

ONTARIO ENERGY ASSOCIATION

MINIMIZING ELECTRICITY BILLS FOR ONTARIO FAMILIES AND BUSINESSES

November 7, 2018

To shape our energy future for a stronger Ontario.



Ontario Energy Association

ABOUT

The Ontario Energy Association (OEA) is the credible and trusted voice of the energy sector. We earn our reputation by being an integral and influential part of energy policy development and decision making in Ontario. We represent Ontario's energy leaders that span the full diversity of the energy industry.

OEA takes a grassroots approach to policy development by combining thorough evidence based research with executive interviews and member polling. This unique approach ensures our policies are not only grounded in rigorous research, but represent the views of the majority of our members. This sound policy foundation allows us to advocate directly with government decision makers to tackle issues of strategic importance to our members.

Together, we are working to build a stronger energy future for Ontario.

EXECUTIVE SUMMARY

The new provincial government has committed to reducing electricity bills for Ontarians by pledging to direct Hydro One dividends to ratepayers and move the costs of conservation to the tax base.

This paper discusses some additional options to reduce, avoid what otherwise might be increases, or minimize electricity bills for Ontario families and businesses while maintaining reliability, safety and resiliency of the system that customers demand. It does not explore cost reduction options for other energy types in Ontario (e.g. petroleum and natural gas), which currently represent 84% of total energy consumption. The OEA will be discussing those in other submissions to the province.

Prior to a review of options, this paper provides an overview of Ontario's recent history of electricity planning, in an attempt to better understand some of the policies that may have contributed to recent electricity price increases. This information was then used to guide and inform the recommendations below.

The first three options focus on measures that can be utilized in the short term to meet the government's commitment to reduce electricity bills by 12 percent. Given the many fixed costs in Ontario's electricity system, options to deliver sudden cost reductions are limited. These options are viable ways to meet this short-term commitment. Once any short-term obligations are satisfied, the OEA looks forward to engaging with the provincial government on long-term solutions to deliver safe, reliable, and cost effective energy solutions.

A. ELIMINATE WATER RENTAL FEES

Currently hydro-electric generating stations in Ontario pay a water rental component. Ontario Power Generation's (OPG) share of this annual cost is approximately \$350 million. The government could lower system costs by eliminating water rental charges for OPG, or by a larger amount by eliminating the charge for all hydro-electric generating stations. The OEA recognizes that this policy impacts provincial revenues. However, if the public policy objective is to lower electricity rates quickly, this is a viable option.

B. MOVE OTHER CHARGES TO THE TAX BASE

If the government is interested in pursuing additional electricity bill reductions through shifting costs to the tax base, the OEA suggests that there are two significant options

available. The first option is to move the revenue requirement of the IESO to the tax base, which would remove \$190 million from electricity bills. The second option is to move the wholesale market service rate to the tax base, removing \$500 million from electricity bills.

C. WIND DOWN SMART METERING ENTITY & MDM/R

Currently all small business and residential customers pay \$0.57/month to fund the cost of Ontario's Smart Metering Entity (SME), run by the IESO, and the associated Metering Data Management/Repository (MDM/R). Many LDCs believe this is duplicative, as they already have all this data (and more), and can make it available to customers and third parties. Furthermore, compiling the data for the SME actually adds costs to utilities. Ontario's LDCs support initiatives like the Green Button program which can facilitate customer access to data for a fraction of the cost of the SME project. The IESO has indicated that they believe the SME will begin delivering benefits to those who are interested in province wide data analytics. Countering this argument is the fact that all current customers must pay for this project whether or not they will use it or benefit from it.

D. REFORM THE ELECTRICITY PLANNING PROCESS

Ontario has gradually evolved to a system whereby key planning decisions now rest with the Minister responsible for energy. The result of this approach has been that the expert advice of system planners at the IESO and OEB is regularly over-ridden, and decisions have been made by a small group of people, behind closed doors, without the openness and transparency we see in other jurisdictions. This approach has resulted in system costs that are higher than they need to be to meet public policy objectives.

The uncertain environment created by this approach also undermines investor confidence in Ontario, which leads to higher costs for energy projects. It is important to recognize that Ontario competes globally for access to capital and needs to ensure a stable climate for investment capital. Given Ontario's expected reliance on market mechanisms to meet future energy system needs (e.g. through Market Renewal), we need to create a climate of confidence in our electricity planning system.

The OEA recommends reforms which reframe the government's role as the policy maker through the legislature, with decisions made with openness, transparency, and cost benefit analysis by independent planners at the IESO and OEB who are held accountable for their performance by the legislature.

E. FOCUS ON LONG TERM COST-EFFECTIVENESS

Ontario has a long history of taking policy actions that lower rates in the short term, at the expense of future ratepayers (e.g. Ontario Hydro decisions, rate freezes in 1993 and 2003, and Fair Hydro Plan refinancing in 2017). The problem with this approach is that the short term passes quickly, and then ratepayers are once again dealing with costs that are higher than they otherwise would be. The OEA recommends that the province focus on long-term cost effectiveness which ultimately ensures Ontario ratepayers pay the lowest costs possible on a life-cycle cost basis.

F. OPTIMIZE EXISTING ASSETS

Regardless of what one may think of the investments made in Ontario's electricity system in recent history, Ontario now has the benefit of excellent energy infrastructure and an abundance of clean energy for the near future. There are many occasions where Ontario does not use its available emissions-free hydro, nuclear, wind power and demand side resources.

The OEA recommends that the IESO immediately convene a process to explore a variety of options to take full advantage of Ontario's existing energy infrastructure before making any determination that new generating capacity is required to meet current and future system needs. These options include new pricing structures, demand response programs, storage, and alternative approaches to attract new loads. Any loads that can be attracted to off-peak periods will contribute additional revenues to the system, thereby lowering bills for all families and business. This strategy would have the added advantage of attracting business activity to Ontario's clean energy sources, thereby displacing activity that might go to other jurisdictions with a much larger carbon footprint from their energy system.

G. CONVENE A SECTOR EFFICIENCY PANEL

The OEA recommends that the provincial government convene a small panel of industry experts and challenge them to deliver ideas for electricity system cost reductions. Even if this process results in a number of initiatives that result in small amounts of savings, altogether these could add up to meaningful savings.

H. FOCUS ASSISTANCE ON THOSE MOST IN NEED: ABANDON FAIR HYDRO PLAN

As it has done many times in the past, Ontario is now providing very large bill reductions, financed by debt, to all households and eligible small business through the Fair Hydro Plan. They get this assistance regardless as to whether or not they need it.

This debt must be paid for by future ratepayers. The Ontario Financial Accountability Office (FAO) estimates that the refinancing component of this plan will add at least \$21 billion in interest costs to Ontario's electricity system between 2017 and 2045. The FAO also estimates that electricity bills will be 12% higher than they otherwise would be in the future to pay for the cost of this program.

Ontario could remove many billions of dollars of costs from the electricity system by replacing this approach with one more focused on helping those who need assistance. The OEA recommends the creation of a new program for moderate and low income households as an alternative to programs that add costs for future ratepayers.

I. REDUCE BILLING COSTS

Currently there are a large number of electricity ratepayer households who rely on printed and mailed bills. In 2015, when the OEB mandated that all utilities move to monthly billing (a number were on bi-monthly billing), this doubled billing costs for many LDCs due to the increased printing, handling and mailing costs. These costs are borne by all ratepayers, even if they have signed up for e-billing. The OEA recommends that the provincial government work with LDCs and the OEB to develop a province-wide e-billing strategy that allows LDCs to incentivize much greater e-billing adoption and lower costs for all customers.

J. END POLICY OF SOCIALIZING RENEWABLE GENERATION CONNECTION COSTS

The *Green Energy and Green Economy Act's* prioritized the connection of renewable resources by requiring the socialization of a portion of these costs across ratepayers in the province. In the interests of reducing system costs and moving to a technologically neutral approach to system planning, the OEA recommends that practice of socializing the connection costs of renewable generation be ended and that the former practice of generators paying the full cost of connecting their facilities be reinstated.

K. USE COMPETITIVE PROCUREMENT FOR CAPACITY, ENERGY, AND ANCILLARY SERVICES

A significant amount of generation capacity added in Ontario over the last decade was not procured competitively, costing Ontario ratepayers billions of dollars according to Ontario's Auditor General. In the future, competitive process should be required by default to ensure that the system can meet environmental and reliability objectives at the lowest possible cost for consumers. If a non-competitive procurement is necessary, it should be reviewed and approved by the OEB before proceeding.

L. REVIEW ELECTRICITY TRADE AGREEMENT WITH HYDRO QUEBEC

In 2016, Ontario and Quebec entered into an electricity trade agreement. Ontario's FAO estimated the agreement provided a net benefit for Ontario ratepayers. However, another independent assessment of this arrangement by an expert found that the net effect of the agreement is that Ontario electricity consumers are paying more than they otherwise would be. The OEA believes that it is in the interests of ratepayers for the government to re-examine this agreement to see if in fact Ontario consumers are benefitting.

M. RED TAPE REDUCTION

The OEA believes there are many opportunities to reduce red tape in Ontario's energy sector that will reduce costs and therefore bills for Ontario consumers. The OEA will be developing a separate red tape submission, and looks forward to working with the provincial government on options to reduce bills through red tape reduction.

N. FACILITATE LDC CONSOLIDATION

LDC consolidation has been proven in Ontario to deliver cost savings to customers, improved services for customers, and helped many customers avoid significant cost increases. The OEA recommends that the tax relief set to expire on December 31st of this year be extended and that the government consider enhancing the tax relief.

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INTRODUCTION

Ontario's new provincial government campaigned on a commitment to lower energy bills. The OEA welcomes the government's focus on cost-effective energy solutions, and looks forward to working with the government on these and other potential solutions while maintaining the reliable, safe and resilient system that Ontario electricity customers demand.¹

A new government has the opportunity early in its mandate to take a fresh look at energy sector policies and choose a direction that delivers optimal results for Ontario's energy consumers. For example, the new government has pledged to direct Hydro One dividends to ratepayers and move the costs of conservation to the tax base.

This report discusses options to reduce costs solely in Ontario's electricity system, which has gotten a significant amount of public attention in recent years. It is worth noting that electricity consumption currently accounts for about 16% of Ontario's energy usage. Petroleum products represent 46% of energy usage, natural gas makes up 30%, and 7% other fuels.² We mention this because there are other options to lower total energy costs for Ontarians in a way that also reduces pollution and GHG emissions that are not explored in this paper. The OEA will be discussing those options in other submissions to the province.

BACKGROUND

Where Did the Cost Increases Come From?

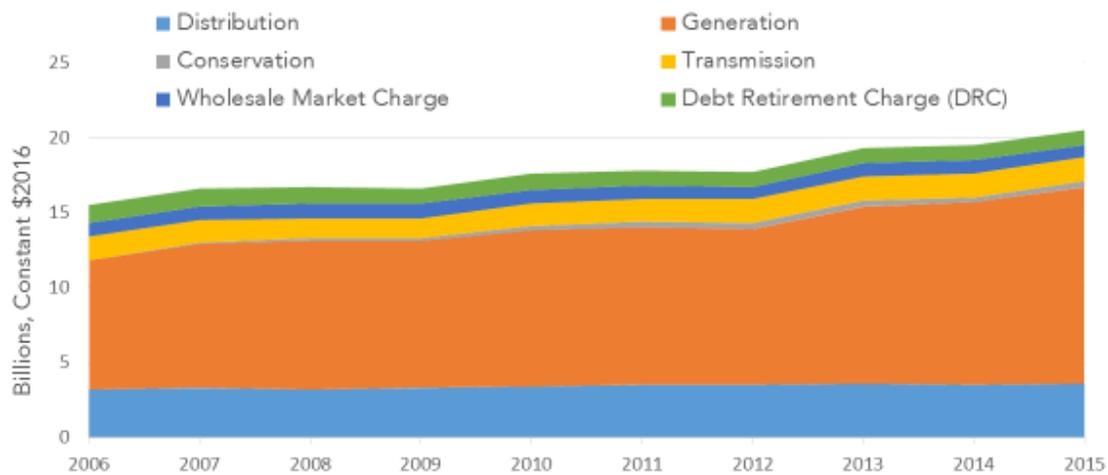
It is worth reviewing some of the recent history related to Ontario's electricity system decision making, and the cost increases associated with decisions. This is not meant to be an exhaustive review of costs, as this has been done in other studies.³ Rather, for the purposes of this paper, it is to give a basic overview as to what has underpinned cost increases in Ontario in the past 10-15 years.

¹ <https://innovativeresearch.ca/wp-content/uploads/2018/10/OEA-2018-Presentation.pdf>

² <https://www.neb-one.gc.ca/nrg/ntgrtd/mrkt/nrgsstmprfls/on-eng.html>

³ See for example: Ivey Business School. Policy Brief. [The Economic Cost of Electricity Generation in Ontario](#). April 2017.

Ontario Electricity System Costs, 2006 - 2015



Source: IESO, MODULE 1: State of the Electricity System: 10-Year Review, August 2016

The chart above delineates the cost of various components of Ontario’s electricity system between 2006 and 2015, the period that saw a roughly \$5 billion annual increase in the cost of Ontario’s system in inflation adjusted 2016 dollars, a 25% increase in system costs. Increases in the cost of generation accounted for \$4.5 billion of this cost increase – 90% of the increase. The remaining \$0.5 billion in cost increases were made up of relatively small increases in distribution system costs and the addition of conservation programs. It is worth noting that distribution costs have remained relatively flat even though annual grid investment has been estimated by the OEB to be about \$2 billion annually.⁴ The debt retirement charge was eliminated for all electricity bill payers on March 31, 2018. In total, changes in generation costs have been primarily responsible for system cost increases and are now responsible for about 64% of total system costs.

Cost Increases Not the Same for All Ratepayers

For a variety of reasons, the overall system cost increase of 25% would have been experienced differently by different ratepayers. Firstly, higher energy users would have seen a larger impact, given the proportionately larger increase in generation costs (up 50%) compared to distribution and transmission costs, the two other main components

⁴ https://www.oeb.ca/sites/default/files/OEB_AnnualReport_2017-18.pdf

of cost. For example, residential electricity commodity rates during the 2006 to 2015 period increased by about 71%.⁵

Secondly, the Industrial Conservation Initiative was introduced in 2010 to allow larger business/industrial energy consumers to pay lower electricity rates if they met program criteria to reduce their consumption during peak demand periods. With many large loads successfully qualifying for this program, in Ontario's largely fixed costs system, this resulted in a significant cost transfer to those who were not eligible to participate in the program (residential customers and small businesses) and large businesses/industrials who could not take advantage of the program given the nature of their business. For example, "the Market Surveillance Panel estimates that the revised GA allocation results in, on average, about a \$34 increase per year in the average Ontario household's electricity bill."⁶

Finally, in 2015, the Ontario Energy Board (OEB) introduced a policy that required Local Distribution Companies (LDCs) to transition their monthly customer charges from a mix of fixed and variable charges to all fixed charges over a period of four years.⁷ The result of this policy was to create shifts in the burden on different customers – it created winners and losers. Those with low electricity consumption would have seen a significant increase in fixed cost charges on their bill.

Classic examples of those who may have experienced bill increases with this change was single seniors, and cottage/vacation property owners. Those who would have ended up better off through this policy change, larger energy users, may not have noticed or been aware they benefitted, as rising electricity prices may have offset their benefit. Media coverage during the 2016/17 period in Ontario focused quite a bit on people who noticed significant increases in the fixed charges on their bill; the OEB estimated that 20% of customers would see an increase of more than \$5 per month. While the average ratepayer would have been unaffected by the change, that is not what attracts public and media attention.

What Policies Underpinned the System Cost Increases?

Assigning responsibility for the cost increases can be controversial. However, in order that we learn from the past to inform future policy actions, it is worthwhile to attempt

⁵ <https://www.oeb.ca/rates-and-your-bill/electricity-rates/historical-electricity-rates>

⁶ https://www.cdhowe.org/sites/default/files/attachments/research_papers/mixed/e-brief_209.pdf

⁷ <https://www.oeb.ca/industry/policy-initiatives-and-consultations/rate-design-electricity-distributors-formerly-revenue>

to understand as best as we can the key policy actions that may have influenced cost increases.

Replacing Coal Plants with Natural Gas

Prior to the 2003 election in Ontario, all three main political parties had committed to eliminating Ontario's 7,546 MW coal-fired generation fleet (which accounted for about 25% of electricity production at a cost of \$48/MWh). This fleet was aging and likely in need of significant refurbishment, so higher system costs would have been incurred even if a decision had been made to stick with coal-fired generation.⁸ Nonetheless, the coal plants were being replaced with higher cost alternatives, and this change did drive system cost increases.

As the coal fleet was retired, Ontario initially moved to add 5,674 MW of cleaner burning natural gas and 1,341 MW of nuclear capacity.⁹ The gas plants were added through a process of competitive tendering, ensuring ratepayers achieved the lowest possible cost for this replacement capacity. Together, these two policy actions alone resulting in a significant reduction in the GHG emissions from Ontario's electricity system. Given flat or declining energy and capacity needs in Ontario, Ontario could have more than met its needs through these two mechanisms.

Addition of New GHG Reduction and Economic Development Objectives

In the 2008-09 period, in the wake of "the great recession", the government took the province in a new policy direction with the dual objective of further reducing GHG emissions in Ontario's electricity sector, and creating a green economy and jobs in Ontario. The *Green Energy and Green Economy Act, 2009* was introduced to facilitate this new direction.

Following this new direction, 6,500 MW of wind and solar generation were added to Ontario's system, primarily through fixed priced contracts rather than through competitive procurement. This new strategy had a number of elements and consequences for Ontario's electricity system and economy worth noting:

⁸ In the U.S., coal plants are currently being retired or converted to natural gas at a fast pace as they have become uneconomic due to the emergence of low cost shale natural gas and renewable alternatives. <https://www.ucsusa.org/press/2017/new-analysis-finds-20-percent-us-coal-generation-from-uneconomic-sources#.W88hnOjSWUk>

⁹ Page 208: <http://www.auditor.on.ca/en/content/annualreports/arreports/en15/3.05en15.pdf>

- Lack of competitive procurement meant above market prices;
- Capacity was being added without considering need;
- The resulting excess capacity sometimes had to be sold at a significant discount;
- The intermittent nature of these new resources resulted in a high effective cost per kWh for ratepayers;
- The added renewable generation further reduced GHG's by displacing natural gas, but it also displaced other non-emitting resources like hydro and nuclear;
- Reduced natural gas operation resulted in increased effective costs per kWh to run the gas plants;
- The overall resulting increased prices had a negative impact on provincial economic development objectives

The addition of significant levels of renewable generation over and above the gas generation required to replace coal-fired has put tremendous upwards pressure on electricity prices in the province through both the high price being paid to renewable generation as well as its impact on generation dispatch in the province. One commentator noted that "If we replace coal with gas, then the effect of renewable power is to displace natural gas generation and to reduce its emissions or to generate excess baseload power."¹⁰

This pressure on prices was noted in the first Long-Term Energy Plan in 2010, which noted that "Over the next five years, however, residential electricity prices are expected to rise by about 7.9 per cent annually (or 46 per cent over five years). This increase will help pay for critical improvements to the electricity capacity in nuclear and gas, transmission and distribution (accounting for about 44 per cent of the price increase) and investment in new, clean renewable energy generation (56 per cent of the increase)."¹¹

The bottom line for electricity bills, as the table below shows, was that **all** new capacity added was more costly than coal (excluding environmental and health costs).

¹⁰ Dewees (2013): <https://www.economics.utoronto.ca/public/workingPapers/tecipa-478.pdfv>

¹¹ <https://www.ontario.ca/document/2010-long-term-energy-plan/electricity-prices>

	% of Total Supply	% of Total GA	Total Unit Cost (cents/kWh)
Nuclear	57%	41%	7.7
Hydro	23%	12%	6.2
Gas	8%	14%	18.8
Wind	9%	15%	15.9
Solar	2%	15%	51.3
Bioenergy	1%	2%	23.6

Source: Power Advisory
NB: Percentage (%) of Total GA excludes CDM costs.

Some significant costs were avoidable. The Auditor General of Ontario has documented the additional costs resulting from the decisions made regarding renewable generation procurement:¹²

- Not using competitive procurement added \$4.4 billion to costs
- From 2009 to 2014, surplus generation has cost Ontario electricity consumers approximately \$339 million.
- From 2009 to 2014, Ontario exported 95.1 million MWh of power to other jurisdictions. The total cost of producing this power was about \$3.1 billion more than the revenue Ontario received for exporting it.

Ontarians may vary on how they feel about the policy direction taken in 2009. There is no question that the renewable procurements made the system greener than it otherwise would have, which benefitted all Ontarians. Supporters of the direction also point to the creation of jobs and Ontario based companies who acquired expertise that they now sell to other jurisdictions. On the other hand, some of the new renewable capacity came at the expense of other non-emitting resources like hydro and nuclear. And there is no question that the direction resulted in significant cost increases for ratepayers, with corresponding negative impacts on the economy.

Majority of System Costs are Fixed in the Medium Term

Ontarians may not be aware that most of the costs that make up their bill are fixed in the short term – they are independent of the amount of electricity consumed. On the generation side, the large expansion in new generation capacity in Ontario in the past 15 years and planned nuclear refurbishments create generation assets whose primary annual compensation is fixed. Variable costs for fuels such as natural gas and operating costs represent a very small portion of Ontario’s annual costs. Nuclear and wind assets, for example, have very low annual variable costs. Similarly, the transmission and distribution systems that deliver the power to users is largely made up

¹² <http://www.auditor.on.ca/en/content/annualreports/arreports/en15/3.05en15.pdf>

of fixed costs. For all intents and purposes, “the die is cast”: the costs in Ontario’s electricity system are largely fixed.

This is important context for the government’s cost reduction efforts. What this means is that there are no simple options for major reduction in costs in the short term. It does not mean that there cannot be cost reduction: this paper explores options to reduce costs. It does mean that we need to be realistic about the size of cost reductions that can be achieved in the short term.

COST REDUCTION OPTIONS

The first three options focus on measures that can be utilized in the short term to meet the government’s commitment to reduce electricity bills by 12 percent. Given the many fixed costs in Ontario’s electricity system, options to deliver sudden cost reductions are limited. These options are viable ways to meet this short-term commitment. Once any short-term obligations are satisfied, the OEA looks forward to engaging with the provincial government on long-term solutions to deliver safe, reliable, and cost effective energy solutions.

A. ELIMINATE WATER RENTAL FEES

A component of the Gross Revenue Charges (GRCs) levied on hydro-electric generating stations in Ontario is a water rental component. The GRC water rental charge is fixed at 9.5% of a station’s gross revenue from annual generation. OPG’s share of this annual cost is approximately \$350 million. The government could lower system costs by eliminating water rental charges for OPG, or by a larger amount by eliminating the charge for all hydro-electric generating stations. The OEA recognizes that this policy impacts provincial revenues. However, if the public policy objective is to lower electricity rates quickly, this is a viable option.

B. MOVE OTHER CHARGES TO THE TAX BASE

As noted previously, the new government has pledged to direct Hydro One dividends to ratepayers and move the costs of conservation costs to the tax base. If the government is interested in pursuing additional electricity bill reductions through shifting costs to the tax base, the OEA suggests that there are two significant options available.

The first option is to move the revenue requirement of the IESO to the tax base, which would remove \$190 million from electricity bills.¹³

The second option is to move the wholesale market service rate to the tax base, removing \$500 million from electricity bills.¹⁴

C. WIND DOWN SMART METERING ENTITY & MDM/R

The previous government established the IESO as the Smart Metering Entity (SME) for Ontario. In its role as the SME, the IESO is responsible for the implementation, integration and operation of province's Metering Data Management/Repository (MDM/R). The SME has the exclusive authority to carry several functions related to Smart Meter data, including:

- perform validation, estimating and editing activities to identify and account for missed or inaccurate meter data; and
- prepare data that is ready for use by distribution companies to bill ratepayers.

These functions replicated tasks that LDCs were carrying-out to process smart meter data prior to the SME becoming operational. There was no compelling business case to create the SME. The direct cost of the SME is currently \$0.57/month borne by all small business and residential customers. This cost does not include the costs borne by LDCs for interacting with the SME (e.g., data transfers, software updates, training staff to use SME interfaces).

Ontario's LDCs support initiatives like the Green Button program which can facilitate customer access to data for a fraction of the cost of the SME project. The OEA recognized that the IESO has indicated that they believe the SME will begin delivering benefits to those who are interested in province wide data analytics and that these benefits can be monetized to benefit ratepayers. However, countering this argument is the fact that all current customers must pay for this project whether or not they will use it or benefit from it.

The OEA believes that an orderly winding-down of the SME would provide a concrete cost reduction to the electricity sector with minimal disruption.

¹³ <http://www.ieso.ca/-/media/Files/IESO/Document-Library/corporate/financial/IESO-2018-2020-Business-Plan.pdf?la=en>

¹⁴ <http://www.rds.oeb.ca/HPECMWebDrawer/Record/594396/File/document>

D. REFORM THE ELECTRICITY PLANNING PROCESS

A significant driver of past cost increases in Ontario's electricity system has been a flawed planning and decision-making process. Responsibility for electricity planning in Ontario now resides primarily with the Minister responsible for energy and the Premier's office. It rests within the Executive Branch of government. This structure has seen the advice of system planning experts at the IESO and OEB often over-ridden by a small group of people.

In addition, these decisions get made without transparency. There is typically a lack of information provided to the public as to what underpins planning decisions, and practically never a cost benefit analysis of the impacts of decisions. It is this transparency that is critical to inform good decision-making in Ontario. Without it, all participants and interested parties are not able to provide meaningful feedback into the decision making process, robbing decision makers all the information they need to make a good decision. It also removes an important check and balance on closed-door decision-making.

As noted by the Auditor General, "...over the last decade, this power system planning process has essentially broken down, and Ontario's energy system has not had a technical plan in place for the last ten years. Operating outside the checks and balances of the legislated planning process, the Ministry of Energy has made a number of decisions about power generation that have resulted in significant costs to electricity consumers." This conclusion applies much more broadly than generation procurement (e.g., Smart Metering Initiative¹⁵), and is shared widely by energy sector participants, businesses, consumers and observers of Ontario's electricity sector.

A top priority for reducing electricity costs in the future should be reforming the planning process. Restoring Ontario's electricity system to a cost-effective footing requires that a planning and regulatory process that seeks to effectively achieve policy objectives at the least cost to consumers. This will necessitate energy agencies that provide the check and balance function that regulators perform in other jurisdictions and a governance framework that reflects the principles of transparency, accountability and integration. An important benefit that will come from such a reform will be restored confidence in Ontario's energy marketplace. Ontario competes globally for access to capital; therefore, in order to get the lowest possible capital cost for future

¹⁵ See: <http://www.auditor.on.ca/en/content/annualreports/arreports/en14/311en14.pdf>

energy initiatives in Ontario, it is important that investors have confidence in the certainty and stability of the electricity planning framework.

To achieve a stable and certain electricity planning framework, the OEA believes the following reforms are required:

- a) Set in legislation the government's role in setting broad social and economic goals for the electricity sector
- b) Require any government guidance and changes to the framework for the electricity sector to go before the legislature for approval
- c) Leave implementation and oversight of collaborative electricity and natural gas energy system planning to their respective independent agencies like the IESO (electricity only) and OEB (electricity and natural gas)
- d) Require full transparency in decision making, including cost-benefit analysis and comparison of alternatives for major systems and regulatory planning decisions
- e) Competitive processes should be used for the procurement of system resources, whenever feasible, in the future

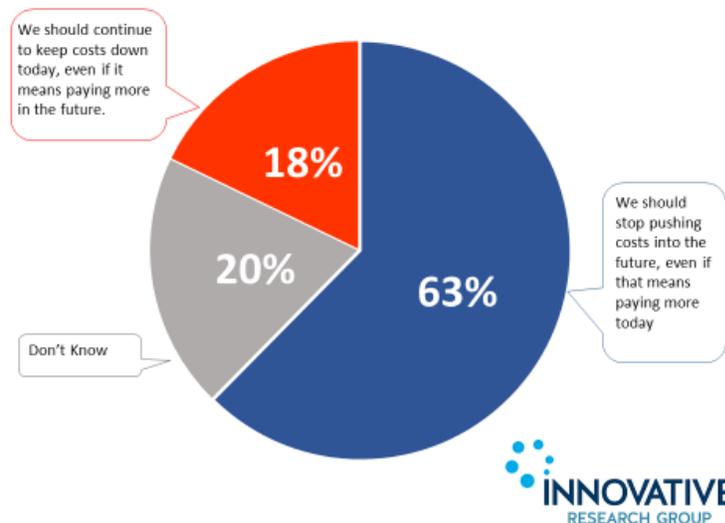
E. FOCUS ON LONG TERM COST-EFFECTIVENESS

All too often in Ontario, electricity planning decisions in Ontario get made based on short-term objectives that ultimately hurt electricity ratepayers in the future. The examples abound. Starting and stopping Darlington construction for economic development/job creation purposes that causes a huge spike in construction costs. Freezing or lowering rates, paid for by debt (1993-NDP, 2003-PC, and 2017-Lib), for the sake of short term political needs, that ultimately must be paid for by future ratepayers or taxpayers.

As we know, the short term passes quickly, and then ratepayers find they have to pay higher costs for a long period to make up for that short-term decision. All decisions should be evaluated for their life cycle cost effectiveness.

Ultimately, governments should make more attempts to ask voters whether they approve of short term measures that increase future costs because the evidence suggests most voters do not support such policies. In a recent poll done for the OEA that focused on electricity bills, Innovative Research Group found that 63% of respondents agreed with the statement that "We should stop pushing costs into the

future, even if that means paying more today.”¹⁶ What’s more, a more detailed breakdown of the responses shows that a strong majority of even those who are struggling to pay their electricity bills agree with that statement. Only 18% of respondents agreed with the statement “We should continue to keep costs down today, even if it means paying more in the future”.



F. OPTIMIZE EXISTING ASSETS

As pointed out in the introduction, most of the \$21 billion in annual costs in Ontario’s electricity system are fixed costs in the short term. Regardless of one’s view as to merits of the investments made, Ontario now has a tremendous modern and clean electricity system. We should take maximum advantage of the existing energy assets we have developed before undertaking to build new infrastructure to meet current and future needs.

What this means for the objective of lower costs in Ontario is that we have to optimize our energy system: we have to make the best use of the energy assets we have to get the lowest costs for households. Further detail on how we can optimize our system are discussed below.

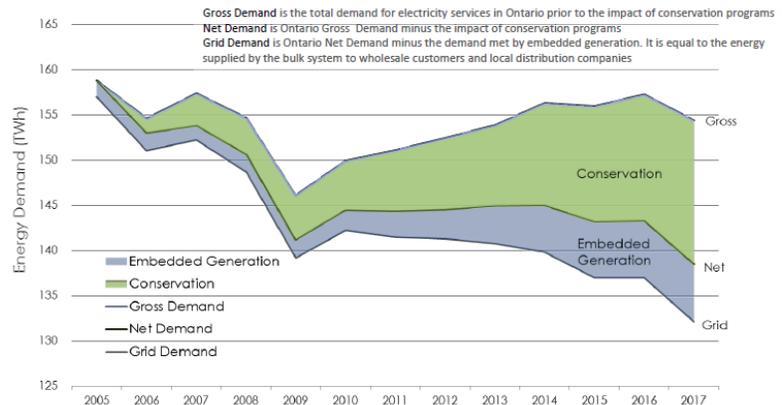
¹⁶ <https://innovativeresearch.ca/wp-content/uploads/2018/10/OEA-2018-Presentation.pdf>

Abundant Clean Energy

Between 2005 and 2015, Ontario increased its installed **capacity** from 31 GW to 39 GW, at the same time that it retired coal plants that accounted for about 6.5 GW of capacity. Altogether Ontario added about 14 GW of new power through a mix of natural gas, wind, nuclear, solar and bio capacity. Capacity describes what the peak power production capabilities are of the system at any given moment on time. This means that our system can produce more **energy** annually (usually measured in TWh). Ontario's capacity will fall by 3 GW when Pickering Nuclear Generating Station comes off line in 2024. However, Ontario will still have significantly more energy production capability than it had in 2005.

Historical demand: 2005 – 2017

- Energy demand has been on a declining trend over the past decade, driven by changes to the economy, conservation savings, and embedded generation.



In contrast with this capacity increase, net grid **energy** demand has been declining quickly during this same period. Annual energy consumption has gone from 157 TWh to about 133 TWh currently.¹⁷ Therefore, over the next few years, Ontario is going to have significantly more energy (TWh) than it can use.

Having excess energy has a number of implications for Ontario ratepayers and energy sector participants. Firstly, it means that the system ends up running inefficiently. There are many times when clean hydro or wind resources are not dispatched because there is an abundance of energy. It also means that we sometimes we have to sell excess power at a significant discount to other jurisdictions while still having to pay generators at their contracted price.

For Ontario ratepayers, it means they are still paying the fixed cost for these assets which are not being utilized. This then means that their costs are higher than they would be if a revenue source were available for these assets during these times of low demand. Finally, it means that Ontario is missing an opportunity to reduce GHG emissions by taking advantage of our abundance of non-emitting resources available during periods of low demand.

¹⁷ IESO. Update on the First Annual Technical Planning Conference. October, 17, 2018.

Optimizing Our Electricity System

Optimizing our system means matching available energy with demand in a way that results in the lowest possible cost for Ontario ratepayers. This means designing a system that provides significant incentives for people to use energy during periods of low demand. Here are some things Ontario should consider to help optimize our system, and lower costs for ratepayers:

Cheap Clean Energy During Low Demand Periods

Policies and programs that allow electricity users to access low prices during periods of low demand could help optimize system efficiency and lower energy costs for all consumers. The current Industrial Conservation Initiative (ICI) program is designed to shave our peak capacity usage, not to optimize energy usage. It does this by incenting large users to reduce demand during Ontario's top five peak demand days. While the program has been successful in shaving peak demand, and therefore reducing peak capacity needs, it is not designed to optimize the use of our abundant green energy in Ontario.

The OEA recommends that the IESO, with stakeholders, begin a process of formally exploring all options to take advantage of our abundance of green energy. This should include an examination of the potential for new pricing/incentive structures that drive not only investment decisions but decisions on when and how electricity should be used. For example, prices should be lower in non-peak times which will incent customers such as businesses to charge behind the meter batteries or residential ratepayers to charge their EV. Alternative demand response type usage and storage options could help users to take advantage of low cost clean power in addition to providing other system benefits. If businesses and families can have an easy to understand system whereby they can access low cost clean power, many will take advantage of it.

By adding usage during low demand periods, Ontario can add a revenue source for resources that are otherwise wasted. By adding additional revenue to our large fixed costs system, everyone's costs can be lowered.

Introduce Market Mechanisms and Policies to Attract New Loads

Addition of new businesses to Ontario's existing grid results in lower costs for everyone else on the system. That's because the many fixed costs in our system get spread across a larger number of ratepayers.

Ontario currently does not have an electricity pricing strategy designed to incentivize new businesses to locate in Ontario, and for existing businesses to expand. In fact, new businesses are not eligible to participate in the current ICI program for the first year, even if they are ideal candidates for this program. In addition, the ICI program window opens once per year. And businesses are also not allowed to change location under the program, even if their growth strategy requires moving.

Ontario appears to have no strategy for attracting new loads when it comes to electricity pricing. The OEA recommends that the IESO develop and provide the provincial government with a strategy to use market and pricing mechanisms to build load during off-peak periods, which will benefit all other ratepayers.

G. CONVENE A SECTOR EFFICIENCY PANEL

Finding cost reductions and efficiencies in Ontario's electricity should be an ongoing long-term effort. To that end, the OEA recommends that the government convene a small panel of key industry participants, including representatives from the IESO and OEB, and challenge them to meet regularly and deliver cost savings and efficiency ideas to the government. The province should invite a small group (to ensure effectiveness) of key sector CEOs that includes key power producers and local distribution companies, to join with system planners, to develop and bring forward ideas for consideration.

H. FOCUS ASSISTANCE ON THOSE MOST IN NEED: ABANDON FAIR HYDRO PLAN

Currently Ontario is providing significant short-term subsidies to ALL residential households and small businesses under the Fair Hydro Plan. This is no different than past similar measures introduced in 1993 and 2003 that lowered bills for all residential users. While there are a number of elements to the Fair Hydro Plan (FHP), the refinancing component of this plan lowers bills significantly in the short term through the use of debt, which must be paid back with interest by future ratepayers. Ontario's Financial Accountability Officer (FAO) estimates that this component of the FHP will

add \$21 billion in interest costs to the electricity system over the life of the plan (2017 to 2045).¹⁸ This estimate was made prior to the recent rise in borrowing costs. The FAO estimates the result of this component of the plan is that electricity rates will be 12% higher than they otherwise would have been for the last 17 years of the plan.

This paper is about lowering costs in the electricity system. The refinancing component of the plan adds \$21 billion in new costs to the system. This is happening because we are subsidizing all households, as opposed to those who need the help.

There is a much more affordable approach available that would allow the provincial government to remove a major cost from the system. The province should focus its assistance on those households who need assistance, rather than all households.

As an alternative to providing assistance to all households through the current Fair Hydro Plan, the province could introduce a program that provides a 50% bill reduction for all low income households. Enrolment in the program could be automated and simplified so that anyone receiving ODSP or OW, the Ontario Energy & Property Tax Credit, or the Northern Ontario Energy Credit could be automatically enrolled. In addition, income thresholds could be increased to expand the number of households eligible for this program. This program could be brought in to either supplement, or be an alternative to the current Ontario Electricity Support Program (OESP).¹⁹

The OEA recognizes that in the very short term, there would be an electricity bill increase for higher income households with this proposal. However, there are a few things that should offset this increase: firstly, these households would have lower bills in the long term with the removal of \$21 billion in interest costs; secondly, the government plans to introduce measure that will reduce bills (e.g. funding conservation programs through the tax base and using the Hydro One dividend to reduce bills); and thirdly, there are households who do not need a short term subsidy.

By moving to a system that provides very generous assistance to those who need, there would be tremendous savings over a system that now subsidizes all households in the short term. This is the largest cost reduction proposal in this paper.

¹⁸ Financial Accountability Office of Ontario. Fair Hydro Plan. An Assessment of the Fiscal Impact of the Province's Fair Hydro Plan. Spring 2017

¹⁹ The OESP currently provides a fixed dollar amount of assistance to low income households. The program was altered with the introduction of the FHP in March 2017 to provide and increased fixed dollar amount of assistance, and funding for the program was moved from the rate base to the tax base.

I. REDUCE BILLING COSTS

In 2015, the OEB made monthly billing mandatory for all electric utilities in Ontario.²⁰ At the time, 1.9 million customers received bills on a bi-monthly or quarterly basis. As a result, this change doubled the invoicing costs of some utilities, driven by the costs of postage, printing and handling. The increased cost associated with the policy change is borne by all customers, regardless of whether they have chosen e-billing or not.

Therefore, the OEA recommends that the provincial government work with LDCs and the OEB to develop a province-wide e-billing strategy that allows LDCs to incentivize much greater e-billing adoption and lower costs for all customers.

J. END POLICY OF SOCIALIZING RENEWABLE GENERATION CONNECTION COSTS

Prior to the Green Energy and Green Economy Act, a generator that connected to a distribution system was responsible for paying all the costs of connecting its facility to the distribution network, including any costs associated with distribution and transmission system upgrades beyond the connection point that are required to accommodate the generation facility.

The Green Energy and Green Economy Act's prioritization of connecting renewable resources resulted in the OEB altering its cost responsibility policies to reduce the connection costs for renewable generators by socializing a portion of costs across ratepayers in the province. The OEB is required to take steps to ensure that all Ontario customers, not just the ratepayers of the individual distributor, contribute to the costs of investments to connect renewable generators in accordance with applicable legislation.²¹

In the interests of reducing system costs and moving to a technologically neutral approach to system planning, the OEA recommends that practice of socializing the connection costs of renewable generation be ended and that the former practice of generators paying the full cost of connecting their facilities be reinstated.

²⁰ https://www.oeb.ca/sites/default/files/news_release_Monthly_Bill_20150415_0.pdf

²¹ <http://www.rds.oeb.ca/HPECMWebDrawer/Record/598573/File/document>

K. USE COMPETITIVE PROCUREMENT FOR CAPACITY, ENERGY, AND ANCILLARY SERVICES

For various reasons noted above, most of the generation capacity added in Ontario over the last decade has not been procured competitively. Instead, resources were procured on a non-competitive basis with a guaranteed-price. And, as Ontario's Auditor General has noted, if a competitive process for procurement had been used more frequently, Ontario's electricity consumers could have saved billions of dollars.

In the future, when Ontario's electricity system requires resources, the use of a competitive process should be required by default to ensure that the system can meet environmental and reliability objectives at the lowest possible cost for consumers. If a non-competitive procurement is necessary, it should be reviewed and approved by the OEB before proceeding.

This should be done at the wholesale system as well as in the distribution system. LDCs should be urged to use market mechanisms to procure services, such as distributed energy resources and non-wire alternatives if it makes more sense than replacing current infrastructure or building new infrastructure. Ratemaking needs to adapt to ensure LDCs can seek the most efficient ways to maintain and build their systems.

L. REVIEW ELECTRICITY TRADE AGREEMENT WITH HYDRO QUEBEC

In 2016, Ontario and Quebec entered into an electricity trade agreement. The agreement is a bundle of three components that the FAO estimated have a net benefit of \$38 million from 2017 to 2023 for Ontario ratepayers²²:

- Electricity purchases will result in Ontario ratepayers paying higher than market prices to import 14 TWh of electricity from Quebec, which will increase the cost of electricity by a total of \$187 million.
- Electricity cycling will off-set the cost of generating 2.1 TWh of electricity, which will save ratepayers \$99 million.
- Capacity sales will generate \$126 million of incremental savings for ratepayers.

However, another independent assessment of this arrangement by an expert found that the net effect of the agreement is that Ontario electricity consumers are paying

²² <https://www.fao-on.org/en/Blog/Publications/Electricity-Trade-0418>

more than they otherwise would be.²³ The OEA believes that it is in the interests of ratepayers for the government to re-examine this agreement to see if in fact Ontario consumers are benefitting.

M. RED TAPE REDUCTION

Concurrently with the development of this submission, the OEA is developing a red tape reduction submission for the Ministry of Economic Development, which is currently leading a provincial red tape reduction exercise. OEA members believe strongly there are efficiencies to be found in the energy sector that can contribute to reducing energy costs for all Ontarians.

The OEA's red tape submission will delineate a number of opportunities to streamline regulations to allow energy sector participants to provide the same or better levels of service at a lower cost. Often, the costs of individual regulations can be difficult to quantify exactly. However, when regulations continue to be added over time, without any consideration to the usefulness of existing regulations, or the cost-benefit of new regulations, altogether the regulatory cost that consumers ultimately bear can be quite high. The OEA looks forward to opportunities to discuss a range of red tape reduction measures that can lower costs.

N. FACILITATE LDC CONSOLIDATION

In a 2012 report for the provincial government, the Ontario Distribution Sector Review Panel (DSRP) found that Ontario is relatively unique in Canada and in the world in having a large number of LDCs that serve a small number of customers. The panel found that on average smaller LDCs had significantly higher administration and maintenance costs compared to larger LDCs.²⁴ The report also found that smaller LDCs experience higher borrowing and regulatory costs. The report also documented the significant savings that had benefitted ratepayers in a number of amalgamations:

- Veridian Connections creation, 1999: 13% OM&A expense savings
- Powerstream creation, 2004: \$6.9 million annual cost savings
- Veridian Scugog and Gravenhurst purchase, 2005: \$40 savings per customer
- Chatham Kent purchase of Middlesex, 2005: \$450,000 annual savings

²³ Marc Brouillette. Ontario/Quebec Electricity Trade Agreement: An Implications Assessment. August 8, 2017.

- Powerstream Barrie Hydro Merger, 2009: \$6.2 million in annual savings

Since the report was written, there have been some other mergers that have delivered efficiencies and customer benefits. For example, the recent union of Powerstream, Enersource, Horizon, and Hydro One Brampton into Alectra is expected to deliver the following benefits:

- Overall net savings are projected at \$426 million over the first ten years, of which \$312 million are avoided operating costs and \$114 million avoided capital costs.
- Year over year distribution revenue of the merged entity compared to the status quo shows the relative benefit to customers as follows:
 - Average decrease of \$19.5 million per year or 3.3% in the first 10 years
 - Average decrease of \$69.3 million per year or 8% post rebasing (2027)
 - Average decrease of \$ 48.6 million per year or 5.9% across the forecast period of 25 years
- Additional synergies are currently being found in the following areas:
 - Greater financing synergies
 - Insurance synergies
 - Vehicle fleet consolidation
 - Staffing synergies
 - Inventory volume discounts

Additionally, the recent merger of Guelph Hydro with Alectra is expected to allow customers of Guelph Hydro to avoid an estimated 5% rate increase in 2021, and another estimated 5% increase in 2026.

Altogether, the DSRP estimated that if consolidation of the then 80 LDCs into 8 to 12 LDCs could result in cost savings in the system of about \$1.7 billion. There remain about 70 LDCs in Ontario currently, so there is still plenty of opportunity to deliver the savings potential outlined by the panel.

One barrier to consolidation is the transfer tax that is owed when an LDC is sold. The transfer tax is mandated by the Electricity Act and is payable entirely to the Province of Ontario. It is equal to 33% of the consideration received on the sale of electricity assets or shares. Any sale of electricity assets to private equity triggers the tax—there is no threshold. This means that whether the sale is 10% 50% or more, the tax amount is 33%. The tax is payable by the seller.

Time limited relief on transfer tax was introduced beginning January 1, 2016 that ends December 31, 2018:

- reduces the transfer tax rate from 33 to 22 per cent, and
- exempts MEUs with fewer than 30,000 customers from the transfer tax.

The OEA recommends that, at a minimum, the tax relief set to expire on December 31st of this year be extended. Any initiative that the province can undertake to facilitate voluntary consolidation of LDCs will result in savings and improved services for electricity customers.

IDEAS TO REJECT

The OEA expects that the province may receive some well-intentioned ideas to reduce costs that actually work against the interest of customers. For that reason, we would like to address a few specific proposals in the area of capital cost for utilities that come up occasionally that we believe the province should reject because of their negative implications.

COST OF CAPITAL FOR UTILITIES

The OEA strongly believes that the government should not attempt to reduce electricity bills by intervening in the rate setting process for rate-regulated utilities through policies such as:

- Reducing common equity targets
- Reducing deemed long term debt rates
- Adjusting return on equity (ROE) rates

The OEB has an established consultative process for determining the methodology for setting the ROE and the deemed long-term and short-term debt rates for use in utility rate applications. This process uses formulae to determine the ROE and the deemed long-term and short-term debt rates that reflects market conditions and expectations. The Board monitors and updates the Cost of Capital parameters for use in setting rates for utilities for the coming rate year.

The OEB most recently concluded a review of its cost of capital policy in 2016 with Board staff concluding that "...the methodology adopted in late 2009 has worked as

intended. Movement in the parameters have followed macroeconomic trends and activity, and have not resulted in excessive or anomalous volatility.”

The OEA supports the existing process for setting cost of capital parameters for utilities because it ensures that utilities have access to the capital resources needed to adequately meet customers’ needs at a reasonable price while providing an important source of additional funding for municipal shareholders and their communities. Further, intervening in the OEB process would be inconsistent with restoring proper governance and oversight to the energy sector.

CONTACT

121 Richmond Street West
Suite 202

Toronto, Ontario M5H 2K1

416.961.2339

oea@energyontario.ca

[@energyontario](https://twitter.com/energyontario)

energyontario.ca



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