Electricity Price Mitigation

Ministry of Energy

March 1, 2017

Minister

Deputy Minister

Ontario

Context

- Electricity costs are increasing as the necessary investments are made to decarbonize and modernize the province's electricity infrastructure (i.e., $35 billion+ investment in cleaner generation and $15.5 billion investment in transmission and local distribution systems).

- Ontario has taken a number of actions to lower electricity costs for all consumers by:
  - Deferring investments in generation (e.g., new build nuclear), improving market efficiency (e.g., wind dispatch) and decreasing the cost of renewable procurements (e.g., Green Energy Investment Agreement (GEIA) renegotiation, decreasing Feed-In Tariff (FIT) prices, competitive Large Renewable Procurement (LRP)).
  - Increasing cost effectiveness and improving efficiency by adopting new electricity market approaches (e.g., no new NUG contracting and demand response).

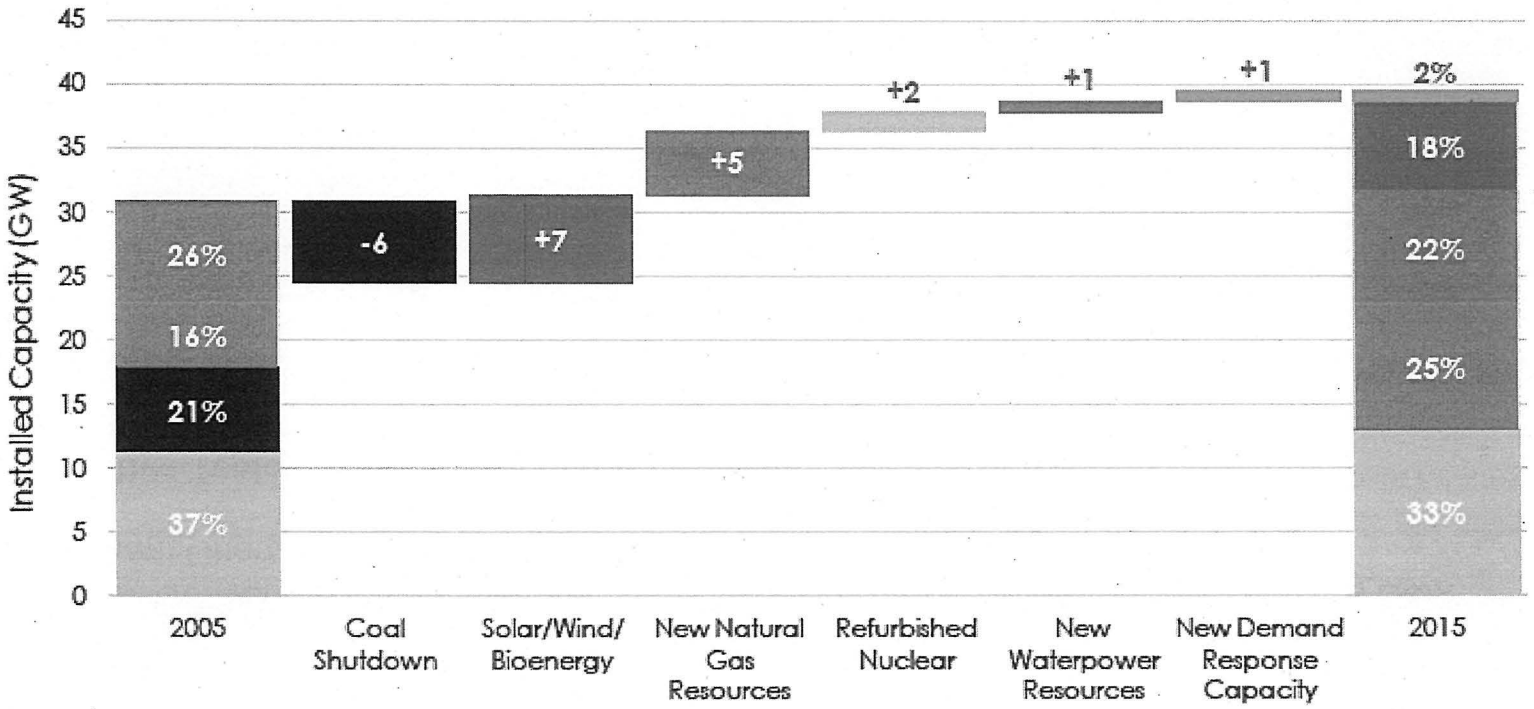
- On November 28, 2016, the Minister of Energy announced the need for changes in how electricity resources are procured, the need for wholesale market renewal and greater electricity consumer choice.

- The Ministry of Energy is currently updating its Long-Term Energy Plan (LTEP), which provides an opportunity to consider a range of policy changes to how the Ontario energy sector operates.

- On a number of occasions the Premier has indicated publicly that further relief on electricity prices will be provided to consumers in the near term.

Context – Infrastructure Investments

- In the eleven year period between 2005 and 2015, government added new electrical capacity to Ontario's grid to restore reliability, replace coal and meet environmental objectives.



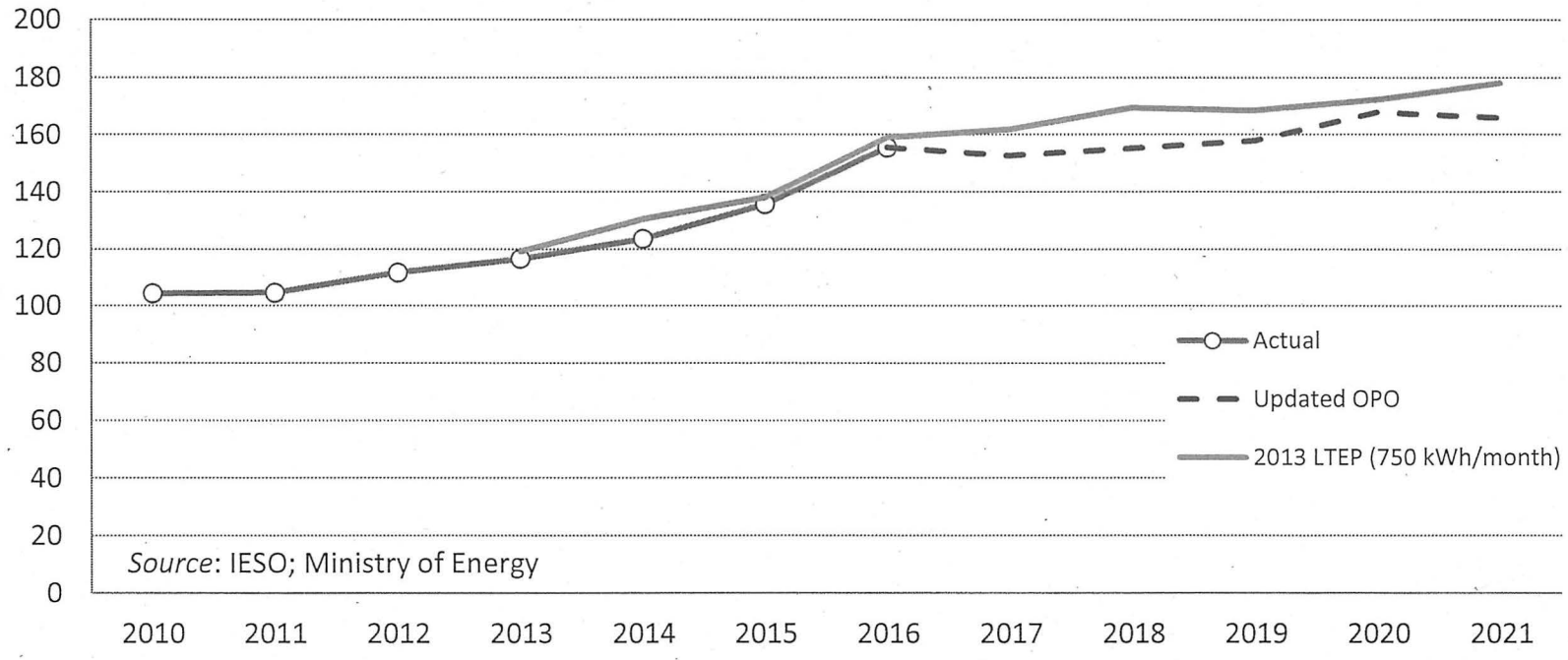
Source: IESO Ontario Planning Outlook

Context – Electricity Prices

- Electricity price increases have generally outpaced inflation. There have been several government policies that have impacted electricity prices over the past several years, including: HST, the Industrial Conservation Initiative, the Ontario Clean Energy Benefit (OCEB) and the Debt Retirement Charge (DRC).

Illustrative Typical Residential Electricity Bills

Historical and Forecast in $/month



Ontario

Context – Recent and Existing Government Funded Electricity Cost Mitigations

($Millions)	14-15	15-16	16-17[1]	17-18[1]	18-19[1]	19-20[1]	20-21[1]	Who Benefits
Ontario Clean Energy Benefit (OCEB) [2]	1,078	860	*OCEB ended on December 31, 2015*					• Residential customers, farms, small business (i.e., 10% off, on up to 3,000 kWh/month)
Ontario Rebate for Electricity Consumers (OREC or 8% rebate)*	-	-	300	1,100	1,200	1,200	1,200	• Residential customers, farms, small business (i.e., amount equal to the 8% Provincial portion of HST)
Ending Debt Retirement Charge (DRC) for Residential[3]	-	85	330	330	--	--	--	• Residential customers (i.e., saves about $70 per year for a typical residential consumer)
Northern Ontario Energy Credit (NOEC) [4]	24	26	25	25	25	25	25	• For eligible northern Ontario residents (i.e., for 2017, single people can receive up to $148,and families up to $227, depending on adjusted family income)
Ontario Energy and Property Tax Credit (OEPTC) (Energy component only)[4]	429	444	450	460	470	481	481	• For eligible low-to moderate-income individuals and families, & qualifying seniors (i.e., for 2017, up to $227, depending on adjusted family income)
Northern Industrial Electricity Rate Program (NIERP)	108	120	120	120	120	120	120	• Qualifying northern Ontario large industrial electricity consumers (i.e., rebate of 2cents/kilowatt-hour)
TOTAL	**1,639**	**1,535**	**1,225**	**2,035**	**1,815**	**1,826**	**1,826**	

Notes:

1. 2016-17 to 2020-21 based on forecasted numbers
2. OCEB ended December 31, 2015
3. 2015-16 estimated for 3 months of reduced DRC revenue. Estimated impact up to March 31, 2018.
4. Part of the Ontario Trillium Benefit. While related to energy generally, key policy driver for OEPTC when introduced in 2010 was electricity, as prices were forecast to rise, while fossil fuel prices, particularly natural gas, were low and falling.

* Sourced from Energy PRRT submission

Source: Ministry of Finance

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Context – Recent Actions Taken To Mitigate Electricity Rates

- Following the 2016 Throne Speech, the several actions were announced to further reduce electricity costs.

1. As of January 1, 2017, Ontario is rebating an amount equal to the provincial portion of the HST to reduce eligible residential, small business and farm electricity bills by 8%.

2. Expanded support available to eligible rural ratepayers by updating Rural or Remote Rate Protection (RRRP) with additional relief, decreasing total electricity bills by an average of $45 each month when combined with the 8% rebate.

3. Expanding the Industrial Conservation Initiative (ICI) – up to one-third savings for participants.

4. Suspending the LRP II and the Energy from Waste Standard Offer Program (EFWSOP) – up to $3.8 billion in cost savings.

5. Limiting the Feed-In Tariff (FIT) 5 procurement target to 150 MW and suspending future FIT procurements – an average annual savings of $15 million.

Ontario

Rate Mitigation Proposal

- The following approaches are proposed:

1) Smoothing the global adjustment (GA) to provide significant and immediate rate relief through cost deferral of the GA:
   - Smoothing Mechanism (i.e., 25% reduction); and
   - Implementation Model.

2) Enhancing competitiveness for Class B electricity consumers (i.e. manufacturing) by lowering the eligibility threshold for Industrial Conservation Initiative (ICI).

3) Helping vulnerable electricity consumers by enhancing electricity support and conservation programs and shifting cost onto the tax-base:
   - Rural or Remote Electricity Rate Protection (RRRP) Enhancement (Delivery Charge Relief);
   - Ontario Electricity Support Program (OESP) Expansion;
   - New Affordability Fund; and
   - On-Reserve First Nations Delivery Credit.

4) Ongoing activities to bend the future cost curve of electricity:
   - Ontario Energy Board (OEB) – Identify opportunities for future LDC efficiencies and rates;
   - Independent Electricity System Operator (IESO) – Modernize Ontario's electricity market through electricity Market Renewal initiatives.

Ontario

GLOBAL ADJUSTMENT (GA) SMOOTHING

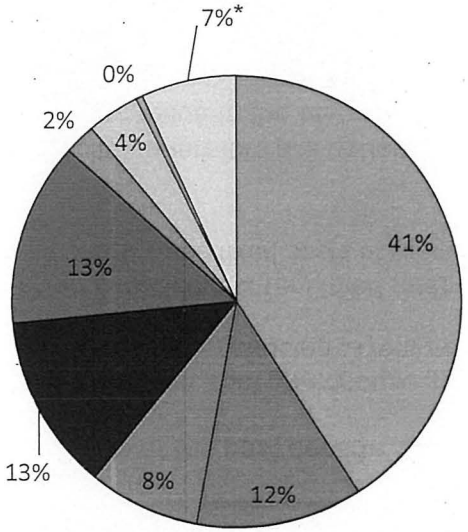
Overview – GA Smoothing

- The Global Adjustment (GA) has risen over the past decade as the province's electricity system has decarbonized.
  - The vast majority of GA costs now stem from greenhouse gas (GHG) emissions-free renewable and nuclear generation facilities, as well as natural gas plants that were constructed to restore system reliability and replace coal-fired capacity.
  - Generators in Ontario received contracted or regulated rates, which are typically designed to recover capital, financing, and fixed operations costs. The GA recovers these fixed costs of running the province's generation fleet, as well as the cost of conservation programs.
- The majority of the province's electricity generators are under 20-year contracts and account for less than half of the GA. Some of these generators will continue to provide value to the electricity system beyond their contract lives (i.e., beyond 20-years).
  - There is an opportunity to recognize the long-term benefit of these assets to the electricity system and "bring forward" that benefit for ratepayers today by deferring some of the current costs.
  - GA Smoothing would spread these costs over a longer period and provide immediate ratepayer relief (i.e., similar to re-financing a mortgage). By recognizing that generation assets are expected to continue to provide residual benefit to future ratepayers, beyond the term of current contracts, future ratepayers are expected to be able to utilize these assets and reduce the need to finance the development of new generation assets.
- The GA Smoothing option under consideration is illustrative and show potential rate mitigation measures to meet a targeted 25% reduction from the projected residential bill in 2017.
  - These residential impacts are based on a forecast for a household connected to Toronto Hydro that consumes 750 kWh per month.
  - Actual ratepayer savings would vary due to differences in consumption patterns.
  - Targeted to Regulated Price Plan (RPP) -eligible;
  - Rate increases would be capped at CPI for the first four years. Subsequent years would be set slightly above CPI in order to achieve OPG's financing requirements.

GA Smoothing – Cost Breakout

- The Global Adjustment (GA) accounts for the fixed costs, including capital costs, of running Ontario's generation fleet, as well as the cost of conservation programs. The GA is instrumental in maintaining a reliable electricity system by ensuring that sufficient generating capacity is available.
  - Generators in Ontario received contracted or regulated rates, which are typically designed to recover capital, financing and fixed operations costs. Most generators are on 20-year contracts with the exception of hydroelectric and nuclear plants. They operate on longer contracts (or are regulated on a cost-of-service basis by the OEB) in recognition of the much longer operating lives of these facilities.
- Chart below shows the breakout of the GA by generator and program types. In 2016, the GA costs were $12.3 billion. These costs will evolve over time as 2,181 MW of previously contracted generation comes online in the coming years.

2016 GA Cost: $12.3 billion



	GA ($M)
Nuclear	5,053
Hydro	1,473
Natural Gas	985
Wind	1,552
Solar	1,630
Biomass, Landfill and Byproduct	278
Conservation	467
IEI Program	60
OEFC*	842

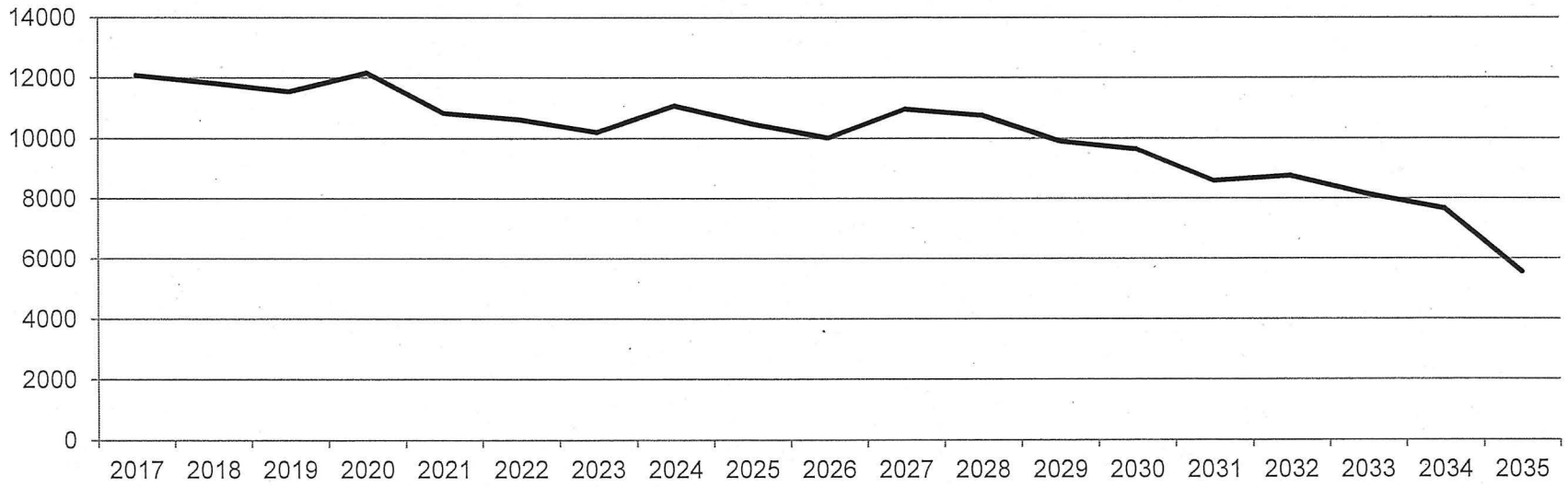
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*Note: OEFC indicates the cost of generator contracts managed by the OEFC which include contracts for natural gas, hydro and biomass generators.
** Note: Conservation measures, not quantified here, serve to reduce Ontario energy demand. Actual electricity generation would be larger than 155 TWh in the absence of conservation programs.

GA Smoothing – Global Adjustment Forecast

- The amount of Global Adjustment (GA) is forecast to decrease through the forecast period. Several factors contribute to the decline of GA, including:
  - Expiry of electricity generation contracts;
  - Cost of existing contracts reduced due to Inflation; and
  - Higher wholesale electricity prices due to higher natural gas/carbon prices, higher demand and reduced nuclear generating capacity.

Forecast Global Adjustment Cost (nominal $ million)



Ontario

GA Smoothing – Expected Life of Electricity Generating Assets

- Gas, wind and solar generators are typically contracted for a 20-year period (e.g., with the Ontario Electricity System Operator (IESO), etc).
  - Nuclear and hydroelectric generators are contracted for a much longer period or regulated by the Ontario Energy Board (OEB) on a cost-of-service basis.

- While it is likely that gas, wind and solar generators will be able to operate beyond their current contracts, IESO advises that generators will need to decide what level of capital investment is appropriate for ongoing operations (i.e., by replacing and/or refurbishing major facility components).
  - In IESO's 2016 Ontario Planning Outlook (OPO), it was assumed that the service lives of generators could be extended beyond their contract term based on additional investments and ongoing costs. **Note:** This was not an assessment of the cost/benefits or a prediction of what the generators would actually do at the end of their contracts.

- The table below outlines IESO's current estimates for service lives of gas, wind and solar facilities. The ongoing service lives of these facilities depend on: initial facility design & build, operating activities (e.g., hours of operation, etc.) and level of facility maintenance (i.e., ongoing component repair and replacement).

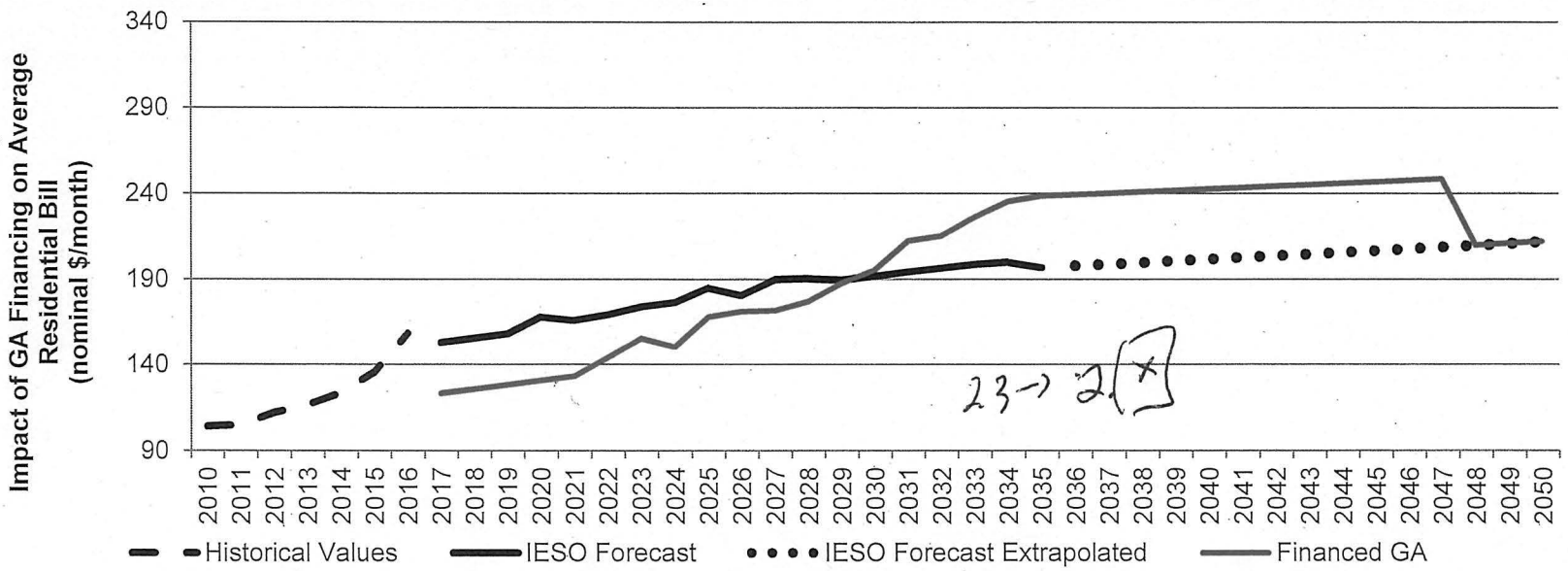
Technology	Contract Life (yrs)	Expected Life (yrs)	Expected Cost Post-Contract Assumptions
Gas	20	Up to 30	About 36% of current contract cost
Wind	20	Up to 30	Equal to 2017 cost
Solar	20	Up to 30	Equal to 2017 cost

Source: IESO consultant reports (2014 and 2015)

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A. GA Smoothing for RPP-Eligible Only (Borrow $2.5 billion in 2017, Residential Bills Lowered 25%)



	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
Average Monthly Residential Bill Impact pre-tax *($/month)*	-26.1	-26.1	-26.2	-32.8	-28.7	-22.0	-16.3	-23.0	-15.2	-8.4	-16.1	-11.8	-1.7	3.3	15.9	16.5	24.3	31.1	36.7	36.5	36.4	36.2	36.1	35.9	35.8	35.6	35.5	35.3	35.2	35.0	34.9	0.0
Total Accumulated Debt *($ billion)*	2.5	5.1	7.9	11.4	14.6	17.6	20.2	23.6	26.4	28.6	31.7	34.5	36.4	38.0	38.3	38.5	37.9	36.6	34.5	32.4	30.1	27.7	25.2	22.6	19.8	16.9	13.9	10.7	7.3	3.7	0.0	0.0
Total Change in Accumulated Debt *($ billion)*	2.5	2.6	2.8	3.5	3.2	3.0	2.6	3.4	2.8	2.2	3.1	2.8	1.9	1.5	0.3	0.2	-0.6	-1.3	-2.1	-2.2	-2.3	-2.4	-2.5	-2.6	-2.8	-2.9	-3.1	-3.2	-3.4	-3.5	-3.7	0.0

Notes: Assumes 30 year financing period and a nominal interest rate of 5% (compounded monthly). Ratepayer GA payments increase annually beyond 2021 at the rate of inflation plus 0.3 percentage points with a limit of $3.9 billion above the true cost of GA in any given year. IESO forecast is based on IESO's revised OPO forecast as of February 2017. Includes the cancellation of LRP II and EFW, expansion of ICI. Does not include smoothed OPG rates. Above residential bill is based on a 750 kWh per month Toronto Hydro customer.

2010
Total Bill –
% Chge –

Ontario

A. GA Smoothing for RPP-Eligible Only – Residential Bills Lowered 25% (with Tax-base Funded 8% Rebate and Social Programs, 2% increase)

- Total bill below is based on a revised IESO forecast. See footnotes for more information.

Residential (750 kWh/month)	Actual 2016	2017	2018	2019	2020	2021
Total Bill (includes HST)	**158**	**164**	**167**	**170**	**181**	**178**
Total Bill (excludes HST)	140	145	148	150	160	158
Impact of GA Financing		-26	-26	-26	-32	-28
Impact of Tax-Basing Social Programs		-2	-2	-2	-3	-3
Subtotal		117	120	122	125	127
8% rebate		-9	-10	-10	-10	-10
HST		15	16	16	16	17
Revised Bill (includes HST)	**158**	**123**	**126**	**128**	**131**	**133**
Year-over-Year Change		-22%	2%	2%	2%	2%
Change from Forecast		**-25%**	**-25%**	**-25%**	**-28%**	**-25%**

Commercial & Small Industrial ($/MWh)	Actual 2016	2017	2018	2019	2020	2021
Class B Total (excludes HST)	**160**	**165**	**160**	**162**	**173**	**169**
Class B Revised Total (excludes HST)	**160**	**162**	**157**	**159**	**170**	**166**
Year-over-Year Change		1%	-3%	1%	7%	-2%
Change from Forecast		-2%	-2%	-2%	-2%	-2%

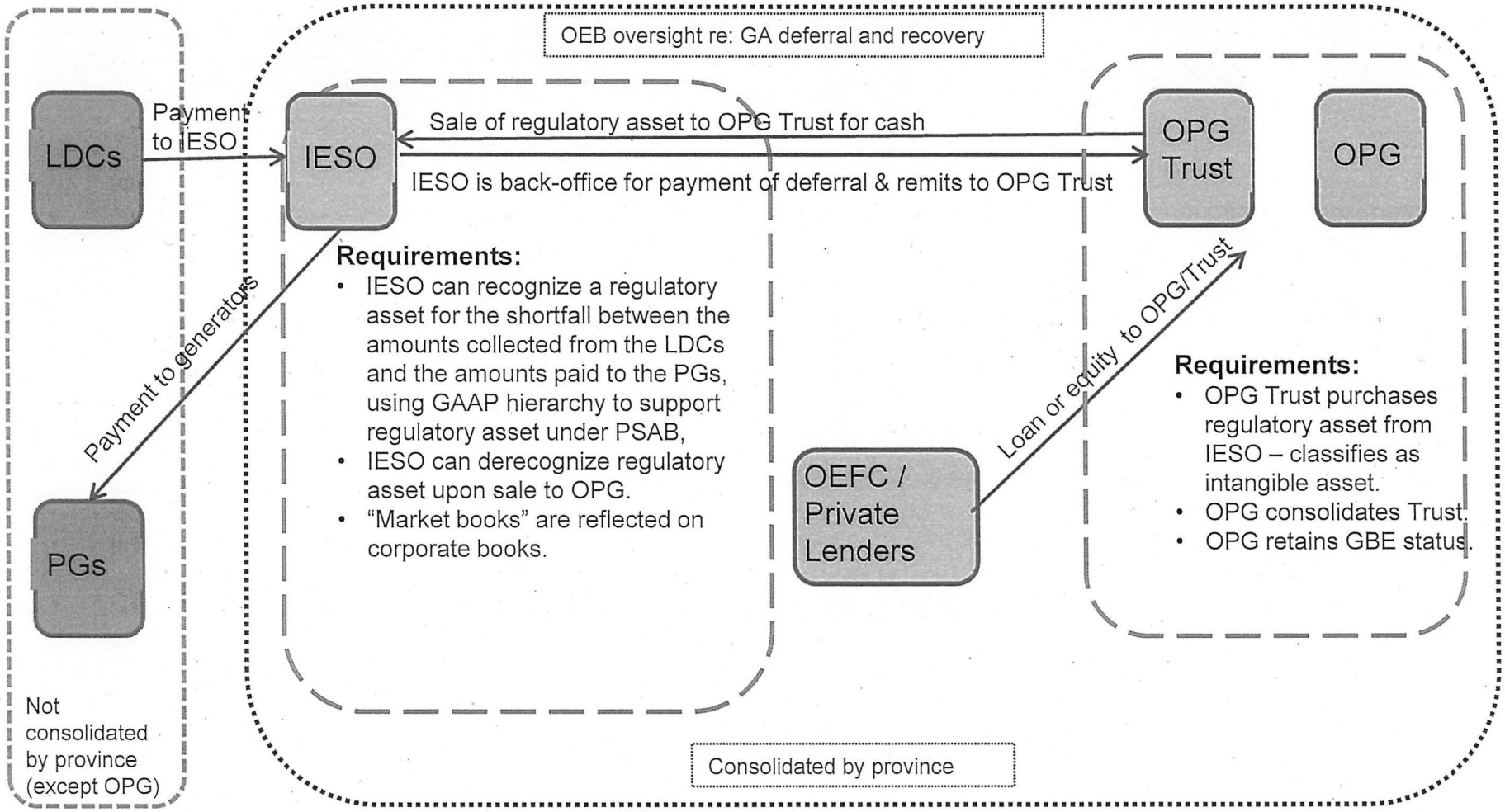
Large Industrial ($/MWh)	Actual 2016	2017	2018	2019	2020	2021
Class A Total (excludes HST)	**90**	**91**	**93**	**88**	**95**	**96**
Class A Revised Total (excludes HST)	**90**	**88**	**90**	**84**	**92**	**93**
Year-over-Year Change		-2%	2%	-6%	9%	1%
Change from Forecast		-4%	-4%	-4%	-4%	-4%

Notes: Based on IESO's revised OPO forecast as of February 2017. Includes the cancellation of LRP II and EFW, expansion of ICI. Does not include smoothed OPG rates. Above residential bill is based on a 750 kWh per month Toronto Hydro customer. Above Class B estimate based on a 1 MW customer connected to Toronto Hydro, assumes delivery charge escalates as per residential forecast. "Social programs" refers to existing RRRP and OESP. While initiatives would take several months to implement, the above estimate for 2017 reflects a full-year impact. The 8% rebate above represents savings compared to status quo due to the reduction in the sub-total from GA financing.

Ontario

B. GA Smoothing – Potential Structure

- The following diagram provides an overview of a potential GA smoothing structure, as well as interactions between sector entities and elements required to meet accounting objectives.



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Note: Proposed structure is subject to legal and accounting confirmation, absent that confirmation, there would be a fiscal impact to the province.

Ontario

B. GA Smoothing – Accounting Considerations

- OPCD advises that analysis is not complete; several requirements (below) are high risk re: satisfactory resolution.
- Complexity of the structure and length of deferral/recovery increase risk and decrease transparency
- If all requirements can be met, an accounting analysis is expected to support: (1) increase in provincial borrowing (2) no increase in net debt, and (3) no impact on annual surplus/deficit, but depending on funding to OPG/Trust from Province, an increase in interest on debt and an increase in income from OPG will result.
- IESO requirements – IESO Finance, KPMG (Energy advisor and IESO auditor), OPCD and EY (OPCD advisor) are evaluating accounting risks:
  - IESO can recognize a regulatory asset for the shortfall between the amounts collected from the LDCs and the amounts paid to the PGs using GAAP hierarchy to support regulatory asset under PSAB
  - IESO can derecognize regulatory asset upon sale to OPG; and
  - "Market books" are reflected on corporate books.
- OPG requirements – OPG Finance, EY (OPG auditor), PwC (OPG Advisor), and OPCD are evaluating accounting risks:
  - OPG Trust purchases regulatory asset from IESO – classifies as intangible asset;
  - OPG consolidates Trust; and
  - OPG retains GBE status.
- No discussion with OAG; in previous Annual Reports, the OAG has raised concerns about the appropriateness of recognizing rate regulated assets and liabilities.

Ontario

B. GA Smoothing – IESO Considerations

- The *Electricity Act* enables IESO to recover from ratepayers the amounts paid to generators, distributors or other contracted entities.
- The accounting advice received by IESO is that reflecting market balances and regulated assets is a more appropriate presentation for its financial statements going forward.
- The IESO is characterized as an Other Government Organization (OGO) and consolidated on a line by line basis into the Provincial books.

Issue	Response
1. Can IESO adopt regulatory accounting?	• Public sector accounting does not address regulated assets. • Guidance can be drawn from other accounting bodies. • US Federal Accounting Standards Advisory Board (FASB), US Governmental Accounting Standards Board (GASB) and International Accounting Standards Board (IASB) do provide guidance. • FASB accounting standard 980 and IASB have specific references that support the adoption of regulatory accounting. **Conclusion:** There is a hierarchy of accounting principles that support this approach.

Ontario

B. GA Smoothing – IESO Considerations

Issue	Response
2. Can IESO recognize the GA deferral as a regulatory variance account?	Criteria for recognition are: • Rates are established by or are subject to approval by an independent, third-party regulator. • Rates are designed to recover the specific costs of regulated business-type activities. • In view of demand, it is reasonable to assume that rates will be set to recover the regulated business-type and can be collected from customers. **Conclusion:** Currently rates are approved by the OEB, legislation creates the right to collection, currently and in the future. The IESO can recognize this as a regulatory asset.
3. Can IESO sell the variance account related to the deferral of the annual Global Adjustment account?	• The sale of the variance account to OPG Trust must be structured as an absolute assignment of future economic benefits of the Asset with no obligations, rights or benefits remaining of IESO. • In that case, this would represent a sale of the future right to collect these amounts from the ratepayer. **Conclusion:** Based upon proposed terms of the sale agreement, there would be no future economic benefit for IESO. Risk and rewards are entirely transferred to OPG Trust.

Ontario

B. GA Smoothing – OPG Accounting Considerations

- An SPV/Trust is a stand-alone entity able to conduct business separately under a Trust agreement. **Note:** The conditions required for OPG to consolidate the SPV/Trust are outlined in the following table

Issue	Response
1. Decision Making	• OPG must have decision making authority on the operation of the SPV/Trust (without a veto right by the Province), including naming of trustees, establishing operating plans and budgets, setting or changing financing policies. • The SPV/Trust while operating within the legislation, must be controlled by OPG to operate freely and to alter terms and conditions not specified in the legislation to ensure recovery of the deferred amounts.
2. Business Risk	• The SPV/Trust must have variability of returns as a normal business enterprise would, including such things as interest charged on deferred amounts, decisions on how to finance these deferred amounts, the ability to make / lose and keep any spread from financing.
3. Funding	• The Province cannot directly or indirectly fund more than 50% of SPV/Trust or any investment in the SPV/Trust. • OPG must own at least 50% of the most exposed equity /sub-debt in the SPV/Trust.
4. Directive	• Directive that is issued should not be prescriptive or direct OPG to set up this business. The directive should only be "guiding" i.e. to allow OPG to evaluate options and put forward to the OPG Board a recommended plan for Shareholder approval.

Ontario

B. GA Smoothing – OPG Accounting Considerations (cont'd)

Issue	Response
5. Other required Attributes	• The legislation that supports the formation of the SPV/Trust must have the following attributes: – Must require interest, carrying and administrative costs be paid to the Trust to allow for Revenue recognition; – The amount to be deferred must either be specified or be calculated based on a specific formula that is not subject to ongoing decision making by the Province. **The Province cannot have the ability to override this formula;** – SPV/Trust and its debt holders will require their capital guaranteed and paid for directly by the Province if the Province revokes the legislation; and – The spirit of the legislation should be reflected in the Trust Indenture Agreement.

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B. GA Smoothing – OPG's Financing Structure Requirements

KEY ELEMENTS REQUIRED TO ENSURE THE DEFERRAL OF GA CHARGES CAN BE FINANCED:

Creation of Strong Property Rights

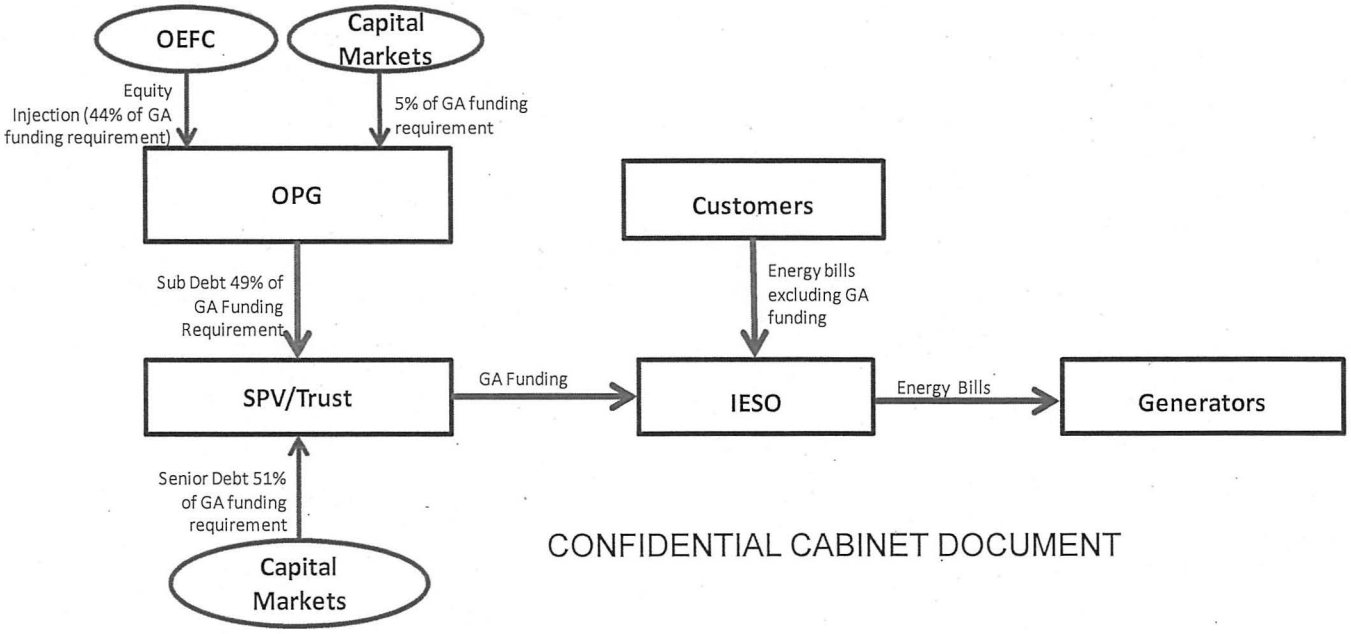
- Legislation enshrines the ability of the IESO to create a Right to charge customers in the future for the Global Adjustment (GA) deferred today including principal amount deferred, interest and other financing costs on the amount deferred and fees, expenses and other administrative costs.
- The Right can be sold to an appropriate Trust or Special Purpose Vehicle (SPV) to obtain funds to pay amounts due to generators under contracts or regulation. These SPVs are generally single purpose entities with no other operations that could add risk to the entity, dilute debt holder rights, allow parties from other operations to claim rights to the future recovery from customers or allow these other parties to initiate bankruptcy proceedings.
- Right must be irrevocable and if the Right is amended by future governments the debt holders have the right of action against the government to recover the amount outstanding including interest, fees, expenses and any damages resulting from the amendment.
- Right must specify the recovery period or the mechanism for setting the recovery rate including true up of the rate to ensure all amounts are recovered.

Economic Factors

- Limits on the recovery amount (principal, interest, fees and expenses) charged to customers in future periods must have compensating elements such as longer recovery period to ensure the full amount deferred plus interest, financing and other administration costs is recovered from customers.
- Need to balance customer relief with debt holder risk. Longer recovery periods and larger deferred balances increase risk to the debt holder of future government intervention.
- The amount required by the SPV to purchase and service the Right will be funded 51% from debt holders, 5% from OPG through capital markets and 44% from OPG via equity injection to OPG from the Province. The funding from OPG will be loaned to the SPV as subordinated debt.

B. GA Smoothing – OPG's Financing Structure Requirements (cont'd)

- Special Purpose Vehicle (SPV) will be used to raise the GA financing and ring fence OPG from its legal obligations
- SPV will be structured to allow for GBE accounting consolidation into OPG
- Given that SPV will be consolidated into OPG for accounting purposes, the significant amount of debt required to fund the GA deferral will have a severe impact on OPG's credit rating. If 100% of the requirement is funded by debt OPG would be downgraded.
- To manage this exposure and minimize the cost of funding. The required funding would be split into 2 buckets:
  1. 56% from capital markets; and
  2. The remainder provided by the Province via equity injection, which would be loaned to SPV as subordinated debt.
- The use of equity to fund a portion of the GA deferral also allows for an improvement in both Net Income and EBITDA as incremental revenue is captured by the increase in the value of the deferral which would offset the fiscal impact of the borrowing at Province level.
- Credit rating metrics are generally maintained within established limits.



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B. GA Smoothing – OEB Considerations

- Placeholder

Ontario

GA Smoothing – Legal Considerations

- The current GA amount paid by consumers is a regulatory charge. One of the requirements of a valid regulatory charge (as opposed to a tax) is that the person paying the charge either benefits from the regulatory structure or causes the need for regulation.

- In principle, refinancing the GA to spread the costs of generation and conservation assets over the useful life of the assets presents only a low risk of being a tax, as each cohort of consumers pays for a proportion of the GA cost roughly equal to the proportion of the benefit they receive from the useful life of the assets.

- A proposal for refinancing the GA that appears to cross-subsidize near-term consumers at the expense of long-term consumers by back-loading costs more than if costs were spread equally over the estimated lifespan of generation and conservation assets presents a moderately high risk (more likely than not) of constituting a tax.

- Were the charge characterized as a tax, in the event of a challenge, it would be struck down by a court as unconstitutional and consumers would be entitled to recover their payments. This risk could be eliminated, either up front or retroactively, by the imposition of a valid tax.

Ontario

GA Smoothing – Policy Considerations

- Borrowing money to smooth the Global Adjustment (GA), while lowering costs in the short term, results in a more rapid rise in electricity prices beyond the rate of increase already expected.
  - In addition, should Ontario electricity demand be lower than forecasted, the cost of paying off the debt will be spread over a smaller pool of consumption, further increasing future costs for individual ratepayers.

- The impacts are also based on a GA forecast. Since the GA fluctuates, actuals will vary based on demand, the addition of new generation and natural gas prices.
  - A "true-up" mechanism will be required to account for the difference between the "estimate" and "actual" GA costs.

- Although Class B electricity consumers, such as commercial and small industries, do not receive the benefit of GA smoothing (i.e., because it is only targeted to RPP consumers), the Ministry has a proposal later in the submission to address competitiveness for Class B consumers (i.e., targeted lowing of the Industrial Conservation Initiative (ICI) eligibility thresholder from 1 MW to 500 kW).
  - Class B consumers have raised concerns about the cost of electricity and its impact on their business competitiveness.
  - **Note:** Although Class B and Class A consumers will not receive the rate relief benefits of GA smoothing, both consumers will benefit from tax-basing the electricity social programs.

- Given the legal framework the amount of GA smoothing needs to be proportionate to the generating contracts (i.e., 20-year) and the additional years of generation services still available (i.e., additional 10-years of service).

- Rating agencies and investors in the Province's debt may view this borrowing as an obligation of the Province, regardless of accounting treatment. Depending on the magnitude of the debt to be incurred could have an impact on the Province's borrowing cost.

- The GA smoothing proposal will accrue total interest of $36 billion based on the proposed option. This amount of interest is sensitive to many factors, including interest rate, natural gas and carbon prices, generation costs and demand levels.

Ontario

GA Smoothing – Fiscal Considerations

- If the proposed legal and accounting treatment of the GA financing smoothing proposal is not implemented, there would be a negative impact on the province's fiscal plan, as shown below.

- The table below shows the projected fiscal savings /costs related to GA smoothing under these two legal/accounting treatment scenarios

Fiscal Impact ($M)	2017-18	2018-19	2019-20	2020-21	2021-22
Without Proposed Legal/Accounting Treatment					
Bills Lowered by 25%, RPP-Eligible Only*	2,534	2,668	2,942	3,420	3,183

*Numerical values represent amount borrowed in indicated fiscal year plus accumulated interest from previous year's accumulated debt

Source: Ministry of Energy

Ontario

ENHANCING COMPETITIVENESS FOR CLASS B ELECTRICITY CONSUMERS

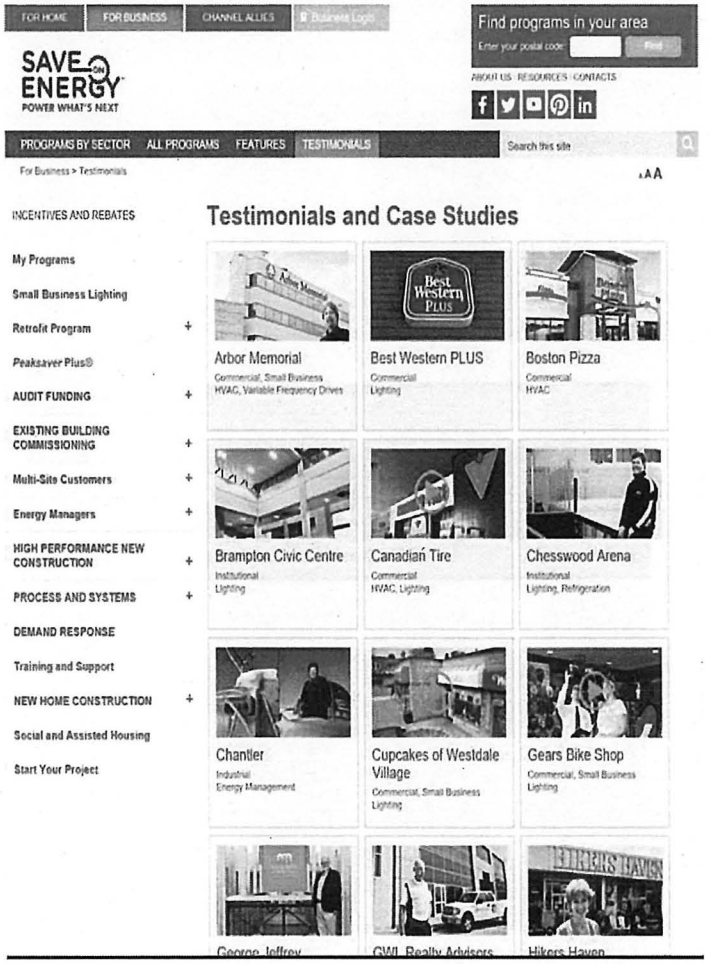
Support for Class B Consumers

- Class B electricity consumers comprise about 50,000 customers, including many mid-size manufacturers (i.e., automotive parts suppliers, plastics manufacturers), large commercial buildings (i.e., office blocks, mid-sized shopping malls) and broader public sector facilities (i.e., hospitals, college campuses).

- Through saveONenergy, many Class B consumers have already taken advantage of energy efficiency programs.

  - Although saveONenergy programs like Process and Systems Upgrade Incentive exist, these programs generally require significant investment on behalf of the customer in addition to the incentives and therefore may be difficult to take advantage of.

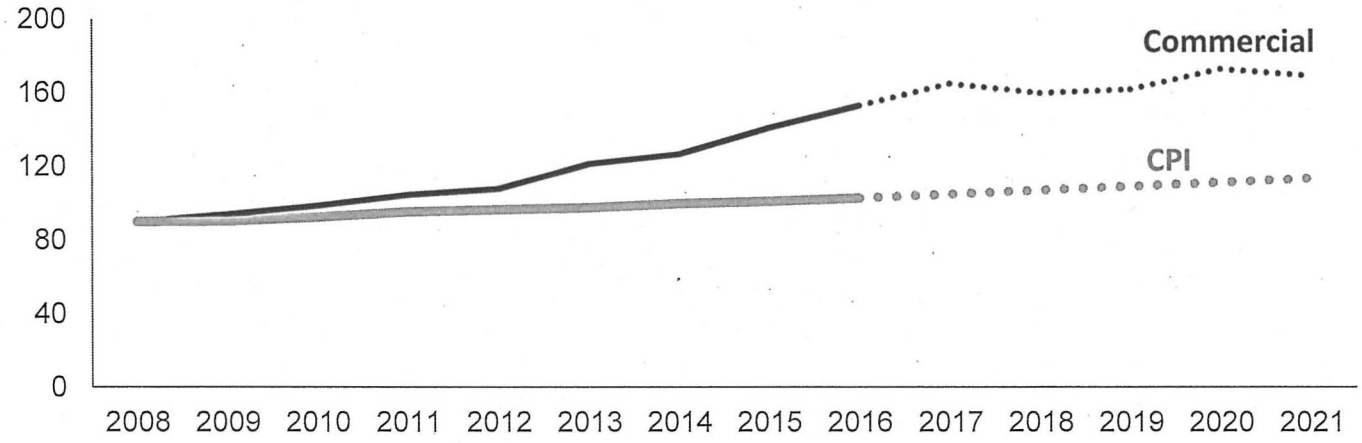
  - For Class B manufacturers whose electricity consumption is primarily based on process activities (e.g., injection moulding, welding, etc), traditional conservation measures like lighting and ventilation upgrades have limited benefit.



Support for Class B Consumers (cont'd)

- Class B consumers are too large for the Regulated Price Plan (so do not qualify for the 8% rebate for small businesses or Time-Of-Use pricing) and too small to be Class A (so do not qualify for the Industrial Conservation Initiative (ICI) for large consumers).
- Price mitigation initiatives could be provided to Class B to address stakeholders' concerns (e.g., Coalition of Concerned Manufacturers of Ontario, etc).
- The chart below highlights that the cost of electricity for Class B consumers has risen faster than CPI.

Illustrative Electricity Prices
in $/MWh



***Source*:** IESO; OEB; Ministry of Energy

Ontario

Lower ICI Threshold Below 1 MW for Energy Intensive Industry

- The Industrial Conservation Initiative's (ICI) eligibility threshold for participation was recently lowered to 1 MW. The lowering of the ICI eligibility threshold provides an opportunity for additional Class B consumers to save on their electricity costs if they choose to opt-in to ICI (i.e., and become new Class A consumers):
  - Beginning in July 2017, new participants will be billed Global Adjustment (GA) on the basis of their contribution to province-wide peak demand.
  - Prior to lowering the ICI eligibility threshold, electricity consumers with peak demand between 3 and 5 MW could only participate in ICI if they belonged to the following sectors: manufacturing, mining, data processing, refrigerated warehousing and greenhouses. **Note:** To achieve the benefits of ICI, participants must reduce their electricity demand during the five system peak hours.

- To enhance the competitiveness of larger Class B consumers whose electricity demand are too low to currently qualify for ICI, the Ministry proposed to:
  1. Expand ICI by extending eligibility to larger Class B consumers with average monthly peak demand over 500 kilowatts; and
  2. Target the expansion to energy intensive industries with the North American Industry Classification System (NAICS) codes 31 - 33 (i.e., Manufacturing).

- In addition, the Ministry will assist Class B participation in ICI through a targeted outreach campaign delivered by the Ontario Chamber of Commerce (OCC).

Ontario

Lower ICI Threshold Below 1 MW – Considerations

- A targeted lowering of the ICI eligibility threshold from 1 MW to 500 kW provides benefit to larger Class B consumers (i.e., manufacturing) while limiting the cost shift to other electricity consumers.
  - **Note:** A Class B consumer that run only a day shift, resulting in fairly peaky load profiles would need to adjusted its behaviour to maximize the benefits of ICI.
- Preliminary analysis by ENERGY staff show that the estimated impact of a targeted lowering of the ICI eligibility threshold from 1 MW to 500 kW would increase a typical residential bill by up to 0.66% or just over $1/month based on a 2016 bill of about $158.
  - The actual impact would vary depending on uptake and consumer responsiveness.
  - With the recent lowering of the ICI eligibility threshold to 1 MW, there is no information available regarding the actual impact on new participants and the electricity system.
- In order for any changes to ICI eligibility to take effect before the next 12-month billing period beginning July 1, 2017, regulatory amendments would have to be made before the end of April 2017.



Ontario

Lower ICI Threshold Below 1 MW – Legal Considerations

- The quantum of a regulatory charge may be set at different rates within a regulatory structure where the differential prices are intended to serve other regulatory goals including an intention to modify the behavior of persons within the scheme.

- Expanding access to the Class A pricing regime is intended to serve regulatory goals by encouraging consumers to shift their electricity use away from peak hours, which benefits the electricity system as a whole. While Class B consumers will have to pay more of the GA cost in order to finance the reduction for Class A consumers, this is generally permissible since Class B consumers are not modifying their behaviour and the total amount recovered for the GA does not exceed its cost. CLB has previously advised that the differential pricing structure generally only attracts a **moderately low risk** of being a tax, and this risk level does not change if the option of Class A pricing is extended to a broader class of consumers.

- It is more difficult to justify a differential regulatory charge on the basis of behavioral modification when the lower charge is not available to some participants in the regulatory scheme whose conduct could equally serve the same goals. To the extent that there is not a regulatory rationale for extending the new class A option only to certain sectors, risk increases. The amount of risk in this scenario will vary depending on the quantum of the premium that Class B consumers pay to create the behavior modification incentive for Class A and the degree to which the excluded sectors can credibly claim to be able to achieve the same outcome were they permitted to participate in this aspect of the program.

Ontario

ELECTRICITY SUPPORT AND CONSERVATION PROGRAMS TO HELP VULNERABLE ELECTRICITY CONSUMERS

Ontario

Electricity Support and Conservation Programs to Help Vulnerable Electricity Consumers

- To date, a number of electricity support programs are funded through the electricity rate-base. There is opportunity to provide support to a more targeted subset of customers who are disproportionately affected by increased electricity costs and to shift these costs to the tax base.

- These customers include:
  - **High Delivery Cost Customers:** Some customers in rural areas where the cost to deliver electricity is high can experience difficulty in reducing their electricity bill through conservation, particularly when reliant on electric heating.
  - **Low-Income Customers:** Rising electricity costs make up a disproportionally large amount of the household expenditures for low-income households.
  - **First Nation On-Reserve Customers:** On-Reserve First Nations customers experience challenges with energy affordability and are seeking to address historical grievances associated with electricity system infrastructure.

- To provide targeted assistance to the customers and alleviate electricity cost burden, ENERGY proposes to:

  A. **Enhance Rural or Remote Rate Protection** (RRRP) by funding its costs through the tax base and providing additional support to customers of designated Hydro One rate classes and other high distribution cost Local Distribution Companies (LDCs).

  B. **Enhance Ontario Electricity Support Program** (OESP) by funding its costs through the tax base and increasing eligible benefits by 50%.

  C. **Establish a new Affordability Fund**, providing energy efficiency measures at no or minimal cost to those who are ineligible for low-income conservation programs, have difficulty paying their electricity bills and who cannot make energy efficiency upgrades without financial assistance.

  D. **Implementing On-Reserve First Nations Delivery Credit**, to remove Delivery charges for on-reserve First Nations customers.

A. Delivery and Distribution Charge – Background

- The **Delivery** line on a typical consumer bill is specific to a consumer's Local Distribution Company (LDCs) and accounts for roughly 25-35% of the total bill before taxes.
- Delivery covers the costs of getting electricity from generating stations across the province to homes and businesses and combines three cost components of the electricity sector into one line item charge:
  - **Transmission:** The costs of moving electricity across high voltage lines from generating stations to the distribution system. This cost is recovered through a variable charge that is approved by the OEB.
  - **Distribution:** The costs of moving electricity from the transmission system to homes and businesses. Depending on the LDC, distribution costs makes up about 60% to 80% of the Delivery line.
    - This cost is currently recovered through both a variable charge and fixed charge, approved by the OEB. Distribution rates are moving to a fully-fixed charge over next 5 years.
  - **Line Loss:** The costs to recover electricity that is lost as heat when its delivered over a power line. Each LDC is assigned by the OEB a specific line-loss adjustment factor to reflect their loses particular to their assets. This factor is multiplied against the monthly electricity cost to determine the monthly cost.

SAMPLE MONTHLY BILL STATEMENT

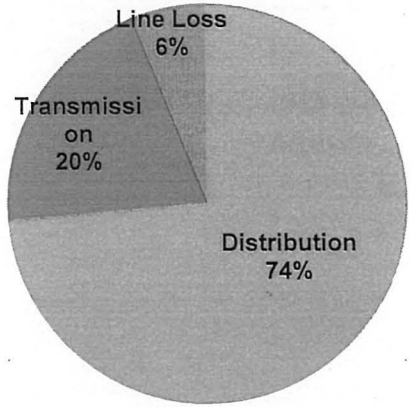
Anytown Hydro-Electric Limited

Account Number:
000 000 000 000 0000

Meter Number:
00000000

Your Electricity Charges	
Electricity	
Off-Peak @ 8.700 ¢/kWh	41.20
Mid-Peak @ 13.200 ¢/kWh	16.35
On-Peak @ 18.00 ¢/kWh	23.60
Delivery	53.07
Regulatory Charges	4.79
Debt Retirement Charge	0.00
Total Electricity Charges	**$139.00**
HST	18.07
8% Provincial Rebate	(11.12)
Total Amount	**$145.95**

Cost breakdown of Delivery Line for an Average Residential Bill*



* Toronto Hydro Bill @ 750kWhs

A. Rural or Remote Rate Protection Program – Background

- Rural or Remote Rate Protection (RRRP) mitigates some of the high costs of electricity distribution in rural or remote areas of the Province. It is a legacy program of the old Ontario Hydro and has existed in its current form since 2001.
  - RRRP is funded by ratepayers in Ontario and funded through the regulatory line of the electricity bill. Currently costs $1.58/month for a 750kWh consumer.
- Part of the program helps fund the costs of Hydro One customers classified into the "R2" residential rate class. There are 335,000 R2 customers across the Province. These customers have some of the highest Delivery costs in the Province.
  - From 2001-2016 the program provided $125.4 million annually to help defray these costs.
  - In the 2016 Speech from the Throne, this funding was expanded by $116.4M to a total of $241.9 million.
  - As of Jan 2017 R2 customers receive $60.50/month off their distribution costs.
- These customers still have high delivery and high distribution costs and are often faced with significantly higher than average bills.
  - The higher than average consumption patterns coupled with higher than average distribution rates has resulted in monthly bills many view as no longer affordable or equitable.



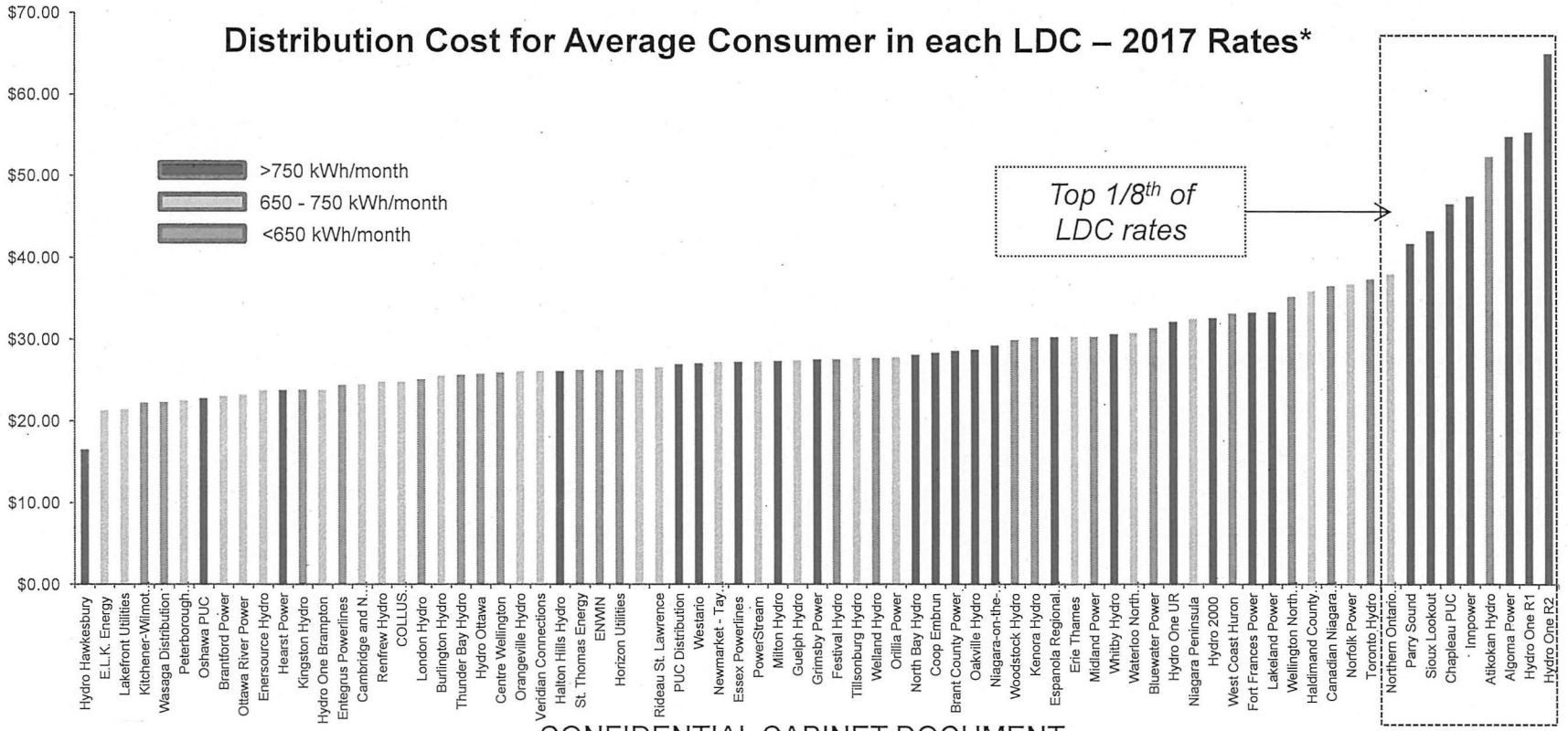
Ontario

A. Enhancing the Rural or Remote Protection Program (RRRP)

- While the RRRP helps mitigate some of the higher distribution costs for Hydro One R2 customers, there is an opportunity to provide further relief to consumers in relatively high-distribution cost outlier LDCs (top ~1/8th of distribution rate classes).
  - If expanded to the top 1/8th of distribution costs, this enhancement would also include Hydro One R1 customers (medium density), as well as LDCs with high distribution costs including: Northern Ontario Wires, Lakeland Parry Sound, Chapleau, Sioux Lookout, InnPower, Atikokan and Algoma.
- Mitigation could be provided by harmonizing distribution rates for these LDCs at the lowest distribution rate paid by an average consumer in this group.
  - Based on projected 2017 LDC rates, the lowest distribution rate paid by an average consumer in this group would be ~$38/month (with the highest being $65).
  - Is consistent with the OEB's mandated move to fully fixed distribution rates for all LDCs.
  - Roughly 800,000 customers would receive benefits from the current RRRP program and from these additional enhancements.
  - Setting a lowest distribution rate across these LDCs would help mitigate geographic-based differences in rates for the consumers who are most impacted and often see such differences as inequitable.
- Mitigation for all electricity consumers would be provided by moving the existing RRRP program costs and the proposed enhancements from the electricity rate base to the tax-base.

A. Enhancing the Rural or Remote Protection Program (RRRP)

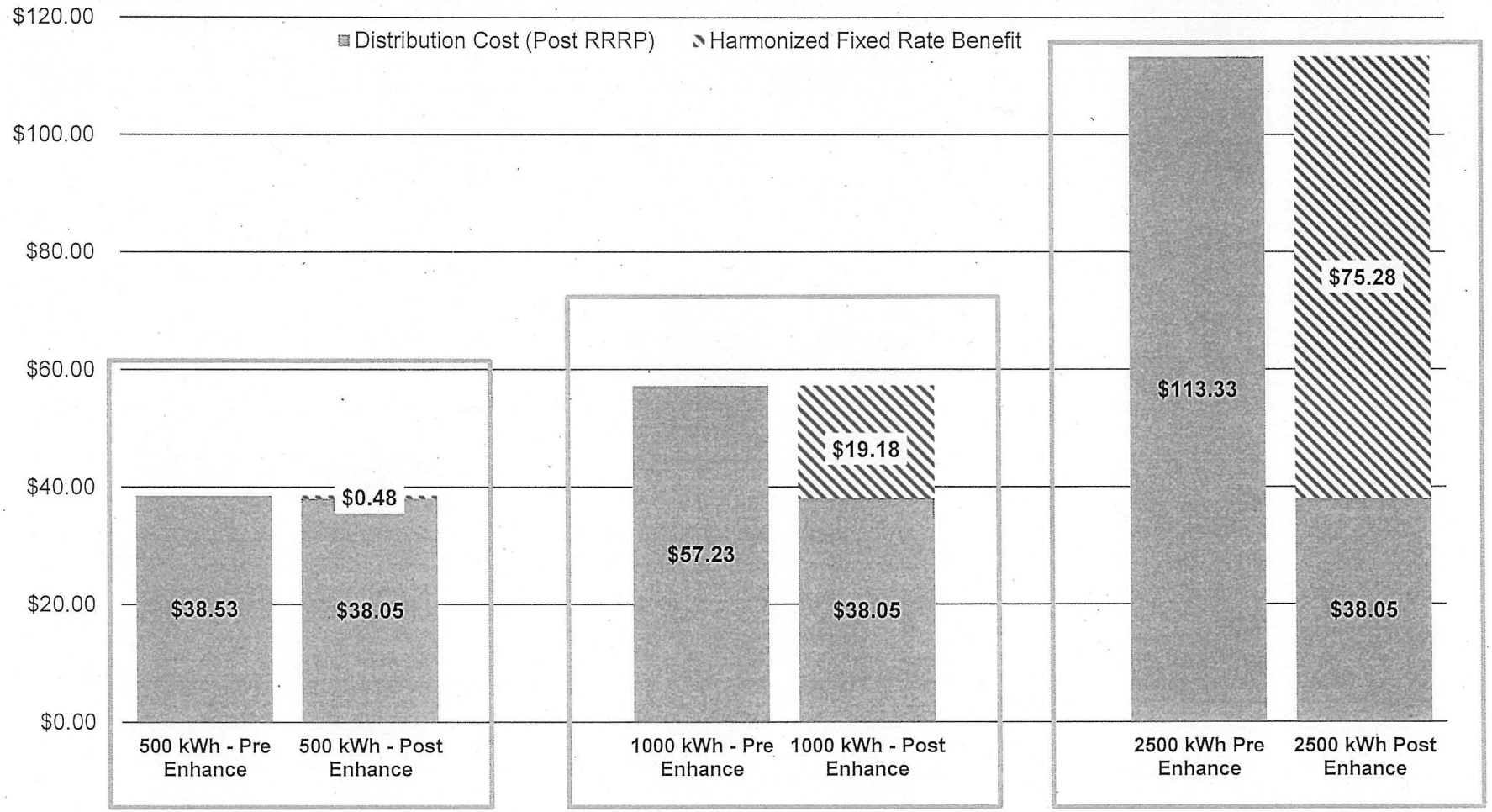
- The table below shows what 2017 distribution costs are projected to be for the average consumer within each LDC across the province, and highlights the highest-cost distribution rates.
- The charts on the following slides show what the benefits would be in each LDC if the fiscal plan was used to support harmonizing distribution costs for customers of the LDCs in the top ~1/8th of rate classes at $38/month.



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**2017 Approved and Proposed (Decisions Pending – rates are subject to change).*

A. Harmonized Distribution Cost – Ratepayer Impact (Hydro One R2)

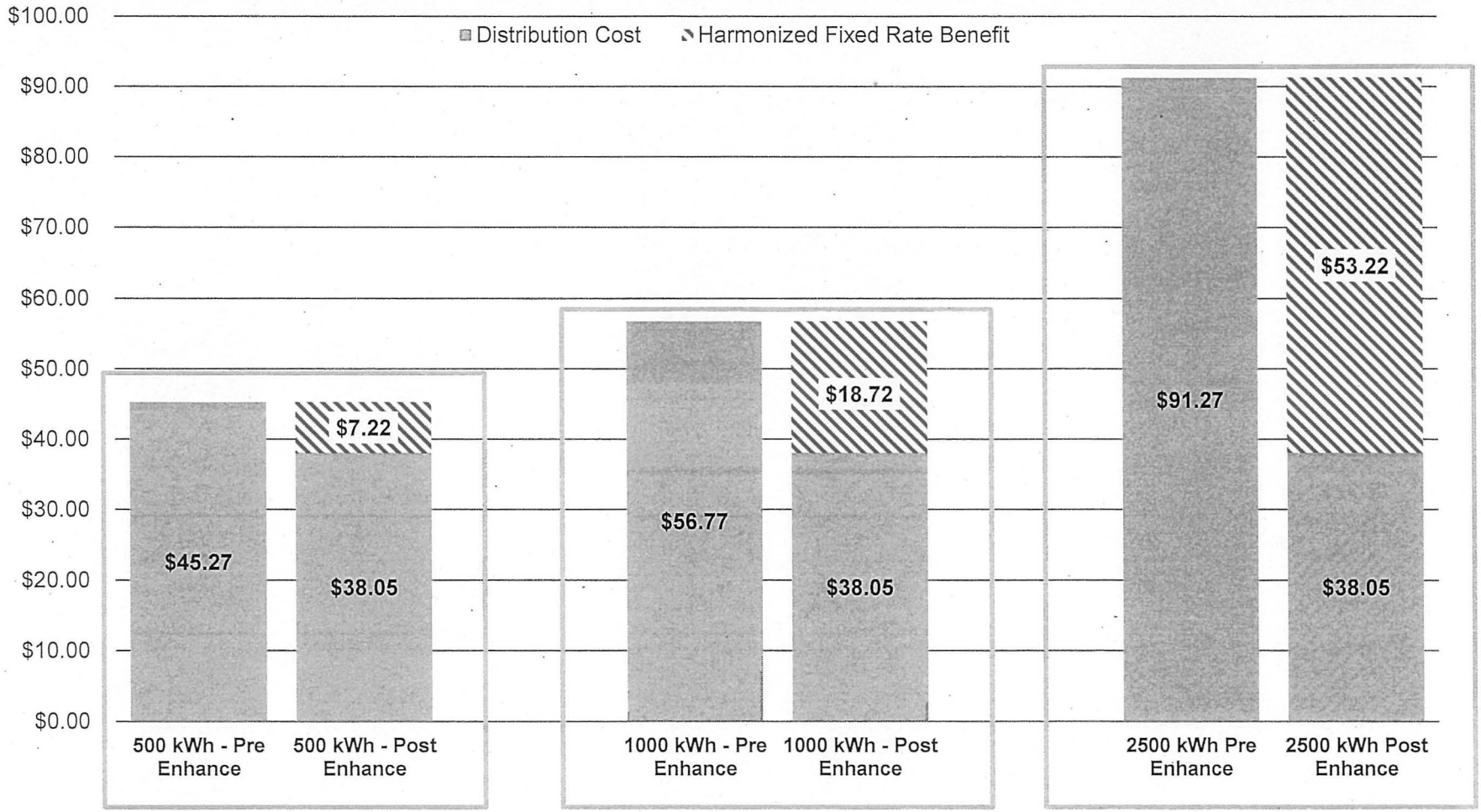


Note: *Rates are for 2017 (either approved or proposed). Distribution is one component of Delivery line charge. Transmission and line loss charges not shown.*

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Ontario

A. Harmonized Distribution Cost – Ratepayer Impact (Hydro One R1)

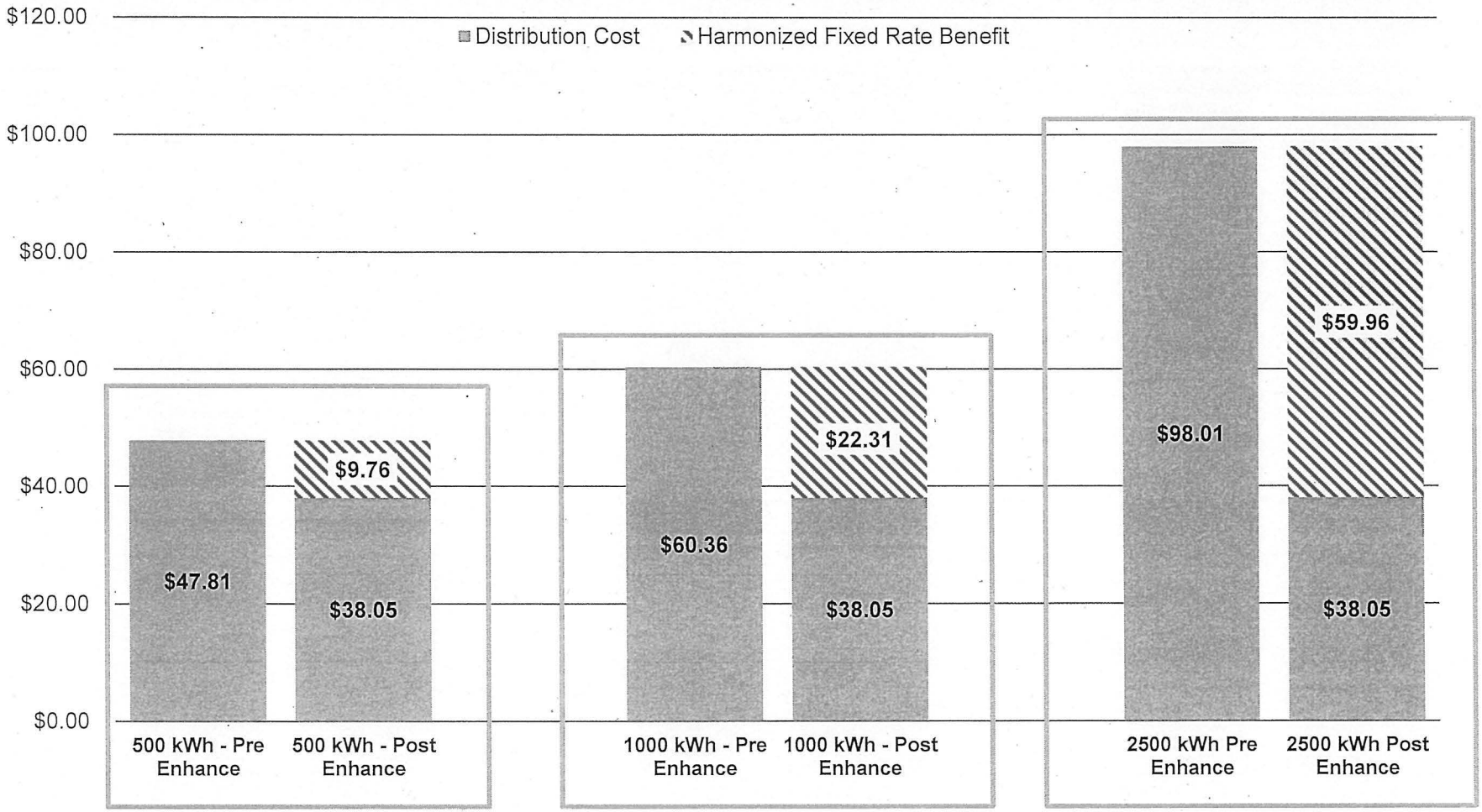


***Note:** Rates are for 2017 (either approved or proposed)*
Distribution is one component of Delivery line charge.
Transmission and line loss charges not shown.

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Ontario

A. Harmonized Distribution Cost – Ratepayer Impact (Algoma Power)

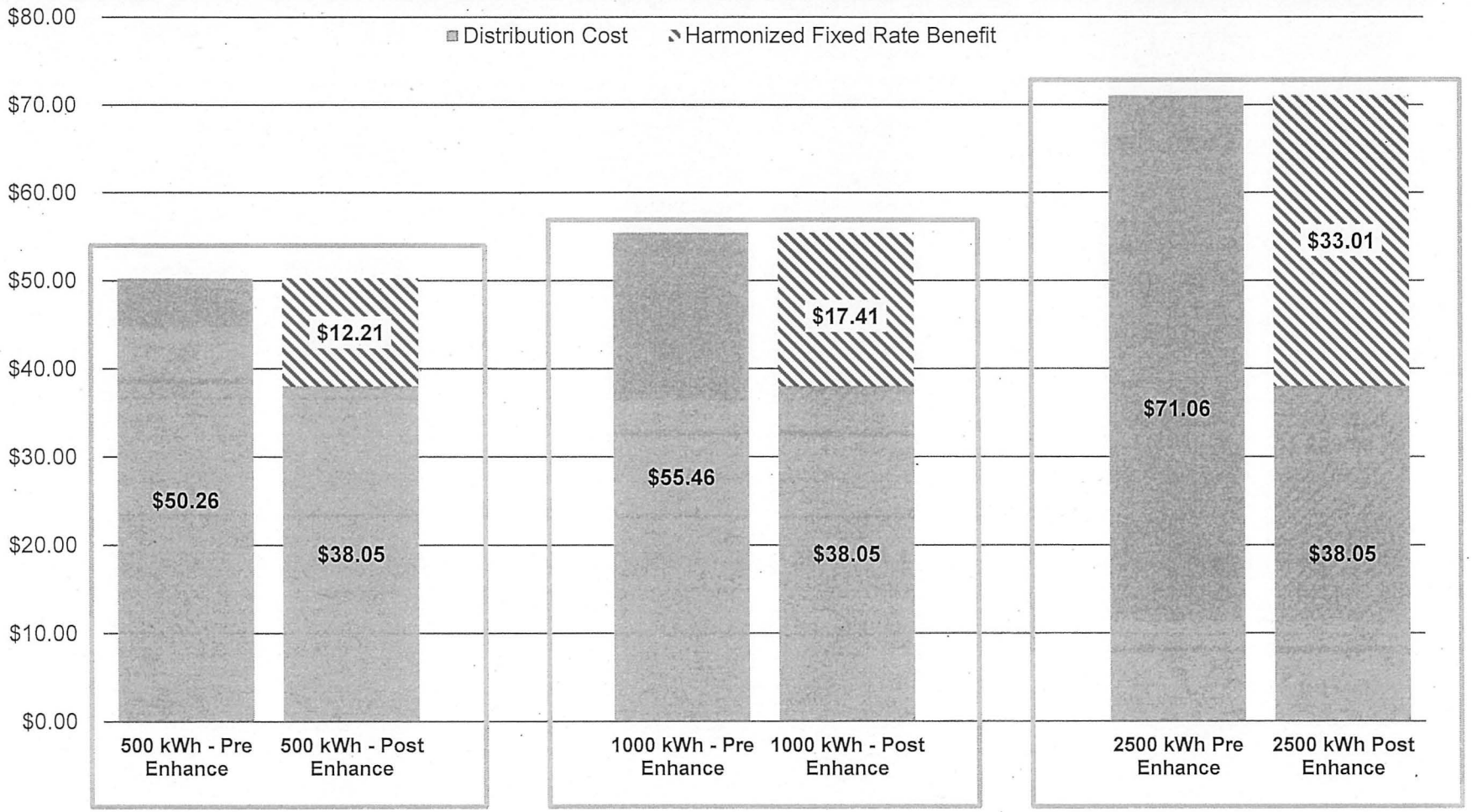


Note: *Rates are for 2017 (either approved or proposed). Algoma Power receives RRRP to support operational costs. Distribution is one component of Delivery line charge. Transmission and line loss charges not shown.*

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Ontario

A. Harmonized Distribution Cost – Ratepayer Impact (Atikokan Hydro)

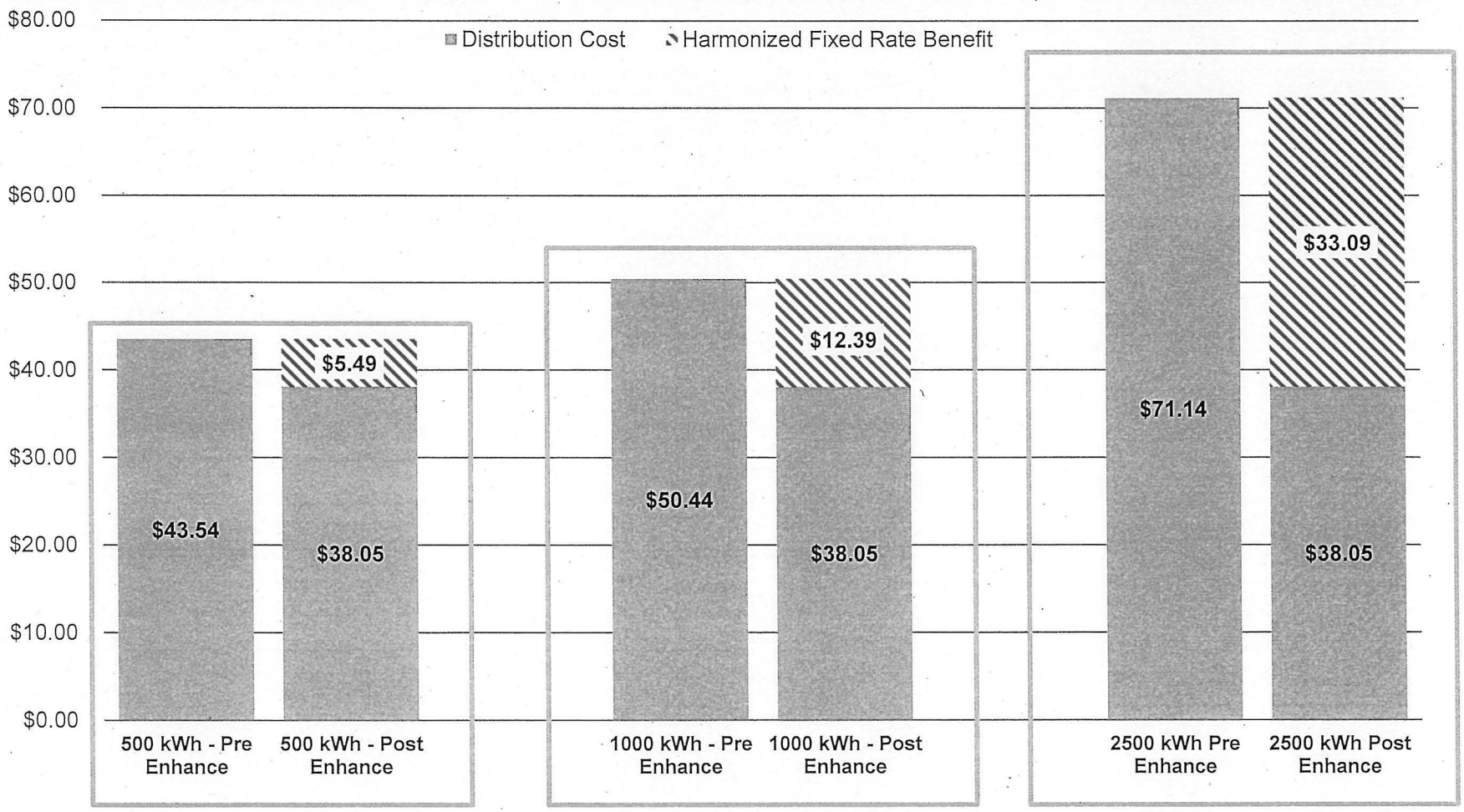


Note: *Rates are for 2017 (either approved or proposed)*
Distribution is one component of Delivery line charge.
Transmission and line loss charges not shown.

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Ontario

A. Harmonized Distribution Cost – Ratepayer Impact (InnPower)

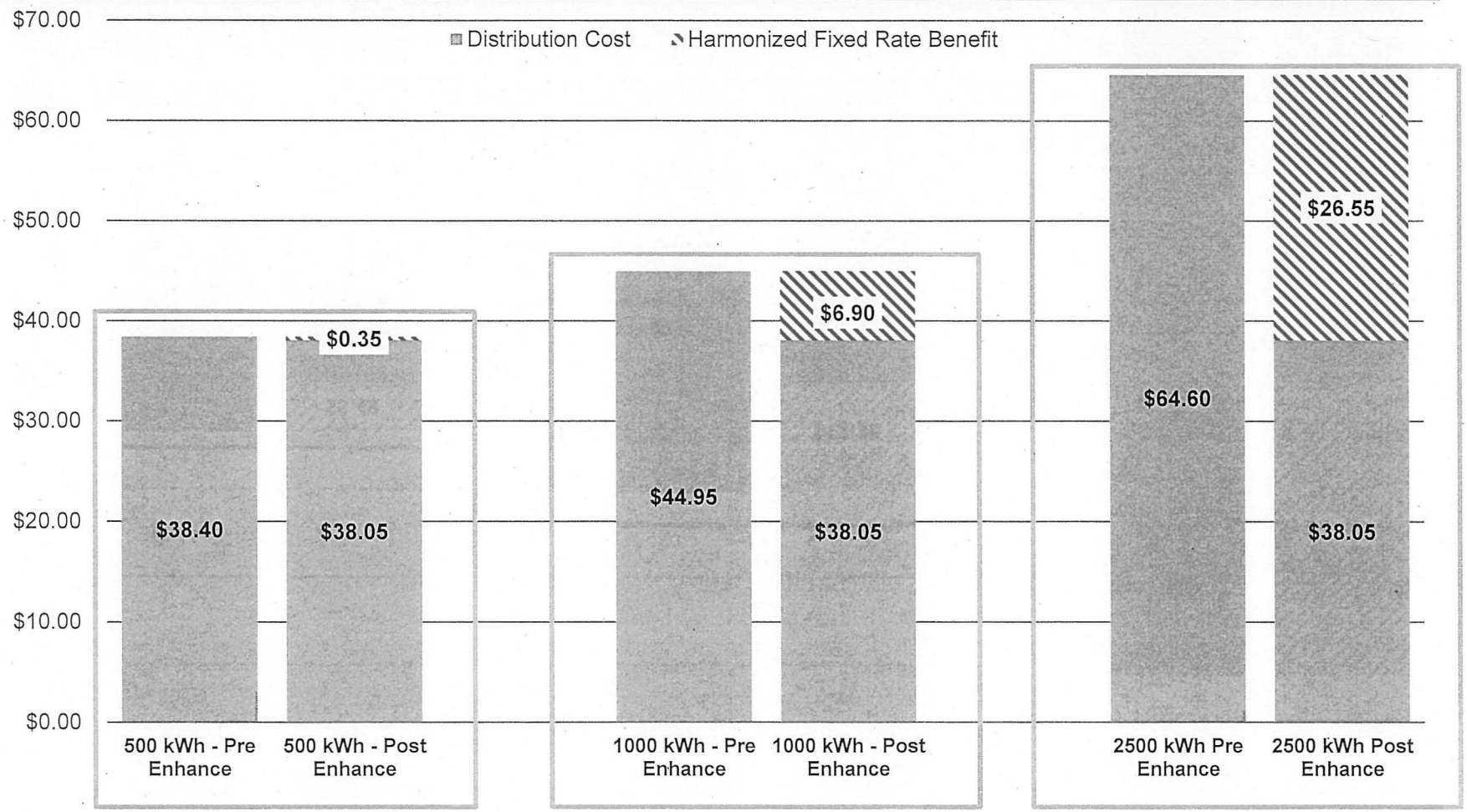


Note: *Rates are for 2017 (either approved or proposed)*
Distribution is one component of Delivery line charge.
Transmission and line loss charges not shown.

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Ontario

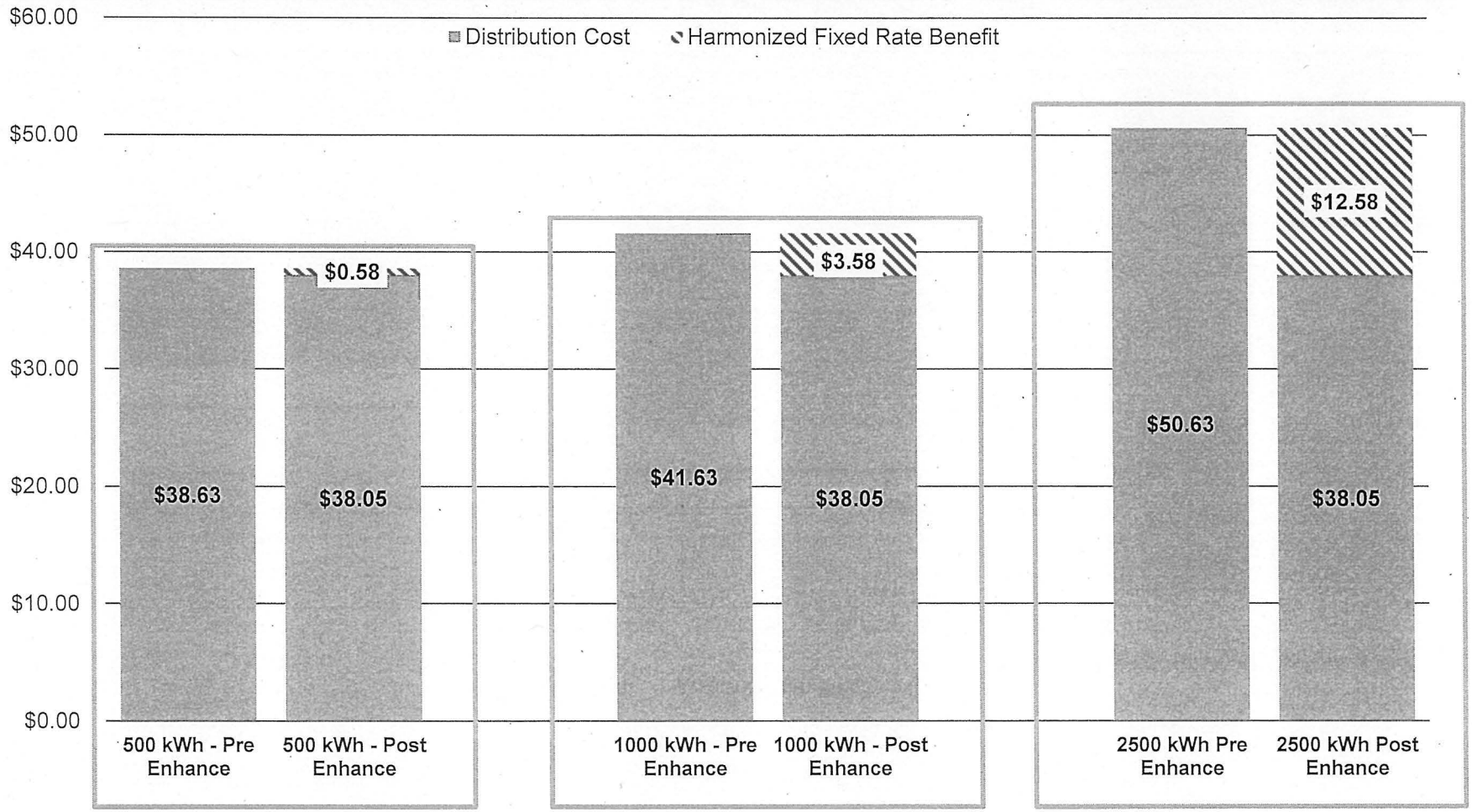
A. Harmonized Distribution Cost – Ratepayer Impact (Chapleau PUC)



Note: *Rates are for 2017 (either approved or proposed)*
Distribution is one component of Delivery line charge.
Transmission and line loss charges not shown.

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A. Harmonized Distribution Cost – Ratepayer Impact (Sioux Lookout Hydro)

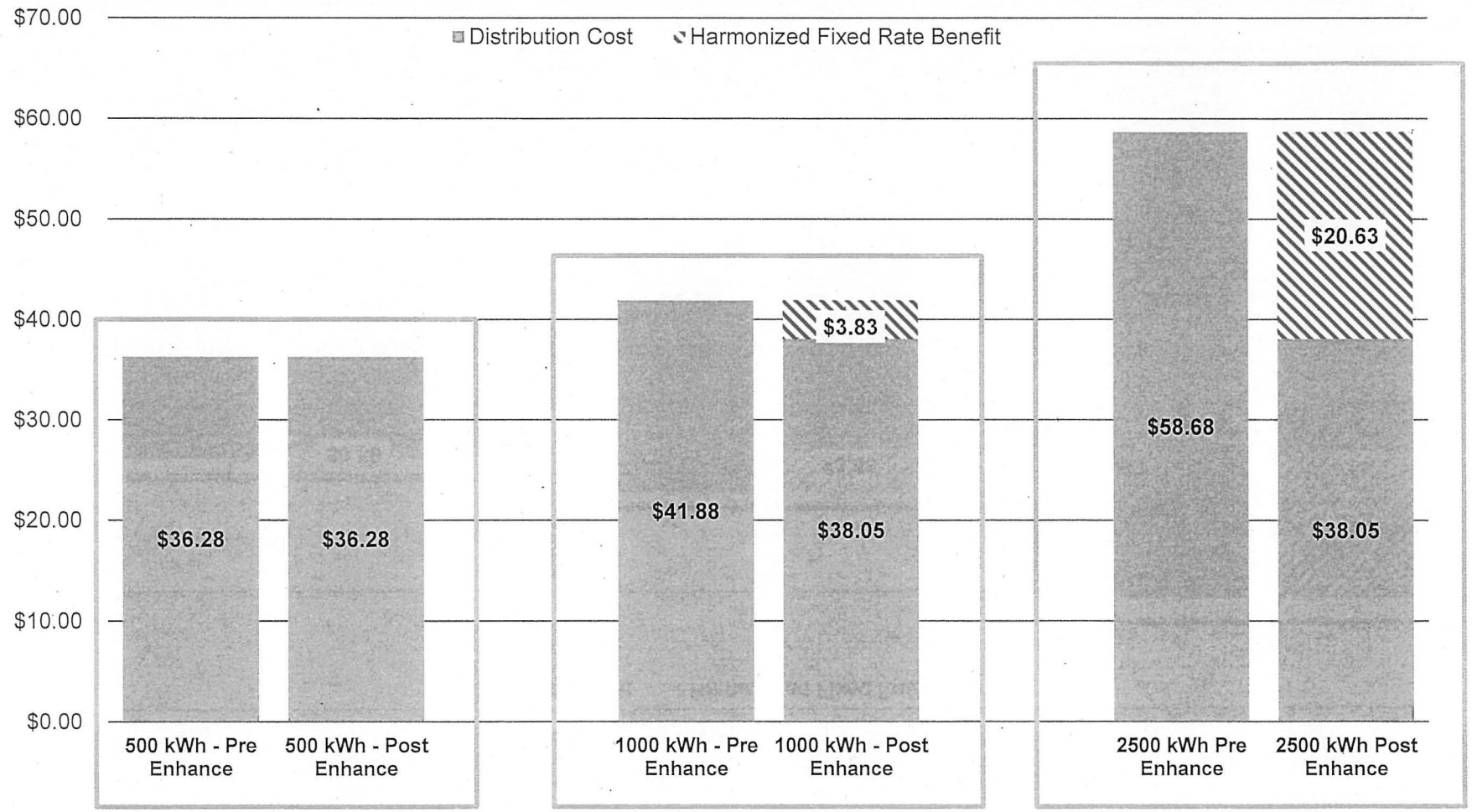


Note: *Rates are for 2017 (either approved or proposed) Distribution is one component of Delivery line charge. Transmission and line loss charges not shown.*

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Ontario

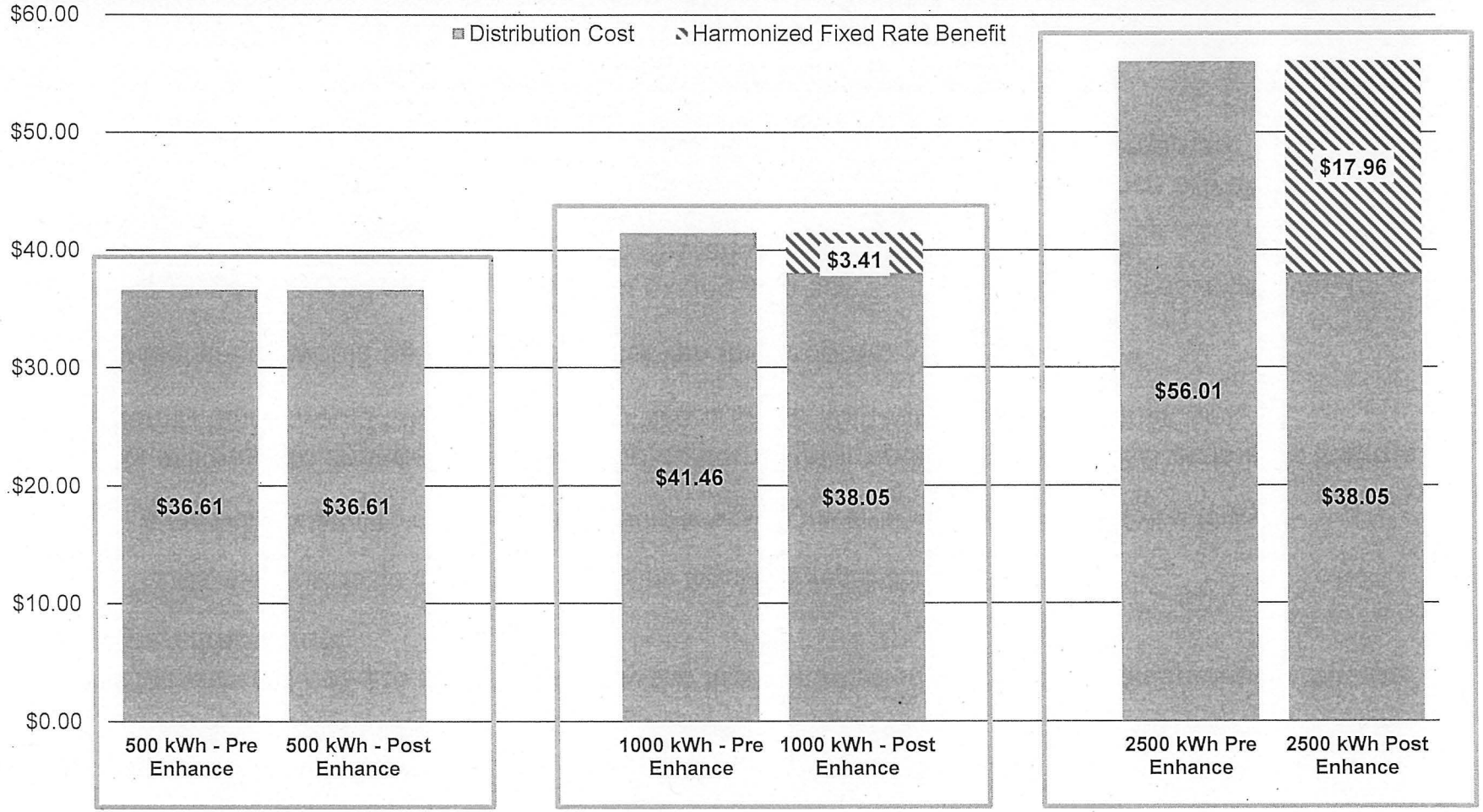
A. Harmonized Distribution Cost – Ratepayer Impact (Lakeland Power – Parry Sound)



Note: *Rates are for 2017 (either approved or proposed). Rates are for the Parry Sound territory within Lakeland Power. Other Lakeland Power customers (Huntsville area) not impacted. Distribution is one component of Delivery line charge. Transmission and line loss charges not shown.*

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A. Harmonized Distribution Cost – Ratepayer Impact (Northern Ontario Wires Inc.)



Note: *Rates are for 2017 (either approved or proposed)*
Distribution is one component of Delivery line charge.
Transmission and line loss charges not shown.

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Ontario

A. RRRP Enhancement – Considerations

Implementation

- The Ministry will need to ensure that only the high distribution cost LDCs are captured within the program framework
  - LDCs may need to be named explicitly in the legislation/regulation
  - A mechanism would also need to be created to ensure the level of benefit changes year to year
- LDCs will need to change their billing and customer information systems. OEB estimates that the implementation would take at least 6 months or more, following finalized regulations
- New legislation would be required to establish this program.
- Providing a tax-based subsidy outside of exiting rate setting mechanism reduces incentives for customers and distributors to engage on operating costs and capital planning.
- A mechanism will need to be created to ensure that LDCs/OEB/IESO/Province are aligned in the year-to-year forecasting and costing of the RRRP program and the enhancements.

A. RRRP Enhancement – Considerations (cont'd)

Fiscal

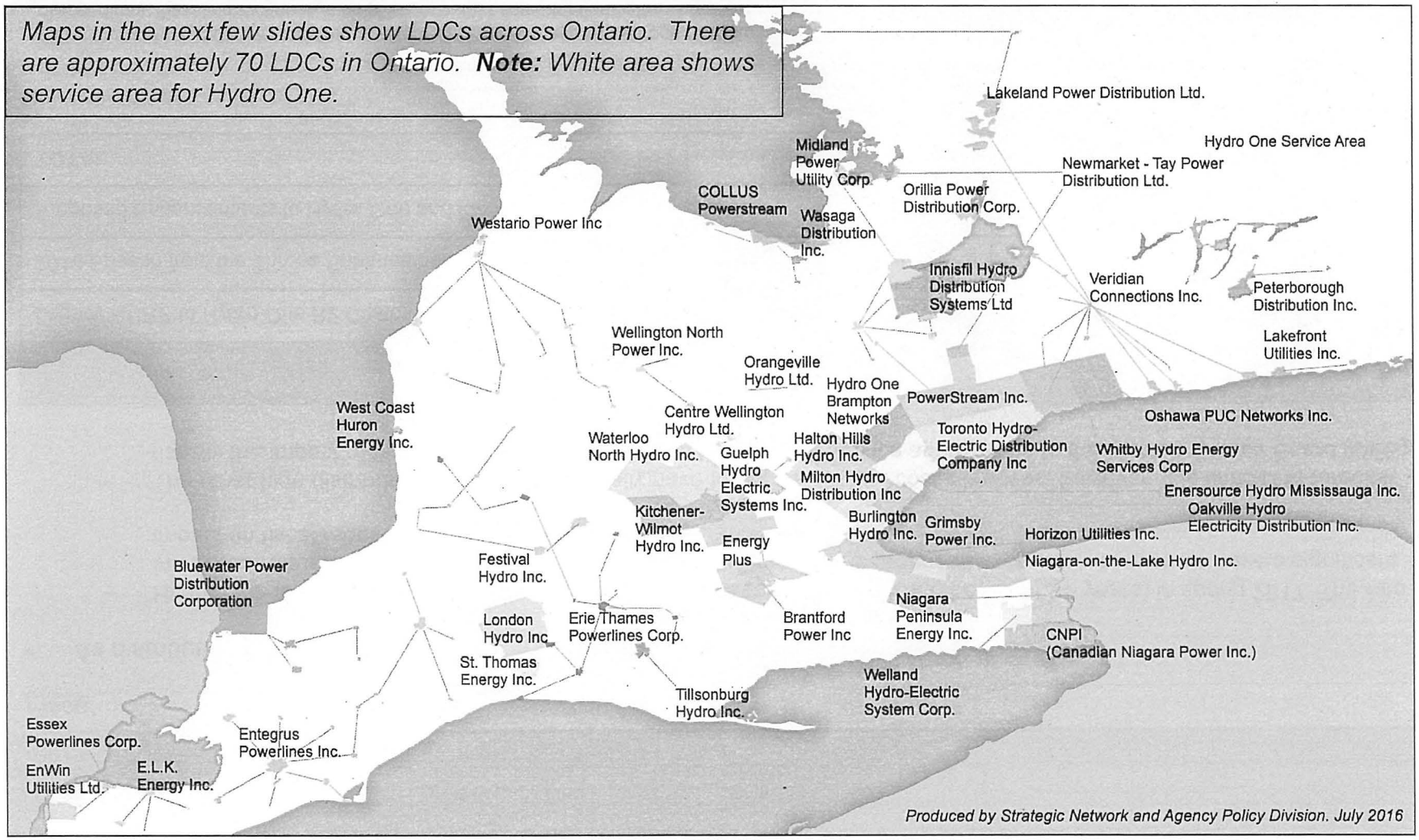
- As distribution costs vary year to year, forecasting fiscal impacts are challenging:
  - Hydro One is expected to submit its cost of service application for 2018 and beyond (3-5 years) in spring 2017. The rate increases requested in this application could potentially increase the proposed fixed rate which could have a significant impact on fiscal requirements and ratepayer impacts.
  - The other high distribution cost LDCs generally have lower distribution cost increases, however, it is difficult to forecast fiscally the impact of the program until LDCs submit their cost of service applications to the Ontario Energy Board (OEB).

Fiscal Impact ($M)	16-17	17-18	18-19	19-20	20-21
Legacy RRRP to Hydro One R2 Customers	-	126	130	133	136
2016 Speech from the Throne Enhancements to R2 Customers	-	117	120	123	127
Proposed Enhancements to Hydro One and Identified LDCs	-	216	222	228	234
TOTAL	-	**459**	**472**	**484**	**497**

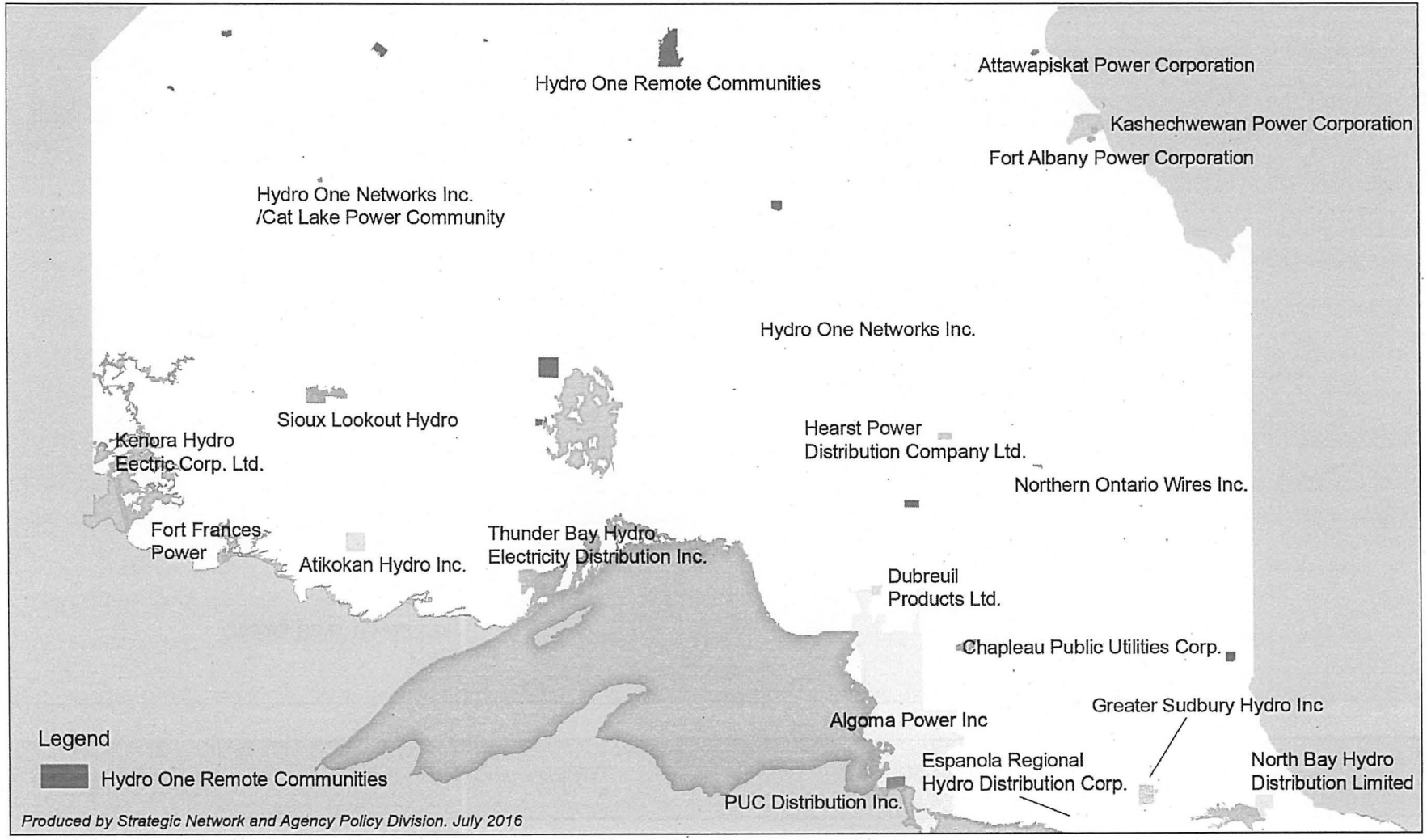
Note: Current regulatory framework calls for RRRP to increase by average distribution rate increase. Forecast assumes 2.6% annually though is subject to OEB proceedings. Fiscal projection is subject to consumer consumption patterns that may change due to extreme weather or other factors. Does not include Algoma Power or Hydro One Remotes, which would continue to be on the rate-base.

A. RRRP Enhancement – LDC Service Territory (Southwestern Ontario)

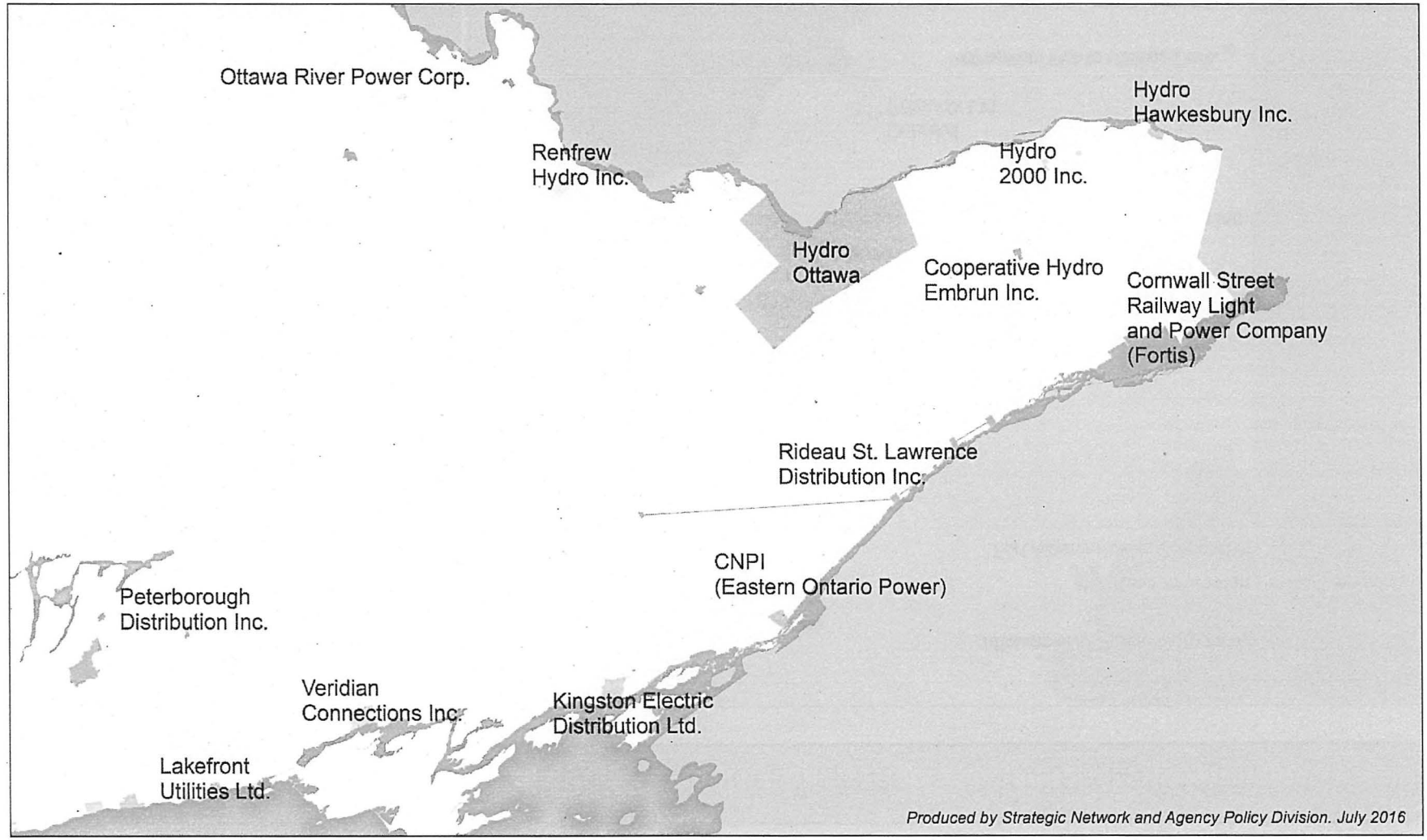
Maps in the next few slides show LDCs across Ontario. There are approximately 70 LDCs in Ontario. ***Note:*** *White area shows service area for Hydro One.*



A. RRRP Enhancement – LDC Service Territory (Northern Ontario)



A. RRRP Enhancement – LDC Service Territory (Eastern Ontario)



Ontario

B. Ontario Electricity Support Program (OESP)

- The OESP is an income-tested, application based program that lowers electricity costs of the most vulnerable consumers by a rebate directly on bills. The OESP is currently funded by the rate base.
- OESP credits vary by income level and family size, and there are two credit scales that include:
  - The basic program credit ranges from $30/month to $50/month.
  - An enhanced credit that ranges from $45/month to $75/month for consumers that are either Indigenous, use electric heat or have certain medical devices.
- The OESP launched on January 1, 2016, and in just over a year:
  - Almost 180,000 have been enrolled in the program representing 30% of the total targeted low-income population and some 278,000 applications have been received.
  - Almost $50 million in credits have been provided to vulnerable consumers.
  - Some 172 intake agencies have been mobilized to assist low income consumers to apply for the OESP.
- To drive this uptake, the OEB has engaged in extensive outreach, including advertising in multiple languages, and continuing to work with partner agencies to develop a model for "application clinics" across the province to increase program awareness and uptake across the province.







Ontario

B. Ontario Electricity Support Program (OESP) (cont'd)

- There are a numbers of ways that the OESP program can be enhanced:
  - Streamline the OESP process to drive participation toward 100%:
    - ENERGY and the Ministry of Community and Social Services (MCSS) have been working on automatic OESP qualification for Ontario Works (OW) and Ontario's Disability Support Program (ODSP) recipients who pay electricity bills.
      - MCSS estimates some 110,000 OW and ODSP recipients pay electricity bills;
      - This process could follow the "deemed eligibility" model used for the Healthy Smiles program. Using an existing model should simplify the implementation process.
      - The qualification process may have to be done manually at first, with a more automated IT solution in the longer-term.
    - Working with the CRA to make the application process easier / quicker to get through by finding an alternative to the requirement to mail-in signed consent forms;
    - Putting in place a more aggressive communications strategy and application intake clinics across the Province to increase awareness of/enrollment in the OESP.
  - Increasing the existing OESP credit scales by an additional 50%; and
  - Expanding the categories of OESP credits.

- It is also recommended that the OESP be supported from the tax-base as part of the rate mitigation package.

B. Ontario Electricity Support Program (OESP) (cont'd)

- The tables below outline the existing OESP credit scales and how the scales would be enhanced if increased by 50% and credits are extended to additional groups (represented in the circled boxes):

Existing OESP Credit Scales

Sliding Scale #1		Household Size						
		1	2	3	4	5	6	7 +
Income Bracket	< $28,000	$30	$30	$34	$38	$42	$50	$50
	$28,001 - $39,000			$30	$34	$38	$42	$50
	$39,001 - $48,000					$30	$34	$38
	$48,001 - $52,000							$30

Sliding Scale #2		Household Size						
		1	2	3	4	5	6	7 +
Income Bracket	< $28,000	$45	$45	$50	$55	$60	$75	$75
	$28,001 - $39,000			$45	$50	$55	$60	$75
	$39,001 - $48,000					$45	$50	$55
	$48,001 - $52,000							$45

Proposed +50% OESP Credit Increase*

Sliding Scale #1		Household Size						
		1	2	3	4	5	6	7 +
Income Bracket	< $28,000	$45	$45	$51	$57	$63	$75	$75
	$28,001 - $39,000		$40	$45	$51	$57	$63	$75
	$39,001 - $48,000			$35	$40	$45	$51	$57
	$48,001 - $52,000					$35	$40	$45

Sliding Scale #2		Household Size						
		1	2	3	4	5	6	7 +
Income Bracket	< $28,000	$68	$68	$75	$83	$90	$113	$113
	$28,001 - $39,000		$60	$68	$75	$83	$90	$113
	$39,001 - $48,000			$52	$60	$68	$75	$83
	$48,001 - $52,000					$52	$60	$68

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***Note:** The proposed higher scale, including the amounts in circles are proposed and will be refined in consultation with the OEB.

Ontario

B. Ontario Electricity Support Program (OESP) – Considerations

Fiscal Impact

- Changes to legislation / regulation may be required to establish and define the parameters for OESP to receive funding from the tax-base. The scope of changes would depend on the implementation / delivery mechanisms.
- The OESP regulation will likely require changes to enable OW and ODSP recipients to be "deemed eligible" for the OESP.
- Financial flow-through mechanisms would need to be considered in consultation with IESO and LDCs. Likely to be modeled after processes used for the Ontario Rebate for Electricity Consumers (OREC).
- The OEB has been collecting program funding in excess of program costs and has accrued a positive balance. This balance must be addressed when moving to the tax base.
- If OESP amounts are increased, it will need to be confirmed that the credit is not treated as taxable income. This was addressed in the current iteration of the OESP.
- Adding additional categories to the OESP matrix will take time to implement as it will require changes to the central system as well as LDCs' billing systems. As well, the matrix will no longer follow the Low Income Measure (LIM), which could put additional pressure on the OESP and other provincial programs.

Fiscal Impact ($M)	16-17	17-18	18-19	19-20	20-21
Existing OESP credits	–	118	159	193	222
Incremental Enhance OESP credits by +50%	–	59	80	97	111
Incremental additional OESP categories	–	8	22	35	42
Total	–	**186**	**261**	**325**	**375**

Ontario

C. Establishing a New Affordability Fund

- For eligible low-income customers, the Home Assistance Program (HAP), delivered by LDCs under the Conservation First Framework, provides efficiency upgrades and education, at no cost, to help improve the energy efficiency and comfort of their homes and help customers manage their electricity bills.

- HAP does not address the needs of those customers that do not qualify as "low-income" but could benefit from conservation programs.
  - At the end of 2015, there were over 560,000* residential electricity accounts in arrears; of these about 19,900** (~3.6%) accounts were eligible to participate in low-income conservation and support programs.
  - According to the Ontario Energy Board (OEB), in 2015 about 60,000 customers had their electricity service disconnected.

Proposal: Establish Affordability Fund to Provide Existing Low-Income Conservation Program to Other Electricity Customers

- The Ministry proposes establishing an Affordability Fund which would be available to LDCs to provide similar energy efficiency measures as provided under HAP to targeted customers.

* **Note:** Unverified numbers reported by LDCs to the OEB
** **Note:** Low-income customers identified through participation in LEAP

Ontario

C. Establishing a New Affordability Fund (cont'd)

Fund Details:

- An Affordability Fund would be accessible to LDCs only, and would target those customers who cannot qualify for low-income conservation programs and are in need, such as those who are facing disconnection.
  - By providing support for energy efficiency improvements, the Fund could help these customers reduce their future bills and avoid future disconnections.
  - The Fund would provide LDCs with an additional tool to provide assistance to their customers.

Eligibility Criteria/Fund Principles:

- Determination of eligibility could involve a number of factors and metrics:
  - Do not meet the definition of "low-income";
  - May have triggered action by an LDC collection department (e.g., are in arrears, have been placed on one or more payment plans, are due to be disconnected, etc.);
  - Priority could be given to eligible customers in electrically-heated homes, or other unique circumstances; and
  - Require financial assistance to pay for energy efficiency measures.

Ontario

C. Establishing a New Affordability Fund (cont'd)

Implementation

- ENERGY is currently in discussions with several large LDCs to determine the principles of the Fund and is working with Hydro One to set up an independent Trust to serve as the Fund Administrator.
  - The Fund Administrator would manage the flow of funds to LDCs based on principles set by the province, and be responsible for establishing processes, administration, and criteria for funding applications, thereby ensuring the program is managed on a consistent basis across the province.
  - LDCs would apply for funding to the Fund administrator, to offer energy efficiency measures to those customers in their service territories that meet the targeted eligibility criteria.
  - LDCs have over 10 years of experience in delivering conservation programs, including experience specific to contracting for programs that target low-income customers.
  - LDCs are best positioned to identify and target their customers who are most in need.

- Given the scope of the Fund, an LDC would need a firm financial commitment up front before implementation. LDCs rely on rate-payer funding for most of their activities. The Affordability Fund would be a unique venture from an LDC perspective given that it is tax funded.

Ontario

C. Establishing a New Affordability Fund (cont'd)

Implementation (cont'd)

- Recipients could receive measures ranging from an average of $3,000 to $5,000 per customer, at no or minimal cost. For example, measures available in the Home Assistance Program include:
  - Energy-saving light bulbs (LEDs); power bars; energy efficient window ACs, refrigerators, freezers, dehumidifiers; low-flow showerheads, hot water blankets, pipe wrap and faucet aerators (in homes with electric water heating); and
  - Programmable thermostats, weather stripping, insulation (in homes with electric heating).

- Cold climate air source heat pumps would also be an eligible measure under the Affordability Fund. Heat pumps range in cost from $7,000 to $13,000.

- As an illustration, with $200 million, the estimated reach of the fund could be 15,000 to 65,000 households, depending on measures and uptake.

Ontario

C. Establishing a New Affordability Fund – Considerations

Considerations

- The Affordability Fund addresses a real need.
  - LDCs have expressed the need for an additional tool to provide assistance to their customers.
- Determining allocation of funds to LDCs:
  - Some LDCs may have a disproportionate number of customers in need of assistance; and
  - ENERGY is proposing to seek input from the OEB, LDCs and potentially low income organizations to help develop funding allocation and eligibility principles for the Trust.
- While eligibility principles will be established, LDCs will need a degree of flexibility to target customers:
  - Not all customers who are in need will actively seek help;
  - Some customers in arrears may be "gaming the system" and not truly in need; and
  - LDCs recommend targeted outreach as opposed to broad marketing; a high volume of applications would limit the ability to deliver assistance to customers who need it most.

Fiscal Impact

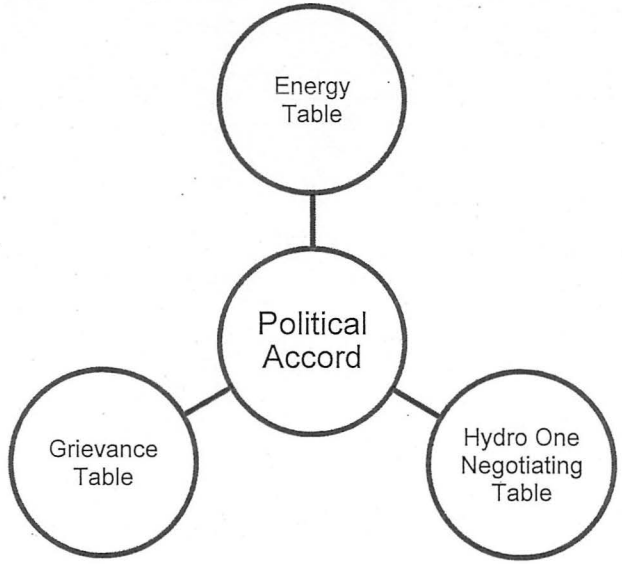
- The Affordability Fund would represent a fiscal impact of $200 million in fiscal year (FY) 2016/17.
- To allow for funds to flow in FY 2016/17, ENERGY would sign a Transfer Payment Agreement (TPA) with Hydro One and transfer money before end of fiscal year to ensure Hydro One can establish the Trust and the Trust can begin operation as the Fund Administrator.
- There is a fiscal risk if monies used for the Fund do not flow before FY year-end 2016/17 and for monies that are sitting in Hydro One at year-end (because of consolidation with province), and a corresponding fiscal pressure in the following years when the funds are flowed from Hydro One (H1) to ratepayers.

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Ontario

D. Implementing On-Reserve First Nations Delivery Credit

- ENERGY has a number of Tables with the Chiefs of Ontario (COO) and First Nations that include the Energy Table to discuss policy issues, the Hydro One Negotiating Table to discuss Hydro One shares, and the Grievance Table.
- The Grievance Table process was established at the request of COO as a means to avoid litigation to resolve historic grievances related to the energy sector and prevent these issues from impeding progress on broadening the ownership of Hydro One (H1).
- The cost of electricity and delivery charges were identified as the prevailing grievance at the First Nations-Ontario Energy Table meeting in Timmins in 2016, and the Minister of Energy agreed to explore options for a First Nations Rate through the Grievance Table process.



- On June 27, 2016, following discussions on Hydro One shares and rates at COO's All Chiefs Conference, the Minister of Energy issued a letter directing the OEB to prepare a report providing "*advice on options for an appropriate electricity rate (or rate assistance) for on-reserve First Nations electricity consumers*".
  - OEB engaged with First Nations, including remote communities, the distributors serving them, and consumer groups such as the Low Income Energy Network. It also established an Advisory Committee with the Chiefs of Ontario's Grievance Committee.
- The Ontario Energy Board (OEB) has worked with COO to engage with First Nations to develop options for a First Nations electricity rate. The OEB provided a report to the Minister on December 29, 2016.

Ontario

D. Implementing On-Reserve First Nations Delivery Credit (cont'd)

- On-reserve First Nations customers face unique challenges that impact electricity affordability, such as the poor quality of the housing stock on-reserve. These challenges result in significantly higher electricity consumption levels and costs.
- First Nations living on reserve are particularly vulnerable low-income consumers: the average income is considerably lower compared to First Nations living off reserve and compared to non-Indigenous populations:
  - Average income of First Nations on reserve in Ontario: $21,100;
  - Average income of First Nations off reserve in Ontario: $31,527;
  - Average income of Non-Indigenous people in Ontario: $42,506; and
  - Median incomes on smaller reserves can fall below $10,000 (e.g., Cat Lake FN).
- Employment rates also differ between on-reserve First Nations, off-reserve First Nations and Non-Indigenous individuals, as well as other indices of social vulnerability:
  - 54% of Indigenous people over 15 years old and living on-reserve in Ontario are unemployed or not in the labour force;
  - The on-reserve unemployment rate is 18.3% compared to 6.4% in Ontario generally; and
  - 67% of families residing on-reserve are single parent families, compared to the Canadian equivalent of 19%.
- First Nations are seeking redress for historic grievances related to lands affected by energy developments, such as transmission or distribution infrastructure built on reserve lands and traditional territories where, in some cases, they may not have been appropriately consulted.
- Further, in some circumstances, linear infrastructure corridors cut First Nation reserves in half, significantly disturbing the use and management of an already small land base; the First Nation communities disturbed by energy infrastructure report having experienced long wait times (e.g., 20 years) for their communities to get connected and receive the benefits of the energy derived from the local infrastructure.

Ontario

D. Implementing On-Reserve First Nations Delivery Credit (cont'd)

- The OEB report to the Minister of Energy on a First Nation on-reserve rate recommended:
  - Eliminate the delivery charge for all on-reserve First Nations residential customers and eliminate the monthly service charge for customers of licensed distributors which charge a bundled rate;
    - The OEB estimates this would provide residential customers an average monthly benefit of $85 at a total annual cost of $13 to $20 million.
  - Automatically qualify on-reserve First Nations residential customers (~21,500 customers);
  - Enable greater information sharing between distributors and band councils to identify all on-reserve First Nations customers; and
  - Continue to provide assistance through OESP and LEAP to eligible on-reserve First Nations customers.

- The OEB suggested the program should be funded from the tax base as it is targeted to a particular segment of the provincial population, or, if rate based, to use a province-wide charge.

- ENERGY recommends moving forward with the implementation of the OEB's recommendations as part of the wider electricity rate relief package and as the Hydro One share agreement with COO continues to be implemented.

Distributor	Number of On-Reserve Residential Customers
Algoma Power Inc.	473
Attawapiskat Power Corporation	336
Bluewater Power Distribution Corporation	237
Cat Lake Power Utility Ltd.	80
Cornwall Electric Distribution	514
Hydro One Networks Inc.	16,679
Hydro One Remote Communities Inc.	2,579
PUC Distribution Inc. (Sault Ste. Marie)	264
Thunder Bay Hydro Electricity Distribution	332
Total Number of Customers	**21,494**

Source: OEB Report to Minister: Options for an Appropriate Rate Assistance Program for On-Reserve First Nations Electricity Consumers (Page 5).

Ontario

D. Implementing On-Reserve First Nations Delivery Credit – Considerations

- Legislative and regulatory will be required to implement this program.
- The OEB will need to work with the LDCs to identify on-reserve consumers to administer the delivery rebate.
- Development of a communications plan containing the following elements:
  - Public release of the OEB report;
  - Commitment to working with LDCs on implementation details; and
  - Advanced notice to the OEB and COO regarding the ministry's decision to move forward on the OEB's recommendation and indicate a willingness to work collaboratively with COO on ways in improve community-LDC communication to ease implementation.
- The rebate will appear on customer's electricity bills, either as a specific line item or a communicated call-out.
- Recipients would continue to be eligible for programs such as the Ontario Electricity Support Program (OESP) and the Low-Income Electricity Assistance Program (LEAP).
- There is a risk that either non-status Indigenous communities without reserves or Métis could challenge the program on the grounds that it discriminates against them contrary to section 15 of the Charter. This risk is mitigated by the ameliorative purpose of the program and because targeting First Nations communities for a reserve-based program corresponds to the distinct circumstances of reserve-based communities, relative to other Indigenous communities. A genuinely ameliorative program that targets some people but excludes others is shielded from a s. 15 challenge if it serves or advances the ameliorative goal.

Fiscal Impact ($M)	16-17	17-18	18-19	19-20	20-21
On-Reserve First Nation Delivery Credit	-	20	20	20	20

Ontario

Fiscal Roll-Up

Fiscal Impact ($M)	16-17	17-18	18-19	19-20	20-21
RRRP Enhancements*	-	459	472	484	497
Ontario Electricity Support Program, including the 50% Enhancement & New Matrix Categories	-	186	261	325	375
On-Reserve First Nation Delivery Credit	-	20	20	20	20
Affordability Fund**	200	-	-	-	-
Total	200	665	753	829	892

***Note:** Current regulatory framework calls for RRRP to increase by average distribution rate increase. Forecast assumes 2.6% annually though is subject to OEB proceedings. Fiscal projection is subject to consumer consumption patterns that may change due to extreme weather or other factors. Does not include Algoma Power or Hydro One Remotes, which would continue to be on the rate-base.
****Note:** Funding for the Affordability Fund is one-time in 2016/17.

Ontario

BENDING THE FUTURE COST CURVE OF ELECTRICITY

Ontario

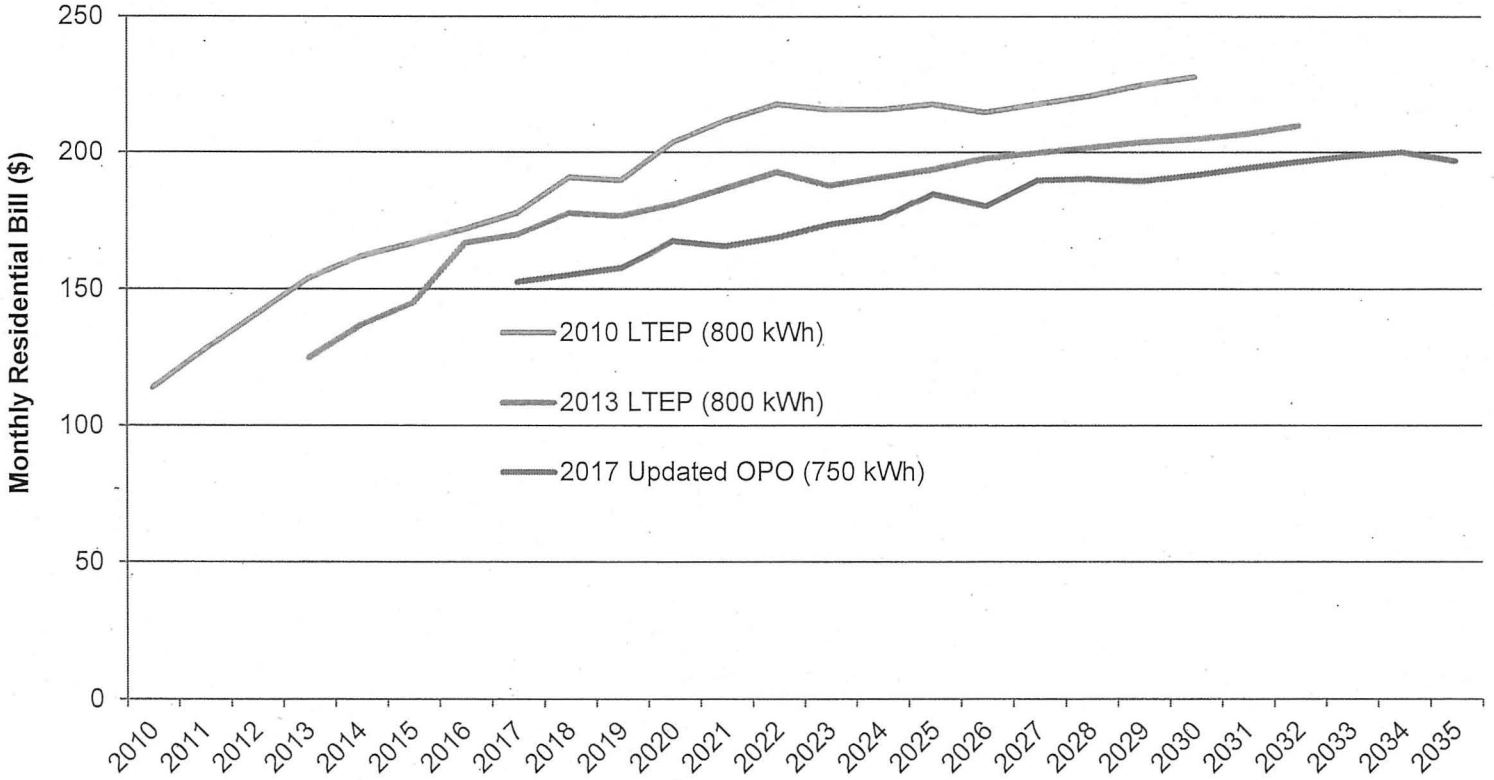
Existing Rate Mitigation Actions To Bend The Cost Curve

- Since 2013, the government has taken a number of actions to reduce electricity ratepayer costs, including:
  - Renegotiating the Green Energy Investment Agreement to reduce contract costs by $3.7 billion.
  - Reducing Feed-In Tariff (FIT) prices saving ratepayers at least $1.9 billion.
  - Introducing a competitive Large Renewable Procurement (LRP) process to drive down costs approximately $1.5 billion lower than the 2013 LTEP forecast.
  - Deferring the construction of two new nuclear reactors at Darlington, avoiding an estimated $15 billion in new construction costs.
  - Maximizing the value of our existing nuclear fleet by starting Bruce refurbishments in 2020 instead of 2016, thus helping to achieve $1.7 billion in savings and by continuing to operate Pickering up to 2024, pending regulatory approvals, which could save ratepayers about $600 million.
  - Suspending the second round of the LRP process and the Energy-from-Waste Standard Offer Program, which is expected to save up to $3.8 billion in costs.
  - Limiting the Feed-In Tariff (FIT) 5 procurement target to 150 MW and suspending future FIT procurements – up to [$xx] cost savings.

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Existing Rate Mitigation Actions To Bend The Cost Curve (cont'd)

- The chart below shows how electricity rate forecasts have trended down over time.



Sources: *2010 LTEP (800 kWh/month); 2013 LTEP (800 kWh/month); Revised Ontario Planning Outlook (750 kWh/month as of February 2017) which includes: ICI expansion, RRRP update, 8% rebate, HQ agreement, suspension of LRP II and EFWSOP.*

Ontario

A. OEB – LDC Efficiencies and Rates

Leveraging the OEB

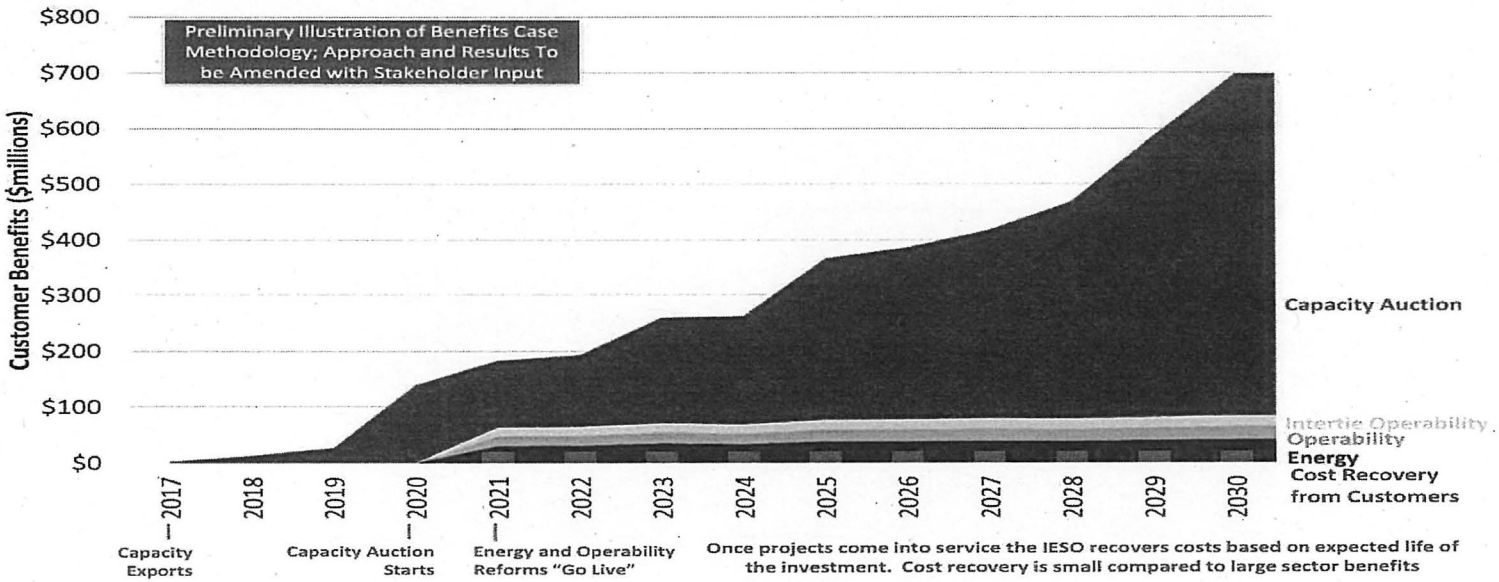
- The Ontario Energy Board (OEB) has a mandate to regulate the electricity distribution sector in the public interest, ensuring the financial viability of the sector while promoting reliable service to customers at just and reasonable rates.
- The OEB, through the Renewed Regulatory Framework for Energy (RRFE), has since 2012 attempted to move the distribution sector towards a performance/outcomes-based regulatory framework.
  - While new reporting requirements such as the LDC performance scorecard are positive developments, RRFE does not tie these system performance expectations to LDC financial performance.
- Encouraging shared partnerships on services between utilities will help reduce costs in the back end and encourage further innovation for small to medium sized utilities.
- In 2012, the government asked the Ontario Distribution Sector Review Panel to make recommendations about how the distribution sector could become more efficient. The Panel concluded that a $1.2 billion net present value in savings could be achieved by consolidating LDCs into 8-12 regional entities.

Opportunities

- ENERGY could help promote and accelerate these efforts by asking the OEB to look at opportunities to further drive LDC efficiencies and productivity. This may indirectly incent LDC consolidation.
- In parallel, the OEB could be instructed to review business cases behind its own regulatory requirements to reduce "red tape" and eliminate costs that LDCs indicate are creating pressures on operating expenses.
- This could be done through the Minister's letter, the LTEP Implementation Directive, s. 35 of the *Ontario Energy Board Act, 1998*, and/or the 2017 Mandate Letter and other agency business planning processes.

B. IESO – Market Renewal

- Continue to move forward with Independent Electricity System Operator's (IESO) Market Renewal initiatives:
  - Moving to "technology-agnostic" procurements will provide new opportunities for innovation and modernization and ensure ratepayers receive the best prices possible.
  - Market Renewal encompasses projects such as a single-schedule system (from the current two-schedule system), more frequent intertie scheduling to better align with other jurisdictions and a day-ahead market. There will be up front capital costs to enable the initiative. IESO is currently assessing these costs.
- Changes related to IESO's Market Renewal initiatives, reflected in HOEP and uplifts, are estimated to save up to $300 million per year, starting in 2021, leading to a reduction of:
  - About $1/month or less than 1% at current retail prices for a typical residential bill; and
  - About $1.30/MWh at current all-in prices for industrial and SME electricity consumers.



Ontario

SUPPORT FOR TENANTS

Ontario

Support for Tenants – Context

- The government is considering measures to provide relief from high electricity prices, and is interested in ensuring that tenants also receive electricity cost reductions and/or relief.

- Currently, tenants generally either pay for their own electricity use through suite meters (i.e., sub-meters or direct arrangements with hydro providers) or pay for electricity indirectly as a service included in their rent:
  - Tenants who pay for their own electricity will receive electricity costs savings directly through their bills; and
  - Low-income tenants who pay own electricity bills can access energy support programs such as the Ontario Electricity Support Program administered by the Ontario Energy Board (OEB).

- Any potential initiatives could focus on the following options:

For tenants who pay own electricity bills

1. Expand OESP to increase relief or raise income thresholds.

For tenants whose electricity is included in rent

2. Require that landlords pass savings on to tenants (could be addressed by MHO through RTA amendments).
   - Options could include requiring landlords to automatically reduce rents, or allow tenants to apply the Landlord and Tenant Board for relief.
3. Provide energy rebates directly to tenants whose rent includes electricity.

Ontario

Support for Tenants – Potential RTA Hydro Relief Measures / Considerations

- RTA amendments with respect to tenant relief, remedies, and enforcement would be complex, and unable to provide immediate, direct and transparent cost remedies to tenants:
  - Impact of hydro relief measures and electricity cost savings for landlords may vary depending on size of rental building and location (urban/rural):
    - One size fits all approaches would not match actual landlord savings to direct tenant relief; and
    - More targeted approaches would add extreme complexity, leading to greater confusion for landlords and tenants, and difficulty administering enforcement.
  - Passing on actual savings could likely only be done after landlords have experienced decreased costs for a period of time (i.e. one year).
  - Difficulty in informing landlords of their responsibilities and enforcing reductions; would likely have significant resource implications for the Landlord & Tenant Board/Ministry of Attorney General.
  - Difficult for tenants to understand, with the most vulnerable tenants potentially less able to pursue remedies through the LTB.
- The kinds of potential RTA remedies would depend on various specifics regarding the way in which relief was being provided to landlords including whether:
  - The actual electricity cost savings for landlords are transparent to facilitate easy calculation of rent reductions or relief;
  - Hydro relief measures are permanent or temporary; and
  - All relief should be passed on to tenants, or just a portion of the relief (e.g., global adjustment fund, 8% rebate, any other relief).

Ontario

Support for Tenants – Potential RTA Hydro Relief Measures / Other Considerations (cont'd)

- As part of Climate Change Action Plan, MHO has been directed to mitigate the impact of carbon costs on tenants, and is proposing to prevent landlords from charging above-guideline rent increases for extraordinary utility costs increases.
  - May seem unfair that landlords are required to reduce rents or provide relief when utility costs decrease but cannot increase rents when utility costs increase.
- Relief would be limited to certain segments of tenant population:
  - Post-1991 buildings are exempt from the Rent Increase Guideline and landlords could negate any savings to tenants in these buildings through a higher subsequent rent increase.
    - Over 19% of tenant households are estimated to live in post-1991 private rental units including individually rented condos; a high proportion may already pay for electricity separately.
  - Relief may not be required for social housing tenants:
    - Most social housing tenants (80%) pay as per utility scales, which covers electricity usage other than electric heat; and
    - Utility scales were last updated in 2000 and are reflective electricity prices at that time.
- MHO, working with ENERGY and MAG will report back in Spring 2017 with options for electricity rate mitigation for tenants.

Ontario

Legislative Authority – Considerations

GA Smoothing

- **Amendments to *Electricity Act, 1998* (EA) and *Ontario Energy Board Act, 1998* (OEBA)**
  - The OPG Trust will require authority to recover principle, interest and administrative costs through GA from customers.
  - Legislation would authorize IESO to collect amounts on behalf of the OPG's SPV/Trust and settle accounts with the OPG Trust as a service provider. Regulatory amendments to GA Regulations would require IESO to:
    - Separately settle and track amounts received from the SPV/Trust to lower GA (including maintaining variance accounts).
    - Separately settle and track amounts paid back to the SPV/Trust (including maintaining variance accounts).
    - Distributors would continue to collect from consumers and settle with IESO. Generators would continue to be paid by IESO.
  - OEBA-related amendments would allow for OEB oversight. Light touch would focus on the borrowing entity's recovery of administrative costs and its calculation of amounts owing in a period. Heavy touch would give OEB the discretion to determine repayment over time.
  - The certainty of the legislative mechanism to recover the debt and interest, and the extent of discretion of the OEB to alter either amount over time, will have impacts on the availability and cost of capital.
  - Further legal analysis is required as the GA option is developed.

Class B

- **Targeted Lowering ICI Threshold Below 1 MW (to 500kW):** Regulatory amendments (O.Reg. 429/04) will be required to address program details.

Ontario

Legislative Authority – Considerations (cont'd)

Electricity Support Programs

- **RRRP, OESP and First Nations Rate:** Moving costs to the tax base and creating a First Nations rate will require amendments to OEBA. Regulatory amendments (442/01, 314/15, 275/04) will be required to address program details.

- **Affordability Fund:** In order to implement new affordability fund the Province would need to enter into Transfer Payment Agreements with qualified third parties to administer the fund.

Bending the Future Cost Curve of Electricity

- No specific legislative or regulatory amendments identified. IESO may need to amend market rules. Agency MOUs/MOAs may require amendment.

Ontario

Communication Plan

Objective:

- Demonstrate Ontario's commitment to lower electricity costs for ratepayers through new rate relief initiatives.

Strategic Approach

- High-profile Premier's announcement.
- News release, backgrounders, QA's are being prepared.
- A multimedia marketing and advertising campaign is being prepared on the topic of rate mitigation for electricity consumers.

Proposed Cabinet Minute

- Placeholder

Krista Hill → Torys → OEB →

→ Essentially → easy for defined registered amt
→ each unit → doesn't affect full CA amt
→ low detriment → short fall → defined amt → easy → DIU relief
either a defined amt → amt accrued defined → registered amt →

→ sell to the trust → → → pivot to debt →

→ selling a defined amt → legislation did not

→ Trust → apply to the OEB → finite registered amt → interest
people → smoothly → market → 53/05 → set at the limit → spend down
or annuity → amt received annually → Broda limits
→ regulated interest
→ namely fund interest daily