



ENERGIZING ONTARIO

ONTARIO CHAMBER OF COMMERCE
SUBMISSION TO THE PROVINCE'S
LONG-TERM ENERGY PLAN REVIEW

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Contents

Message from the President & CEO of the Ontario Chamber of Commerce.....	1
Introduction.....	2
Electricity in Ontario Today.....	4
Priority One: Clarity in Regulations and Pricing.....	5
Priority Two: Investment in Infrastructure.....	7
Priority Three: Leveraging Ontario’s Innovation Advantage.....	8
Conclusion.....	11
Works Cited.....	12



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MESSAGE FROM THE PRESIDENT & CEO OF THE ONTARIO CHAMBER OF COMMERCE

The Ontario Chamber of Commerce (OCC) is confident in Ontario's potential to prosper in the global economy.

In this period of economic transition, we must continue to look for opportunities to build the foundation for a more prosperous future. The government's review of the Long-Term Energy Plan (LTEP) is one such opportunity.

Electricity is a core condition for the province's future success. Access to reliable, sustainable, and affordable electricity is an important consideration for both businesses and households. Attracting top businesses to the province requires the stability and certainty that a modern, well-planned electricity system provides.

We need to get electricity right if Ontario is to attract top talent and succeed globally. This paper presents the results of consultations with the OCC's members addressing precisely this question: how do we create a better electricity system in the province?

The complexities of the province's electricity sector were made clear throughout our consultations. Our members provided many points of consensus regarding improvements to the current system. In other areas, consensus could not be reached. As the government moves forward with its review of the LTEP, navigating these points of contention will be a challenge.

At a minimum, we need a meaningful conversation on how we will ensure Ontario's global competitiveness.

This paper presents our contribution to the electricity conversation in the province.



Allan O'Dette
President & CEO
Ontario Chamber of Commerce

INTRODUCTION

Electricity is the backbone of Ontario's economy. It powers our homes, businesses, and schools. It facilitates trade, investment, and innovation. And while most Ontarians do not think about electricity—where it comes from, how it is transmitted, and what it costs—access to affordable, reliable, and sustainable electricity is vital to our economic well-being.

Electricity plays a significant role in investment attraction and retention. It is a major input cost for business, ranking second only to the cost of labour.

The OCC is concerned about the long-term consequences of high electricity prices and a lack of predictability in electricity pricing and planning. Both could undermine Ontario's position as a global manufacturing centre and leader in energy innovation. Because of its importance to Ontario, we believe that planning and pricing in the electricity sector is a key priority for the business community and to the overall economic growth of the province.

We are optimistic that Ontario has the assets to prosper and build on its competitive role in the global economy. Ontario is a leader in renewable energy, nuclear, and gas technologies and has the ability to leverage its expertise both at home and abroad.

As Ontario seeks to emerge stronger from the current period of economic transition, we must capitalize on our strengths and ensure we collectively continue to foster Ontario's competitive edge. To this end, we must create a stable and enticing environment for investment.

To date, the OCC has provided input to the Distribution Sector Review Panel (DSRP) and the Feed-in Tariff (FIT) two-year program review. We encourage the government to follow through on the recommendations of the DSRP report which focus on enabling increased investment in infrastructure, encouraging Local Distribution Company (LDC) innovation, investing in Smart Grid technologies, and supporting innovation through the reduction of regulatory barriers.

This submission seeks to inform the development of a consumer-informed, expert-driven, and long-term energy strategy that produces a reliable, modern, and efficient supply of electricity for Ontario businesses to be competitive in a global market.

Electricity plays a significant role in investment attraction and retention. It is a major input cost for business, ranking second only to the cost of labour.

It elaborates on themes from previous OCC submissions, integrates feedback from local chambers of commerce and boards of trade throughout Ontario, and reflects input from our consultations.

Through the OCC's Energy Task Force, we have consulted with small, medium, and large businesses as well as electricity stakeholders across the province. We asked the following questions:

- What are the key issues for business regarding the electricity sector?
- What are some best practice examples from other jurisdictions that Ontario can integrate into its long-term electricity planning?

The results of this research led to the following proposals for the government's consideration, which should be subject to further due diligence. They are grouped under three short-term priorities for the business community and represent high-level principles for the electricity sector. For the purposes of this report, we intentionally avoid supply mix recommendations.

Priority One: Clarity in Regulations and Pricing

1. Develop a consumer-informed, expert-driven long-term energy strategy.
2. Provide greater transparency on the costs associated with business' energy bills in Ontario.
3. Increase the differential between peak and non-peak pricing to bring them closer to their costs of production.

Priority Two: Investment in Infrastructure

4. Develop a regional infrastructure priority mechanism to facilitate effective investment in new and existing infrastructure.

Priority Three: Leveraging Ontario's Innovation Advantage

5. Leverage the province's expertise in smart grid technology by increasing investment in R&D as part of a long-term energy strategy.
6. Increase energy literacy for consumers to enhance uptake of smart grid technologies.
7. Reduce the administrative burdens for businesses and Local Distribution Companies (LDCs).

The root of each of these priorities stem from an electricity system long fraught with competing interests.

ELECTRICITY IN ONTARIO TODAY

The electricity system in Ontario is characterized by two contradictory trends: excess supply and high costs.

Excess supply resulted from the economic downturn of 2008, which led to a decrease in demand for electricity. The introduction of new renewable generation through the *Green Energy and Green Economy Act* of 2009 also increased the supply.

Excess electricity supply has detrimental effects on the province’s competitiveness. Periods of high renewable production often require electricity to be exported at a loss, which sustains cost pressures for the province.

This is expected to remain an issue in the near-future. Short-term predictions project that demand for electricity will remain flat or decline due to continued conservation efforts and uncertain or slow economic recovery. In addition, “supply is expected to increase as a result of significantly more renewable energy coming online” (McCarter, 2011).

Meanwhile, investments in the modernization and expansion of transmission and distribution infrastructure, nuclear power refurbishments, and the government’s commitment to eliminate coal have led to significant price increases. Electricity prices for consumers have increased 65 percent since the restructuring of the electricity sector in 1999. According to the Long-term Energy Plan (LTEP), prices are expected to rise another 46 percent from 2011 to 2015 (McCarter, 2011).

Ontario needs to be able to compete on a level playing field with other jurisdictions if it is to retain an investment attraction profile in the international arena. Electricity prices are a key component to competitiveness. As demonstrated in Table 1, the province does not offer competitive electricity prices, particularly for large-power consumers.

Table 1: Toronto Power Rates in Comparison to Neighbouring Jurisdictions

City, Province/State	Average Price (cents/kWh)	
	Residential Customers	Larger-power Customers
Toronto, ON	13.57	10.60
Montreal, QC	6.76	4.76
Winnipeg, MB	7.46	4.29
Detroit, MI	15.03	7.90

Source: Hydro Quebec, 2012.

PRIORITY ONE: CLARITY IN REGULATIONS AND PRICING

1. Develop a consumer-informed, expert-driven long-term energy strategy which ensures a reliable, modern, and efficient supply of electricity for Ontario businesses, allowing them to be competitive in the global market.

The strategy should include a balanced, low-emission supply mix that phases out coal, maintains a significant role for nuclear, and includes roles for wind, solar, natural gas, and hydroelectricity in energy production. Ontario's energy future requires a diverse set of electricity sources.

Regulatory uncertainty in the electricity sector is underscored by the absence of a long-term energy strategy and clear policy direction for the province. In 2010, the government released the Long Term Energy Plan (LTEP), which presented Ontario's expected electricity requirements until 2030. The plan set targets to eliminate coal by 2014, maintain nuclear supply at 50 percent, grow the clean energy economy, and increase conservation targets.

In both 2007 and 2011, the government initiated the creation of a 20-year Integrated Power System Plan (IPSP) to meet these targets, but the plan did not proceed. The OCC's consultations revealed that the process suffered from 'alphabet soup syndrome', with too many participating organizations and too little focus on consumer needs.

Ontario businesses as well as electricity stakeholders agree with Don Drummond about the need for a long-term energy strategy.

The absence of predictability in the province's energy planning has created an undesirable environment for business. Businesses do not know what the electricity landscape will look like in four or five years, creating a challenging environment for investors, innovators, and electricity stakeholders.

In order to continue to provide reliable base load electricity, the nuclear industry also requires a stable and predictable planning and regulatory regime. Currently, there is a lack of clarity around plant refurbishments and nuclear's future in the supply mix.

"An approved IPSP [Integrated Power System Plan] would provide producers, consumers, utilities, and other sector participants with a detailed, 20-year blueprint for the electricity sector."

Drummond et al., 2012

Changes in procurement methods add unnecessary program design costs and delays, which increases the perceived risk to participants in the market. In the renewable sector, investors are deterred by the stop-and-start nature of the FIT contracting process, which has created approval uncertainty and, in some cases, jeopardized investments for potential applicants.

The OCC is encouraged by the recent four-year planning horizon for the FIT procurement process, but believes that renewable planning must be considered within a longer time frame, which a long-term energy strategy would provide.

2. Provide greater transparency on the costs associated with business' energy bills in Ontario, including the allocation and breakdown of the Global Adjustment, debt retirement charge and other costs related to the current supply mix.

Electricity prices directly affect economic competitiveness in sectors like manufacturing, mining, and forestry, where electricity is a significant input. They also affect SMEs, who are trying to compete in the national or global marketplace. In an already economically precarious setting, these costs are extremely challenging for business.

Transparency in the pricing and delivery of electricity are important issues for Ontario's business community.

From our consultations, both large and small businesses expressed confusion and frustration with the discrepancy between the true cost per kilowatt hour of electricity and the price reflected on their electricity bills. Additional line items such as the Global Adjustment and debt retirement charges increase costs significantly while the variable nature of these charges makes it difficult to effectively manage costs.

Focus group participants unanimously agreed that competitive pricing is necessary to attract and retain investment in Ontario. Clarity on pricing, both where the costs are coming from and what they will be in future, is vitally important. The OCC understands that there is potential for significant cost increases associated with changes to electricity bills. We therefore encourage a balanced approach between communication, education, and cost.

3. Increase the differential between peak and non-peak pricing to bring them closer to their costs of production. More progressive pricing and rate design will remove economic impediments and provide the business case for innovation in customer engagement, conservation and efficient demand management (Association of Major Power Consumers in Ontario, 2011).

According to a Hydro Quebec study of electricity rates in 22 utilities in North America, rates in Ontario were in the top 10 for all categories assessed and in the top 3 for large power consumers.

Hydro Quebec, 2012

The adoption of effective energy-use practices requires a better pricing structure that affects behaviour and provides the business case for private investment in demand-side solutions.

Focus group participants suggested increasing the price differential between on- and off-peak hours. This would incentivize off-peak users and large industrial users to shift consumption to the lower night time rates.

Lowering the base cost to bring it closer to the cost of production and increasing peak rates would provide a price signal which would encourage businesses to flatten their loads, thereby taking financial and physical pressure off the system. For businesses who are unable to load shift, their costs would remain the same.

A higher differential between peak and off-peak prices that more closely reflect peak and base load generation costs would create the business case for investment in demand-side solutions and increase transmission utilization by reducing peak load factor (average demand compared to peak demand).

PRIORITY TWO: INVESTMENT IN INFRASTRUCTURE

4. Develop a regional infrastructure priority mechanism to facilitate effective investment in new and existing infrastructure.

Priority consideration must be given to fairness between rural and urban initiatives and to transmission infrastructure upgrades to enable the capacity necessary for new generation.

The 20th century grid was designed for simple one way delivery of power from large generators to consumers. As such, it cannot accommodate innovations such as electric vehicle charging stations, variable wind, solar or other renewable generation (Ontario Smart Grid Forum, 2011).

As the electricity system evolves to accommodate innovation and a changing supply mix, new capital investments will become increasingly important. In order for Ontario to meet its electricity needs through 2030, the Conference Board of Canada estimates that the province requires **\$60 billion in investment in generation capacity, \$5 billion in transmission investment, and \$21 billion in distribution investment** (Baker et al., 2011).

The Conference Board of Canada estimates that the province requires \$60 billion in investment in generation capacity, \$5 billion in transmission investment, and \$21 billion in distribution investment over the next 20 years.

Baker et al., 2011

We know that for every \$100 million invested in electricity generation, transmission, and distribution infrastructure, **real GDP is boosted by \$85.6 million and 1200 jobs are created** (Coad et al., 2012). Delaying these investments will only further disadvantage our province in the future.

Investment in transmission infrastructure will be particularly important to accommodate greater electrical loads, more remote generation, growing trade between provinces and with the U.S., and demands for reliability (Canadian Chamber of Commerce, 2013). While significant potential remains to create new renewable generation, the lack of adequate transmission infrastructure constrains the ability to transfer increasing levels of renewable generation to high-demand centres.

A regional infrastructure priority mechanism for energy planning could also help take pressure off large electricity infrastructure by allowing distributed generation at the local level (i.e. Places to Grow communities in the Golden Horseshoe).

Infrastructure is a core enabler of the competitiveness of Ontario's energy industry. Grid development and network updates will be beneficial to all energy producers and users (AmCham EU, 2012). The renewal of the Ontario's electricity infrastructure enables the use of innovative technologies like smart grids and smart metering, a necessary precondition for renewable energy and more decentralized energy production (AmCham EU, 2013).

PRIORITY THREE: LEVERAGING ONTARIO'S INNOVATION ADVANTAGE

5. Leverage the province's expertise in smart grid technology by increasing investment in R&D as part of a long-term energy strategy.

Ontario's electricity sector is in a period of transition. Aging infrastructure, combined with changing demands, has provided the opportunity to develop and integrate new technologies to create a more responsive and consumer-oriented grid system with a strong focus on conservation.

Ontario is well-positioned to take advantage of this transition. It is the first jurisdiction in North America to equip every home and small business with a smart meter, enabling time-of-use pricing (Ontario Smart Grid Forum, 2011).

Ontario has significant expertise in smart grid technology. Made-in-Ontario technologies, such as green hydrogen, allow for the storage of surplus power (Progressive Conservative Party of Ontario, 2012). This technology can be marketed to the rest of the world.

“Smart grid refers to the use of information and communications technologies to better manage the production, storage, delivery and consumption of electricity.”

Independent Electricity System Operator, 2011

Over the next 5 years in Ontario, **public investment in the smart grid will total \$390 million annually**. Investments will be devoted to grid automation, monitoring, communications, research, pilot projects, and integration of more distributed renewable energy on the grid (Ontario Smart Grid Forum, 2011).

A smarter electricity sector will facilitate the shift from large, centralized generation and transmission to distributed generation. Distributed generation, with small-scale generation options located in or near consumers' homes, offices, or factories, relieves stress on existing large generation assets while providing local economic benefit (Ontario Clean Air Alliance, 2008).

Businesses agree that a smarter electricity sector must integrate storage technologies, which have the potential to relieve congestion on transmission and distribution systems, create operating reserve, and provide fast response for regulation service when needed (Independent Electricity System Operator, 2012). Storage is particularly important for the effective integration of renewables as it can smooth out the unpredictable fluctuations of solar and wind, bringing added stability to the electricity system (Ontario Smart Grid Forum, 2011).

However, these technologies are in their infancy. Energy storage is not yet cost competitive and the regulatory environment is uncertain (Independent Electricity System Operator, 2012). Without broad-based uptake, the costs are prohibitive for investors, innovators, and the public.

Building on its competitive advantage, Ontario must create an environment that encourages the development and integration of new technologies to fully capitalize on this opportunity. A long-term framework is needed to move from the R&D stage through to large-scale commercialisation until renewable energy can fully compete with existing technologies (AmCham EU, 2012).

Global spending on smart grids is expected to reach \$36 billion by 2013.

Pike Research, 2010

Hydro One – The Utility of the Future

Hydro One is currently renewing its distribution system to meet the future needs of the province and its distribution customers through the Advanced Distribution System (ADS) project. The explosive growth of computing capabilities and broadband wireless telecommunications has opened up whole new worlds of possibilities to improve power distribution – to make it smarter, self-healing, and more flexible. Partnered with GE, IBM, and Televent, Hydro One has marshalled some of the best in the industry to modernize its distribution system and realize their vision of a smart grid.

Almost all of Hydro One's 1.3 million residential and small business customers now have a smart meter. Customers have the ability to access their hourly electricity consumption the following day, encouraging demand management and creating a more efficient system. Smart meters also carry Big Data potential, allowing utilities to create new products and services for electricity consumers.

Hydro One's efforts in the Advanced Distribution System project have gained international recognition and interest. The utility has been a destination for almost 100 utility representatives worldwide to learn from the implementation of the smart grid.

6. Increase energy literacy for consumers to enhance uptake of smart grid technologies.

To encourage better management of electricity consumption, deploying smart grid technologies must be coupled with conservation efforts to ensure their effective use.

Through our consultations, we heard that increasing awareness among businesses of these technologies and their potential utility is important for longer-term conservation. This includes clarifying how a business' behaviour affects their current electricity costs and ensuring that businesses are informed about available technologies and programs in the market, such as the Green Button Initiative. Increasing energy literacy could have a significant impact on conservation and demand management.

The Green Button Initiative

As smart grid technology continues to roll-out across North America, real-time electricity consumption data is becoming more available and widespread. The Green Button Initiative, launched in January 2012 by the U.S. Department of Energy, is a push to maximize the potential use of this data.

The Green Button Initiative is based on the “common-sense idea that electricity consumers should be able to securely download their own easy-to-understand energy usage information from their utility or electricity supplier” (Green Button, 2013). It provides a common standard for electricity consumption data and involves voluntary adoption by utilities.

Customers of utilities that have adopted Green Button have the ability to download their electricity consumption data in a standard format from their utility's website. Customers also have the option to provide third-party service providers with direct access to their Green Button Data. With access to consumption data in a standard format, developers can create innovative applications for businesses and households to make the most of their energy usage info (Green Button, 2013).

In less than a year, 33 million customers in the U.S. have access to their Green Button Data and can take advantage of the many applications that have already been developed (O'Malley, 2013).

In November 2012, the Government of Ontario announced the creation of a working group led by the province and the MaRS Discovery District, with representation from utilities, government agencies, and the Information and Privacy Commissioner's Office, to explore an Ontario Green Button Initiative. With over 4.7 million smart meters rolled out across the province, the potential for development is significant.

7. Reduce the administrative burdens for businesses and Local Distribution Companies (LDCs).

The electricity sector is plagued by administrative burden. Electricity incentive programs that are designed to reduce electricity surplus through increased industrial production require substantial administrative efforts. These efforts often outweigh the bottom-line benefit to businesses. Furthermore, the Ontario Power Authority Industrial Electricity Incentive Program's lottery system of applications produces uncertainty for business, thereby deterring program uptake.

For LDCs, the current regulatory environment in which they operate is not conducive to promoting innovation. Recent attempts by various LDCs to obtain cost-recovery on innovation projects have been rejected outright or stalled due to over-regulation.

The lack of a clear, incentive-based strategy with regard to innovation has resulted in a more tentative approach to modernizing electricity systems and will affect the uptake of innovations and conservation programs.

CONCLUSION

The Ontario Chamber of Commerce is confident that Ontario has all the assets it needs to secure its position as the world's best place to do business, invest, work, and live. But we need to act strategically, and with purpose.

A modern and reliable electricity sector is crucial to the future growth of our economy. This study captures some of the key issues facing business in Ontario and highlights the points of convergence across a broad range of businesses that can serve as a guide as the government moves forward with its review of the LTEP.

Ontario businesses agree that continuity and predictability of pricing and policy are vital to the province's energy and economic future. Businesses depend upon a stable policy and regulatory environment to make good investment decisions. The OCC supports policies and pricing that ensure Ontario remains a centre of manufacturing excellence and clean energy job creation. Unfortunately, the electricity sector in Ontario has largely been shaped by competing visions, making it increasingly difficult for businesses to manage costs and plan investments, and therefore limiting Ontario's ability to compete with other jurisdictions.

We encourage initiatives that foster a competitive business environment with a solid foundation of reliable electricity. The OCC believes the recommendations included in this submission, if implemented, will contribute to a more stable, sustainable, and competitive electricity system for Ontario businesses.

The electricity sector is plagued by administrative burden.

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