

Excerpt from:

Report of the Board to the Minister of Energy on Demand-side Management and Demand Response in the Ontario Electricity Sector

March 1, 2004

EXECUTIVE SUMMARY

This report outlines several steps that can move Ontario closer to a culture of conservation. It presents the Board's recommendations for the delivery of demand-side management and demand response activities within the electricity sector including the role of local distribution companies and the potential role for load aggregators in the IMO-administered markets.

Ontario's Minister of Energy, the Honourable Dwight Duncan, noted recently that this province's challenge in the next few years is to "redesign our energy sector to reliably and affordably deliver the power that Ontario's homes and businesses require, and to do so in a way that does not threaten our environment." One of the best ways to do this, he noted, is through effective conservation measures.

Conservation measures are essential in Ontario. Problems with existing nuclear plants, transmission system constraints, and lack of investment in new generating plants contribute to tight supply conditions. If Ontario's coal-fired plants are phased out for environmental reasons by 2007, as government policy direction indicates, supply will get even tighter.

Meanwhile, demand continues to grow. In August 2002, the province hit a new one-day summer peak of 25,414 megawatts and on January 16 of this year, a new winter high of 24,982 megawatts.

The Ontario Energy Board began a series of consultations last fall with stakeholders in the energy sector as to what were the best means available to create a culture of conservation in Ontario. With the help of a 31-member advisory group, the Board undertook an extensive study of the options available, including how best to coordinate efforts across the province. The Board's recommendations are based on the varied views heard, analysis, debate and review.

Creating Lasting Change

Everyone in Ontario can play an important role in conservation. Deciding to turn out lights and turn down air conditioners, investing in more energy-efficient equipment, reducing electricity lost in delivery, and setting province-wide standards that promote conservation: these are all parts of the solution.

That is why the Board, in this report, makes recommendations on matters that range from the structure of the electricity market and the complexities of how power is delivered, through to better educating consumers.

Although the subject is at times highly technical, there are some basic principles that help to clarify how conservation can work (additional terms are defined in Section 1.2 of the report):

- Individuals and organizations can use more energy-efficient products and appliances and take other steps to reduce their electricity use on a regular basis. This reduces demand across the board, and is called demand-side management (or DSM).
- They can also be encouraged to reduce their use at “peak” times. This is called demand response (or DR). It can be achieved by reducing demand altogether at those times, or by shifting the energy use to a lower-demand time.

The recommendations in this report aim to promote both demand-side management and demand response. To achieve this, the ability of individuals and organizations to lower or shift their use of energy must improve.

Conservation Agency

The Ontario Energy Board recommends that a conservation agency oversee demand-side management and demand response activities in Ontario’s electricity sector. The conservation agency would be responsible for:

- Developing the province-wide demand-side management and demand response plan (including conservation fund administration, market plans, budget allocations, and market transformation initiatives);
- Identifying broad areas of opportunity in demand-side management and demand response;
- Setting rules for selecting and prioritizing demand-side management and demand response activities;
- Ensuring a comprehensive portfolio of programs, including hard-to-reach sectors;
- Contracting with, and funding market players and distributors for the design and delivery of programs;
- Setting monitoring and evaluation protocols;
- Contracting for an independent audit of results; and
- Providing an annual report to the Minister.

Conservation efforts and programs would be funded by a charge on electricity consumption, in line with the approach that those who use the most electricity should contribute the most towards conserving it, and will also have the greatest opportunity to save from investment in conservation. This charge would be levied on all consumers, but would not apply to self-generated electricity.

The conservation agency would draw on the strengths of a range of players and open the door to a wide range of new ideas and approaches. The conservation agency would be accountable in order to provide a way of checking the approach against public policy aims. A central coordinating agency would ensure consistency and universal access to programs, eliminate conflicting business goals, and provide the best fit with public policy aims.

The Ontario Energy Board would license the conservation agency, and be responsible for:

- Oversight of the province-wide demand-side management and demand response plan;
- Approving the consumption charge; and
- Approving the conservation agency's budget.

The Board believes it should play an important role in overseeing the conservation agency to ensure accountability and the effective use of the conservation fund. This provides adequate oversight with the lightest possible administrative burden, so that conservation funds are used most effectively.

As the conservation culture develops and market signals become clearer, a competitive energy services market will drive conservation without additional funding from ratepayers.

The Role of the Distributor

The Board believes that a blended approach best meets Ontario's needs.

The conservation agency will oversee DSM/DR activities funded out of the conservation fund.

The Ontario Energy Board recommends that distributors be eligible to develop and deliver demand-side management and demand response activities for the conservation agency beyond least-cost planning and/or distribution system optimization. Distributors and market players would contract with and be funded by the conservation agency on equal terms.

The Board will regulate distributor activities funded out of distribution revenue.

The Board will examine regulatory mechanisms to protect distributors against distribution system load reductions associated with conservation.

The Ontario Energy Board will oversee distributor demand-side management and demand response activities for least-cost planning and/or distribution system optimization. This might include investing in meters, controllers, communications, and/or gateway services.

The Ontario Energy Board will develop principles and guidelines on the regulatory treatment of these activities for rate-making purposes. Further, the Ontario Energy Board will review the regulatory treatment of distribution system losses (as an incentive for making the distribution system more efficient).

Distributors understand their local market conditions and benefit from long-term customer relationships that have created a high level of trust. A blended approach would give them the option to work with the conservation agency.

The Minister has advised the Board that the government intends to permit distributors to apply to the Board for the next installment of their allowable return on equity beginning March 1, 2005. The Ontario Energy Board will develop guidelines for the review and approval of investments in conservation and demand management.

Enhancing Demand Response in the Wholesale and Retail Markets

The Ontario Energy Board recommends that the Independent Electricity Market Operator, in consultation with stakeholders, design and develop economic demand response to be put in place as a transitional measure.

When the deciding factor to curtail load is price then there is a true level of DR in the market. The IMO and the Board, as part of their market surveillance responsibilities, would review market conditions to determine when economic DR could be discontinued.

To enhance demand response in the retail market, the Ontario Energy Board will:

- Develop interim and long-term Standard Supply Service (SSS) pricing strategies that include peak and off-peak time-differentiated SSS prices altered seasonally.
- Issue a proposal to amend the Distribution System Code for notice and comment as soon as possible. The proposed amendment would require installation of advanced metering technologies on any new installation that is forecast by the distributor to have a monthly average peak demand during a calendar year of over 200 kW.
- Begin a review soon of the use of metering technologies by low-volume consumers. Following this review, the Ontario Energy Board will implement its findings through guidelines and amendments to codes.

The Ontario Energy Board recommends that on an on-going basis, the conservation agency consider pilots and demonstration projects for emerging and innovative technologies that enable retail load management.

To bring retail demand response to the IMO-administered markets, the Ontario Energy Board recommends that no one player be mandated to play the role of load aggregator. Further, the Independent Electricity Market Operator should revise the Market Rules to facilitate load aggregation including statistical measurement, metering, and settlement requirements.

Consumer Education

The Ontario Energy Board recommends that the conservation agency be a conservation champion in Ontario for educating consumers. The conservation agency should coordinate efforts with the Ministry of Energy, the Independent Electricity Market Operator and the Ontario Energy Board.

Finally, in line with an expanded role in consumer education, the Ontario Energy Board will provide more information about energy conservation, energy efficiency, load management and cleaner sources of energy, and will explain to consumers the impacts of their energy choices.