 in costs to the electricity system.

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Ontario has been working for several years to create a culture of conservation in this province. Although the global economic downturn of the past few years dampened electricity demand in Ontario and elsewhere, a shortfall in capacity may emerge as early as 2018. As a result, conservation investments remain a priority for Ontario and conservation should be the first resource considered when planning for the province's electricity needs.

Ontario is not alone in aggressively pursuing conservation. Leading jurisdictions around the world are also pursuing ambitious energy efficiency goals:

- The United States has set a goal to double its energy efficiency by 2030.
- The European Union has committed to a cut of 20 per cent in its 2020 energy demand.
- China is targeting a 16 per cent reduction in energy intensity by 2015.
- Japan aims to cut 10 per cent from electricity consumption by 2030.

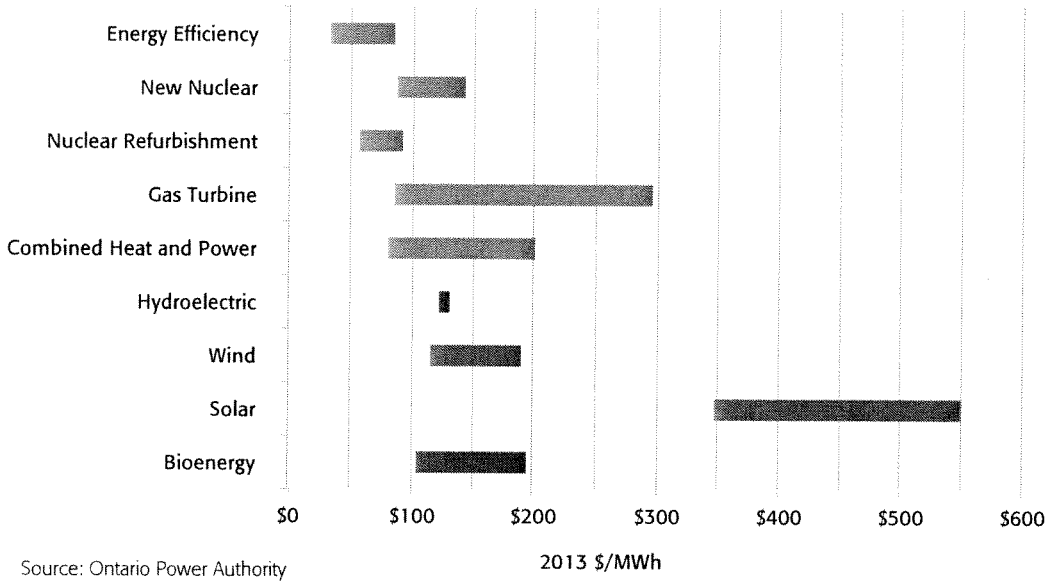
(Sources: 2013 U.S. Presidential State of the Union; International Energy Agency, World Energy Outlook 2012)

Conservation and demand management savings can be achieved in a range of ways:

- Energy efficiency: Using more energy efficient technology that consumes less electricity, such as LED lighting. Building codes and product efficiency standards help improve the energy efficiency of new buildings and appliances.
- Behavioural changes: Increasing awareness and encouraging different behaviour to reduce energy use, for example through social benchmarking.
- Demand management: Reducing or shifting consumption away from peak times, using time-of-use pricing with smart meters and programs like Peaksaver PLUS® and Demand Response 3.
- Load displacement: Reducing load on the grid by enabling customers to improve the efficiency of their energy systems by recovering waste heat or generating electricity required to meet their own needs.

Conservation initiatives must prioritize cost-effectiveness and balance customer benefits with system benefits. Conservation programs can motivate consumers by raising awareness of opportunities to save money and help the environment. Consumers will use less power or shift usage to other times of the day if they see that it lowers their electricity bills and they will invest in more energy-efficient products if they understand the short and long-term benefits.

Relative Cost of Electricity



Source: Ontario Power Authority

Ontario is already benefiting from its aggressive conservation efforts:

- Between 2006 and 2011, investing $2 billion in conservation allowed Ontario to avoid more than $4 billion in new supply costs.
- Based on preliminary analysis, between 2005 and 2012, Ontario achieved about 55 per cent of the 2015 demand savings target and almost 60 per cent of the 2015 energy savings target in the Long-Term Energy Plan.

Savings related to conservation and demand management can be measured two ways:

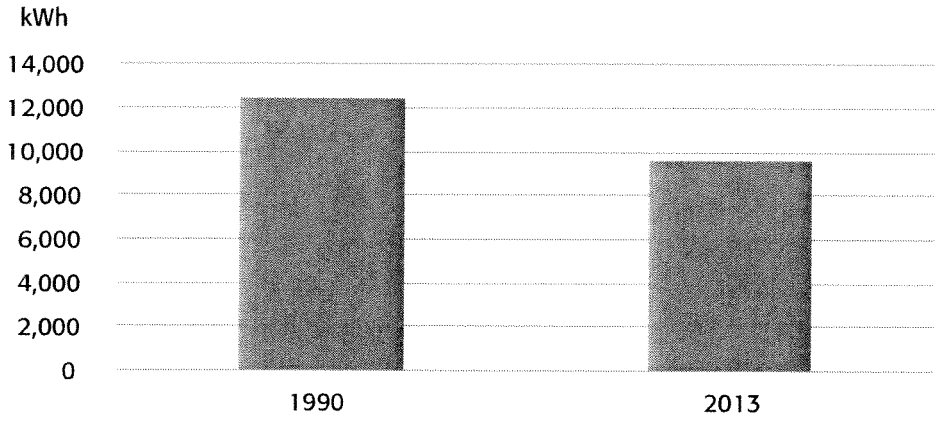
1. *Megawatt (MW) or Demand Savings: A reduction in the total supply of electrical resources needed by Ontario to meet peak demand. Valuable at a time of system peak, when lowering or shifting usage avoids the high costs of using electricity sources designed to meet short-term demand. Peak demand in Ontario on a hot summer day can be more than 25,000 MW.*
2. *Megawatt hour (MWh) or Energy Savings: Energy savings that follow from the need to deliver less electricity overall to homes, businesses, and institutions in Ontario. A typical home in Ontario consumes around 10 MWh over one year.*

- In 2011, the most cost-effective year to date, most conservation programs delivered savings at a program cost to consumers of just over three cents per kilowatt-hour and influenced 717 gigawatt hours of verified and sustained annual energy savings.
- Since 1990, average household electricity consumption has declined by almost 25 per cent, representing about $350 in savings each year for the average household, based on current electricity costs.

(Sources: Ontario Power Authority, Natural Resources Canada, Ontario Energy Board and Ministry of Energy)

These savings are the result of a wide range of initiatives, including improvements to building codes and product efficiency standards, programs delivered by local distribution companies (LDCs) and provincial agencies, time-of-use rates, and other conservation initiatives.

Electricity Use per Average Household in Ontario (kWh)



Sources: Natural Resources Canada and Ontario Energy Board

The government strongly believes that conservation should be the first priority in energy planning. This paper discusses the government's vision for conservation in Ontario and explores new opportunities and objectives that should be considered in developing a new conservation and demand management framework.

Part 1

A RENEWED VISION

Ontario is a leading North American jurisdiction for conservation and demand management. Conservation is helping families and businesses reduce their electricity bills while contributing to a cleaner environment and a more reliable electricity system.

Ontario's vision is to invest in conservation first, before new generation, where cost-effective. Recognizing that conservation is a long-term commitment that must be central to our electricity system planning, the Ontario government will continue its leadership in conservation by putting conservation first, inspiring action, providing different tools for different customers, encouraging innovation and leading by example.

Ontario's vision is to invest in conservation first, before new generation, where cost-effective.

Put Conservation First

Conservation should be the first resource considered in meeting Ontario's electricity needs. Cost-effective conservation brings environmental, economic and system benefits. It makes sense to invest as much to save a megawatt of power as it would cost to generate that same megawatt. When other benefits are factored in – conservation does not involve construction or the industrial processes that generation requires, it saves consumers money and relieves stress on the electricity system – the arguments in its favour become even stronger.

Conservation and generation differ in how their costs are accounted for. Investments in supply are amortized – that is, divided up and spread out – over the expected useful life of the assets that will supply the power. The **costs of conservation** initiatives are currently accounted for in the year they are incurred, even though savings from such programs can last for 10 to 15 years or more. The cost of conservation could be spread over the life of the investment, as is done with investments in supply. This would lessen short-term rate impacts and provide a more equitable sharing of costs across all ratepayers, current and future, who benefit from the programs. BC Hydro has used this approach since 1990 to smooth the impact of conservation costs on customers' bills.

The cost of conservation could be spread over the life of the investment, as is done with investments in supply.

Demand response provides an excellent example of leveraging the economic value of conservation. More broadly, demand management initiatives provide price or financial incentives to residential, commercial and industrial users to shift or reduce their electricity usage away from peak periods. As well as benefiting the electricity system, demand response lowers energy costs for consumers and allows businesses to operate more competitively.