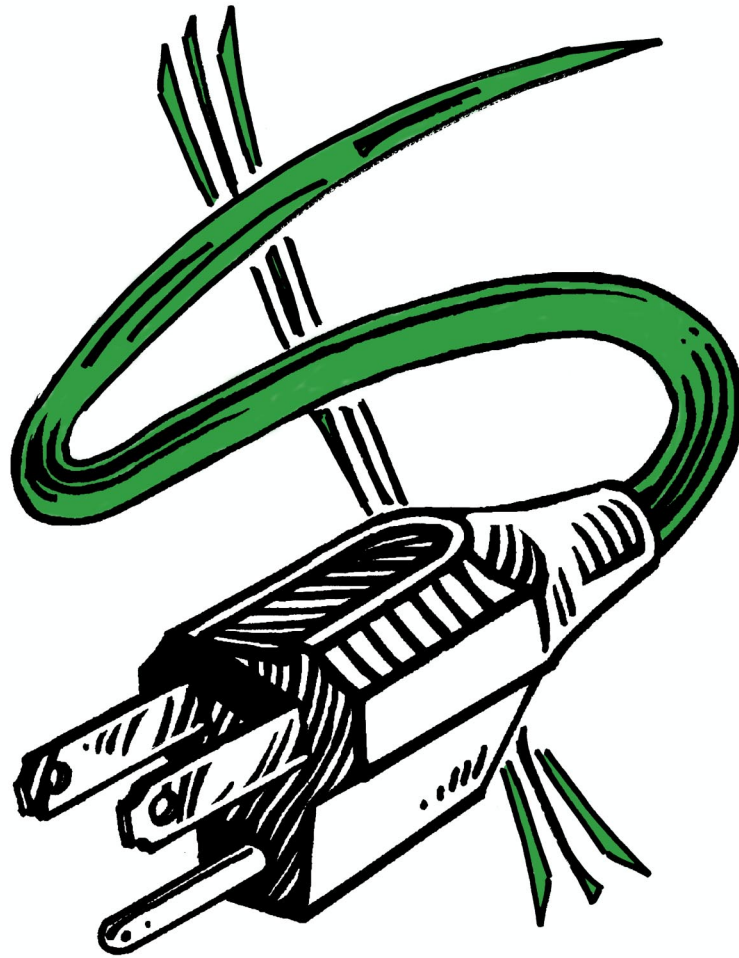


Making Everyone a Winner:

Making Energy Conservation Profitable for Ontario's Electric Utilities



Prepared by:



**Green
Energy
Coalition**

- David Suzuki Foundation
- Energy Action Council of Toronto
- Greenpeace Canada
- Sierra Club of Canada



Hamilton Utilities Corporation
The Business of Public Service™



OAKVILLE HYDRO CORPORATION



POLLUTION PROBE
CLEAN AIR. CLEAN WATER.

January 2004



Collingwood Utility Services has been a proud part of Collingwood's history since 1908 when it was established as the Power and Light Commission. In the beginning, Collingwood produced its own power with coal fired generators, and in July of 1912 they signed their first cost-contract with Ontario Hydro to receive power from Niagara Falls.

In establishing themselves and preparing for the changing marketplace of the electricity industry in Ontario, Collingwood Utility Services made the decision to expand its hydro territory. In July 2001, Collingwood Utility Services purchased the assets of the Town of the Blue Mountains and Clearview Township. The

strength of the increased customer base produced a win-win situation all around.

Collingwood Utility Services has always focused on three major priorities; safe reliable service for our customers; assist in maintaining the environmental integrity of the area; and work with the Town in promoting Economic Development to help our Town continue to prosper.

Collingwood Utility Services along with their employees have built an industry reputation of being forward thinking and fiscally responsible in the pursuit of success for their various business activities. With our enviable service record Collingwood Utility Services is recognized throughout the industry as a leader in many fields.



Electric City is a leading developer, manufacturer and integrator of energy savings technologies and building automation systems. Electric City was formed in 1998 to bring new energy technology to market and today has close to 1,000

customer installations. The Company currently markets the EnergySaver™, the GlobalCommander® and LightMaster™ energy conservation technologies, as well as its independent development of scalable, negative power systems under the trade

name, Virtual "Negawatt" Power Plan (VNPP®). VNPP is the electric industry's first known competitive, dispatchable, measurable and verifiable demand response system. The Company recently announced its first VNPP development – a 50 Megawatt, negative power system for ComEd in northern Illinois. Electric City is based in Elk Grove Village, Illinois and is traded on The American Stock Exchange under the symbol ELC. ELC is backed by a team of Fortune 500 strategic investors such as Cinergy, Morgan Stanley, and CIT.



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The Green Energy Coalition is a coalition of environmental groups, David Suzuki Foundation, Energy Action Council of Toronto, Greenpeace Canada and Sierra Club of Canada, that has participated at Ontario Energy Board hearings since the early 1990s.



Hamilton Utilities Corporation owns electricity distribution company, Hamilton Hydro Inc.; FibreWired, a high speed data transmission company for business and institutional clients; and Hamilton Community Energy, which designed and built the city's first district heating

A multi-utility company, **Hamilton Utilities Corporation**

system. One hundred percent owned by the City of Hamilton, Hamilton Utilities was incorporated under the Business Corporations Act (Ontario) in July 2000.

Hamilton Utilities Corporation is in The Business of Public Service™ and is committed to providing essential public services in a way that balances environmental and social responsibility with commercial discipline.



Oakville Hydro is a for-profit, share capital corporation with three distinct subsidiaries:

- Electricity Distribution Inc.
- Energy Services Inc.
- Communications Inc.

Oakville Hydro Electricity Distribution Inc. has been in the business of designing, building and maintaining electricity distribution systems for close to a century. Its well trained workforce, assisted by the state of the art operations center and a highly sophisticated distributed control system, allows the company to maintain one of the highest reliability records in North America.

Oakville Hydro Energy Services Inc. offers its Ontario-based customers a variety of services:

- Multi-year fixed-price electricity commodity contracts
- Green power
- Federally accredited meter calibration service
- Interval meter technology for commercial, industrial and, commencing in late 2003, all of the new residential customers
- Electric and natural gas fired hot water tank leasing

Oakville Hydro Communications Inc. (Blink Communications) is a cutting-edge networking solutions provider to businesses in Ontario. Through ultra-fast fibre optic connections, Blink is able to provide the following cost-effective data communications services:

- Local Area Network Extension Service is used to connect diverse business locations together.
- High Speed Internet
- Web Hosting / E-mail Hosting
- On line data backup service for disaster recovery



Pollution Probe is a non-profit charitable organization that works in partnership with all sectors of society to protect health by promoting clean air and clean water.

We would like to thank the Richard Ivey Foundation for their generous financial support for this project.

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On November 25, 2003 Ontario's Energy Minister, the Honourable Dwight Duncan, announced that Ontario's electric utilities (e.g., Hydro One, Toronto Hydro) would be able to earn their full commercial return on capital, effective March 1, 2005, if they reinvest "the equivalent of one year of these monies in conservation and demand management initiatives".¹ According to the Minister of Energy, this initiative will create an initial energy conservation budget of approximately \$225 million for Ontario's electric utilities.²

The aggressive and cost-effective promotion of energy conservation by Ontario's electric utilities will:



Reduce the electricity bills of residential, commercial, institutional and industrial consumers. For example, Enbridge Gas Distribution's energy conservation programs are reducing its customers' bills by approximately \$725 million.³ Enbridge's energy conservation programs have a ratio of net energy cost savings to utility spending of approximately 5.5 to 8.3.⁴ Therefore, the electric utilities' \$225 million budget may be able to reduce their customers' energy costs by \$1.2 billion to \$1.8 billion or more.



Reduce the risk of blackouts and brownouts.



According to Enersource Corporation (formerly Hydro Mississauga), energy conservation programmes could reduce Ontario's electricity demand by up to 3,800 megawatts (MW) by 2015. This is the equivalent of up to 50% of Ontario's coal-fired electricity generation capacity.⁵

In 1998 the Ontario Energy Board (OEB) linked Enbridge Gas Distribution's profits to its success at reducing its customers' bills by increasing their energy efficiency. As a consequence, Enbridge's energy conservation programs have increased the company's profits by \$12.9 million to date.

Many leading-edge companies like Enbridge have realized that they are in the business of meeting a customer need, rather than simply delivering a product. This has led to a transition in the energy sector, for example, from pure energy to energy-service companies that are equally ready to meet their customer's power requirements through efficiency programs as by delivering new energy

supplies. These companies understand that this wider focus has many synergistic benefits:

For customers, energy efficiency improvements can mean increased employee productivity, lower costs, reduced maintenance and overhead and better quality products.⁸

For suppliers, being able to deliver a mixed basket of energy products, including efficiency programs, can enhance their corporate reputation and lead to increased market share and lower-cost access to capital.

Unfortunately, the OEB's status-quo regulatory rules actually financially *penalize* electric utilities that reduce their customers' bills by increasing energy efficiency. Because the OEB's rules link the electric utilities' profits to their electricity sales, energy conservation programs that reduce electricity consumption will reduce the utilities' profits.

This means that under the OEB's existing rules, Enbridge is financially rewarded if it helps the Toronto-Dominion Centre reduce its energy consumption, whereas Toronto Hydro is financially penalized if it helps the TD Centre reduce its energy bills by becoming more energy efficient.

To eliminate this double standard, the OEB must establish Lost Revenue Adjustment Mechanisms and Shared Savings Mechanisms for Ontario's electric utilities.

A Lost Revenue Adjustment Mechanism (LRAM) allows a utility to recover revenues and profits lost due to its energy conservation programs. Specifically, a LRAM makes a utility revenue and profit neutral with respect to the promotion of energy conservation. The OEB has already established LRAMs for Enbridge Gas Distribution and Union Gas. However, a LRAM alone does not provide a utility with an incentive to *aggressively* and *cost-effectively* promote energy conservation.

Ontario's electric utilities have many competing objectives and therefore they need a financial incentive to motivate them to develop and implement the best possible energy conservation and efficiency programs. This can be done by creating Shared Savings Mechanisms that provide the utilities with a small fraction (e.g. 2% to 5%) of the total savings achieved by the utilities' conservation programs. This is a win-win proposition since it will lead to larger net bill savings for the customers and higher profits for Hydro One and municipal utilities. These higher profits can be passed on to their shareholders (provincial and municipal governments) to pay for public services (e.g., schools, hospitals, parks, public transit).

Ontario's experience with natural gas conservation programs demonstrates that a Shared Savings Mechanism (SSM) is necessary to motivate utilities to aggressively and cost-effectively promote energy conservation. For example, from 1995 to 1998 Enbridge had no incentive to aggressively and cost-effectively promote energy conservation. Not surprisingly, as Table 1 reveals, from 1995 to 1998 Enbridge failed to achieve its energy conservation targets by 19% to 70%.

In 1998 the OEB established a SSM for Enbridge that commenced in 1999. As Table 1 shows, after the SSM was established, Enbridge exceeded its energy conservation targets by 21% to 67% from 1999 to 2001. (Independent audits of Enbridge's 2002 and 2003 results have not yet been completed.)

Table 1: Enbridge's Energy Conservation Performance*

Year	Targeted Savings (million cubic metres)	Actual Savings (million cubic metres)	Variance
1995	12.8	3.9	-70%
1996	29.0	18.8	-35%
1997	47.3	18.6	-61%
1998	44.6	36.2	-19%
1999	31.2	52.0	67%
2000	42.0	58.9	40%
2001	67.9	82.4	21%

* OEB Docket No. RP-2003-0048, Ex. A, Tab 8, Sch. 1, p. 9; Updated: 2003-06-30.

Unlike Enbridge, Union Gas does not have a SSM. As a consequence, the positive impact of a SSM can also be seen by comparing Enbridge's and Union's forecast energy conservation savings for 2004. Despite the fact that Union Gas is Ontario's largest natural gas utility,⁶ its energy efficiency targets for 2004 are dramatically lower than those of Enbridge. Specifically, the forecast energy cost savings for Union's 2004 conservation programs are 56% less than those of Enbridge (\$79.4 million for Union versus \$180.4 million for Enbridge).⁷

A well-designed SSM is in the financial self-interest of ratepayers since it will lead to the achievement of incremental energy cost savings that are dramatically greater than the magnitude of the shareholder incentive. In other words, an effective SSM will lead to a net reduction in the energy bills of the utilities' customers. For example, Enbridge's energy efficiency programs from 1995 to 2004 are forecast to reduce their customers' bills by more than \$725 million; whereas the total SSM payments to Enbridge to date have been \$12.9 million.

Minister Duncan's initiative will permit Ontario's electric utilities to raise their rates effective March 1, 2005 to finance their energy conservation programs. However, to best meet the needs of their customers, utilities must hire new staff, undertake research and potentially launch pilot programs before March 1, 2005. Therefore the OEB should also permit utilities to use a portion of their \$225 million energy conservation fund to pay for energy conservation research and development costs and accumulated interest expenses incurred before March 1, 2005.

Conclusion

The adoption of our recommendations will create a quadruple win for Ontario, namely:



Lower electricity bills;



Reduced risks of blackouts and brownouts;



Reduced air pollution from coal-fired power plants; and



Higher profits for Ontario's electric utilities, which can be passed on to their shareholders, the Government of Ontario and Ontario's municipalities, to help finance public services.

Summary of Recommendations

1. Create Lost Revenue Adjustment Mechanisms for Ontario's electric utilities (e.g., Hydro One, Toronto Hydro) to ensure that their energy conservation programs will not reduce their revenues and profits.
2. Create Shared Savings Mechanisms for Ontario's electric utilities that will provide them with a small fraction (e.g. 2% to 5%) of the total energy cost savings produced by their conservation programs.
3. Permit the utilities to use a portion of their \$225 million energy conservation fund to pay for energy conservation research, development and pilot program costs and accumulated interest expenses incurred before March 1, 2005.

Endnotes

- ¹ Ontario Ministry of Energy, News Backgrounder, "Ontario Energy Board Amendment Act Highlights Of The Proposed Changes", (November 25, 2003).
- ² Legislative Assembly of Ontario, Official Report of Debates (Hanard), Tuesday 9 December 2003, Standing Committee on Justice and Social Policy, page J-6.
- ³ Ontario Energy Board Docket No. RP-2002-0133, Exhibit L, Tab 10, page 1; Updated: April 3, 2003; and Docket No. RP-2003-0063, Ex. M.11.2, Tab 1; Ex. N11.3; and Transcript Volume 11, paragraphs 577, 598, 599, 662 and 663.
- ⁴ Ratios of net energy cost savings to utility spending for Enbridge's fiscal years 1999 to 2002 inclusive. Ontario Energy Board Docket No. RP-2002-0133, Exhibit L, Tab 10, page 1; Updated: April 3, 2003.
- ⁵ According to Enersource Corporation, energy conservation programmes could reduce Ontario's electricity demand by up to 3,800 MW by 2015. Ontario Power Generation has 7,557 MW of coal-fired capacity. Enersource Corporation, Seven Steps To An Energy Efficient Ontario, (November 2003), p. 2; and Ontario Power Generation, Towards Sustainable Development: 2002 Progress Report, p. 42.
- ⁶ The Ontario in-franchise annual distribution volumes of Enbridge and Union are 11,774.7 and 14,304 million cubic metres respectively. Ontario Energy Board Docket No. RP-2003-0063, Ex. M.11.2, Tab 1; Ex. N11.3; and Transcript Volume 11, paragraphs 577, 598, 599, 662 and 663.
- ⁷ Ontario Energy Board Docket No. RP-2003-0063, Ex. M11.2, Tab 1; Ex N11.3; and Transcript Volume 11, paragraphs 577, 598, 599, 662 and 663.
- ⁸ Paul Hawken, Amory Lovins and L. Hunter Lovins, Natural Capitalism, (Little Brown and Company, 1999), Chapter 5.

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