Ontario

MINISTRY OF
ENERGY

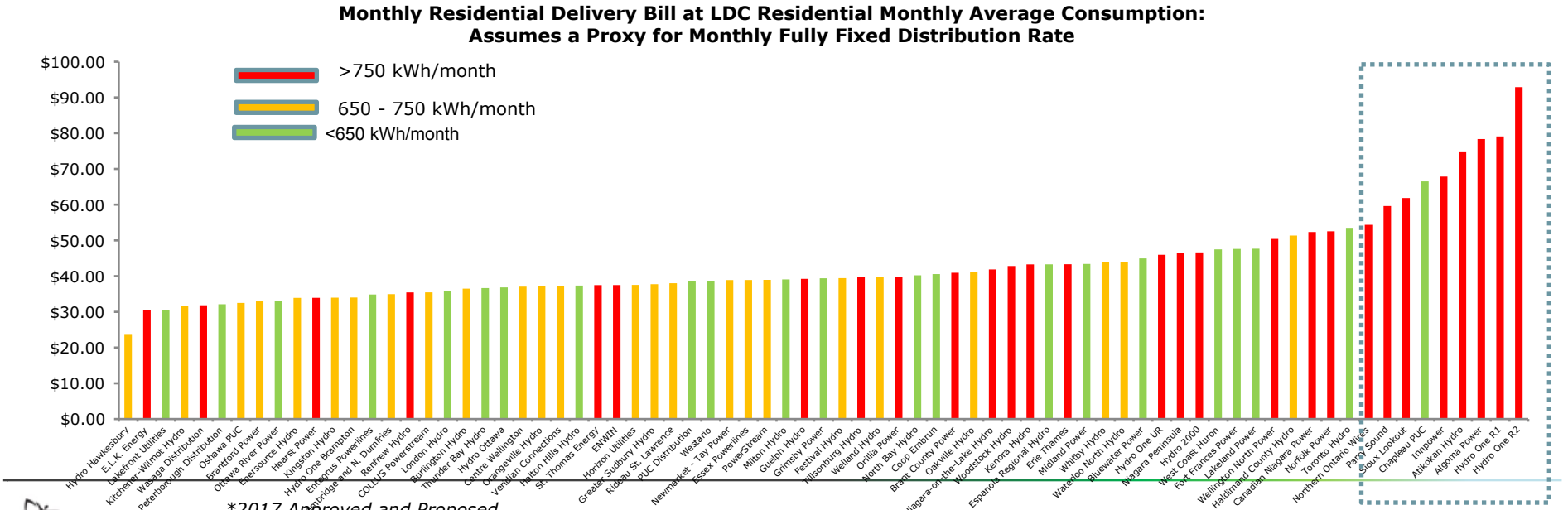
Rate Mitigation Plan Proposals

February 9, 2017

CONFIDENTIAL DRAFT

RRRP Enhancement – Accelerating Fixed Rate Benefit (cont'd)

- The OEB has ordered LDCs to establish fixed distribution rates for residential consumers in recognition that the majority of distribution costs are fixed regardless of consumption. The OEB believes moving to fixed rates will:
  - Establish a fairer way to recover the costs of providing distribution service.
  - Provide greater revenue stability for distributors, which will position them for technological change in the sector, remove any disincentive to promote conservation, and help with their investment planning.
- The OEB is gradually phasing-in the move to fixed rates in order to mitigate the impact of these increases to below-average volume consumers. Most LDCs will receive fully fixed rates in 2019/2020. Hydro One will be transitioned over a longer timeframe (2022-2023).
- The table below shows what delivery costs would be by LDC if fixed rates were fully implemented in 2017.

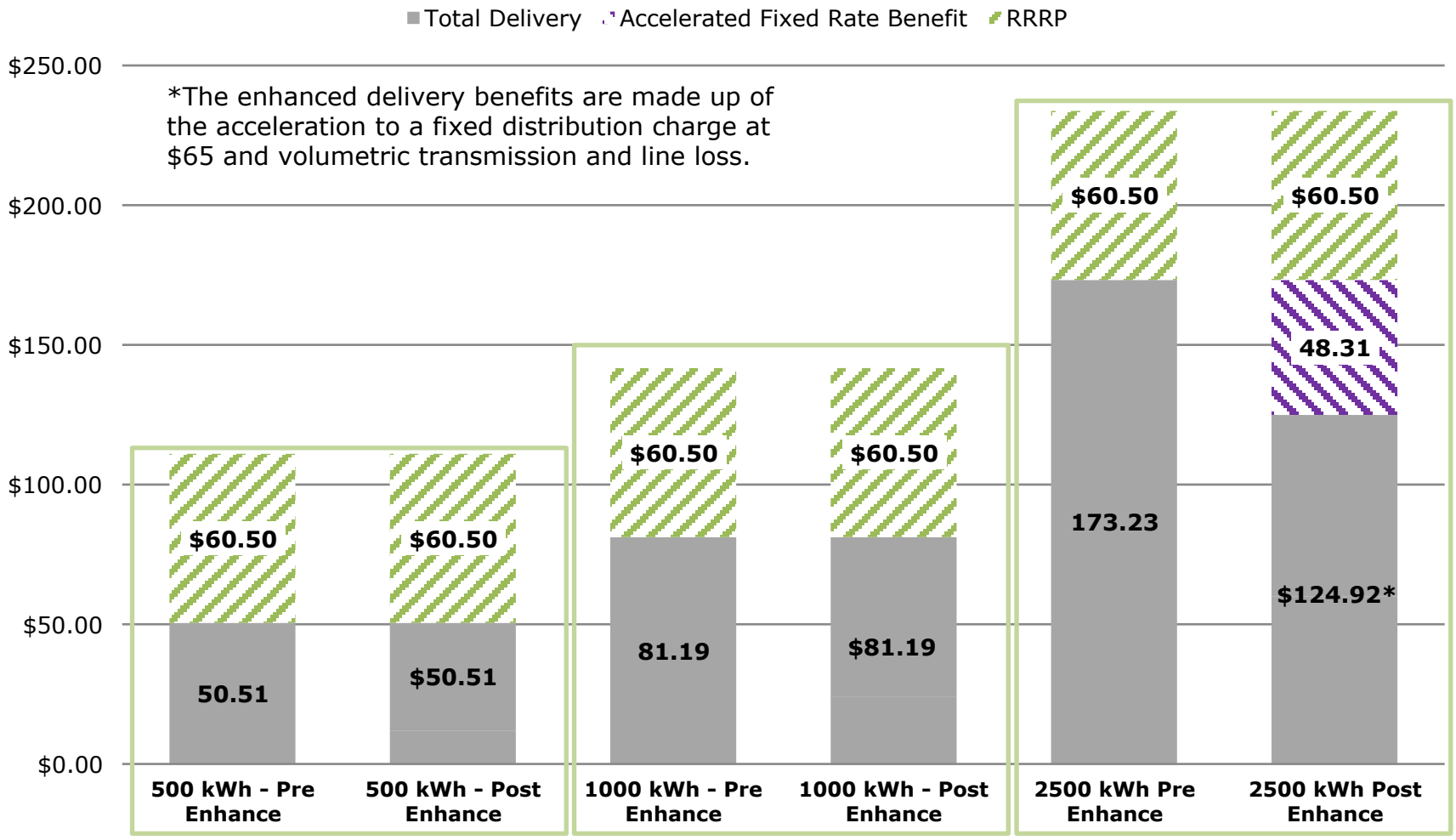


*2017 Approved and Proposed (Decisions Pending – rates are subject to change)

RRRP Enhancement – Accelerating Fixed Rate Benefit (cont'd)

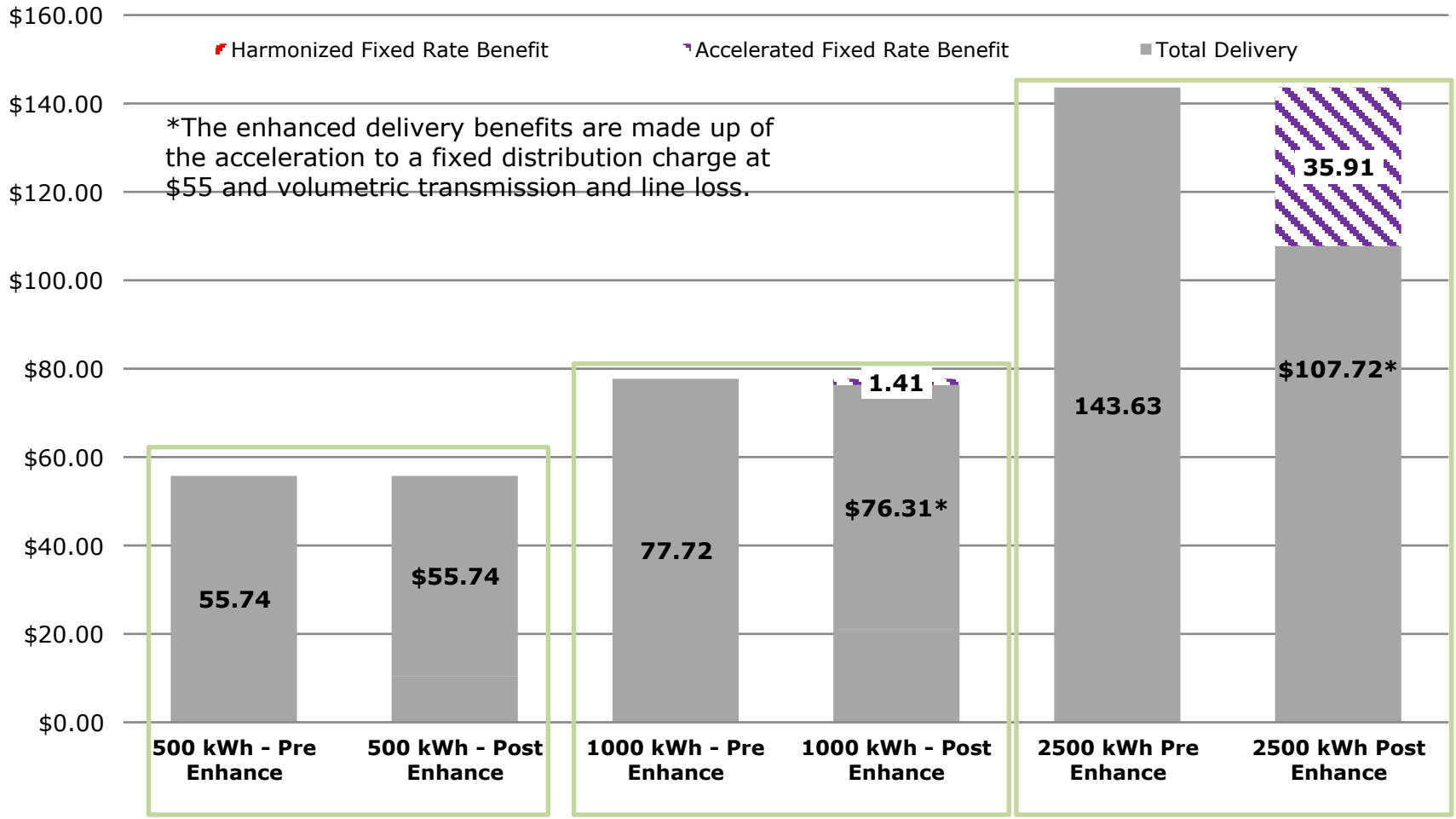
- While Hydro One R1 and R2 customers pay the highest distribution rates, as outlined in the graph on the previous slide there are other relatively high-distribution cost LDCs.
- These LDCs include Northern Ontario Wires, Lakeland Parry Sound, Chapleau, Sioux Lookout, InnPower, Atitikion and Algoma.
  - Estimates of what the fixed monthly rate would be in each of these LDCs if fixed rates were fully implemented in 2017 range from $38/month for Northern Ontario Wires to $65/month for a Hydro One R2 customer.
- The following slides discuss the incremental ratepayer and fiscal impacts of accelerating the emergence of this benefit in three stages:
  - **Option 1:** Accelerating fixed rate benefits for Hydro One R2 & R1 consumers (cost decreases for ~260k consumers). Hydro One R1 customer's fixed distribution rate would be at $55/month and R2 would be at $65/month; and
  - **Option 2:** Accelerating fixed rate benefits for additional high cost LDCs (cost decreases for ~20k additional consumers) and harmonizing fixed rates at $38/month for Hydro One R2, R1, and the high cost LDCs (enhanced benefits for all ~280k consumers and new cost decreases for ~420,000 consumers, for a total of ~700,000 consumers benefitting).
- The ratepayer impact charts on the next slides show the benefits consumers in each LDC would receive if the fiscal plan was used to support both accelerating costs to the unique fixed rate for each LDC (benefit shown in purple hatching) and harmonizing LDCs with the $38/month fixed rate for the lowest cost LDC in the selected group (benefit shown in red hatching). Other aspects of the Delivery line would stay the same (Transmission charges and Line loss)

Option 1: Hydro One Only – Hydro One Low-Density (R2) Ratepayer Impacts on Delivery Line



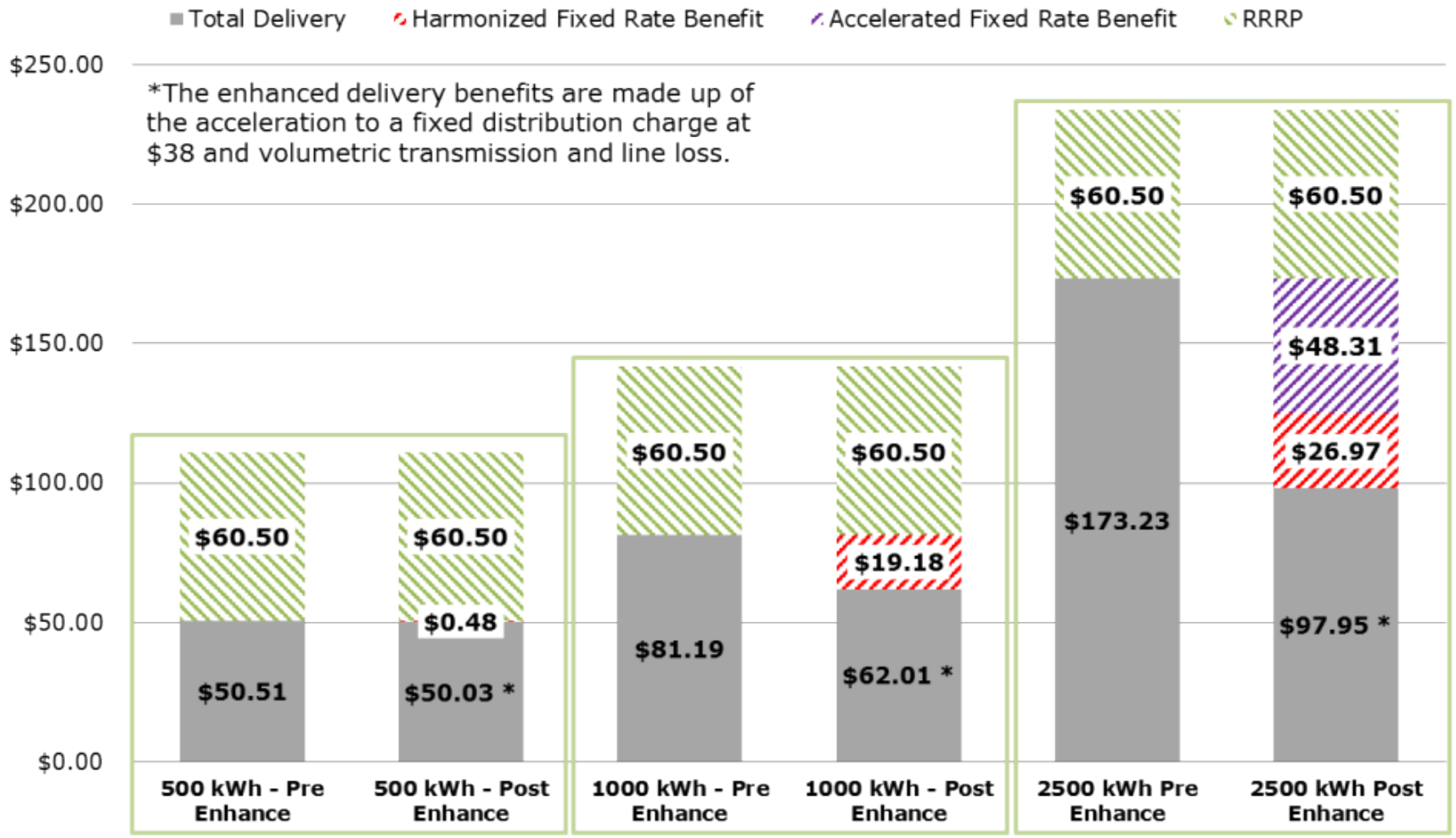
Note: *Rates are for 2017 (either approved or proposed)*

Option 1: Hydro One Only – Hydro One Mid-Density (R1) Ratepayer Impacts (cont'd)



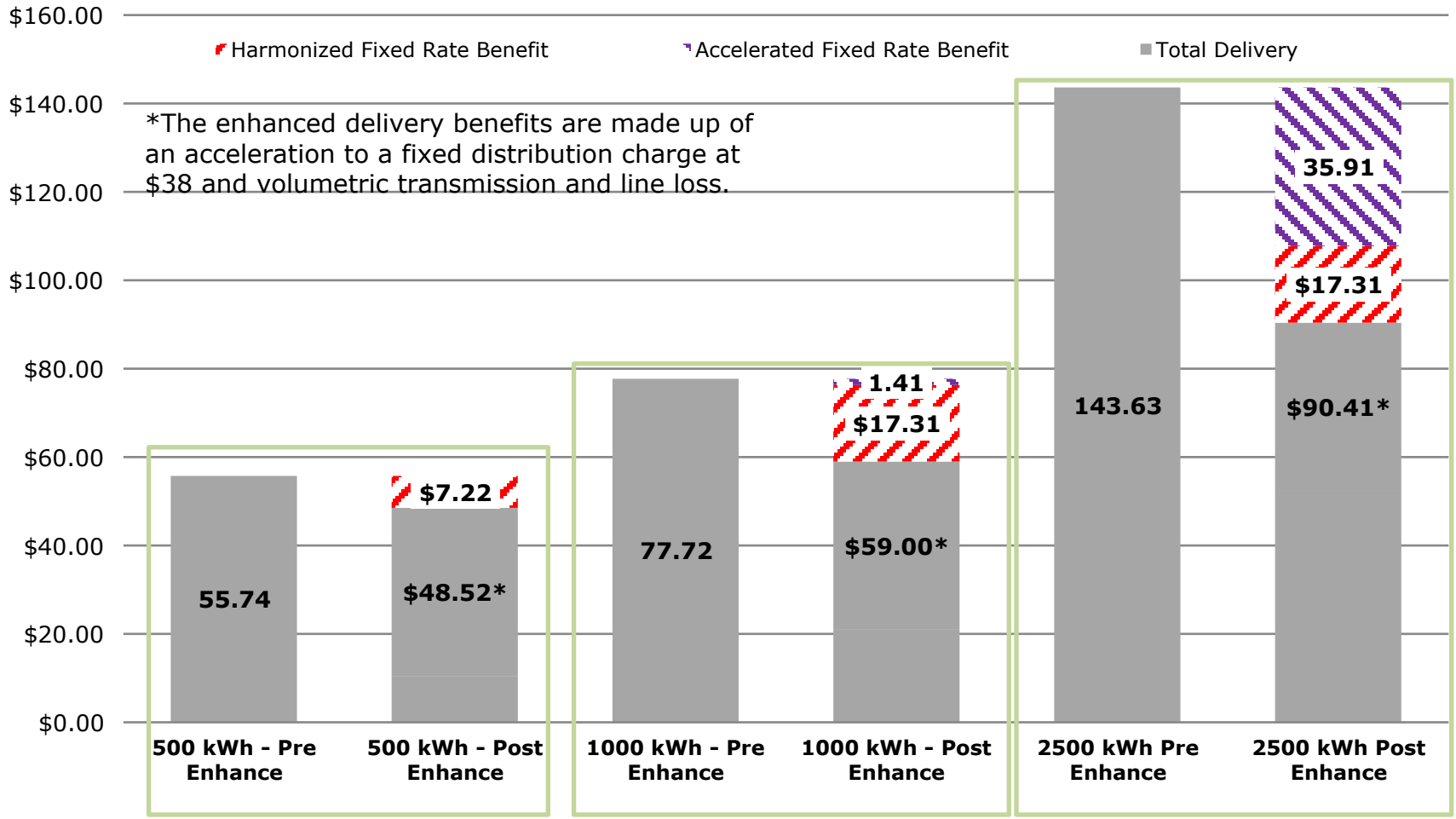
Note: *Rates are for 2017 (either approved or proposed)*

Option 2: Hydro One and Other LDCS – Accelerating Fixed Rate Benefit and Harmonizing Fixed Rate Benefit (Hydro One R2)



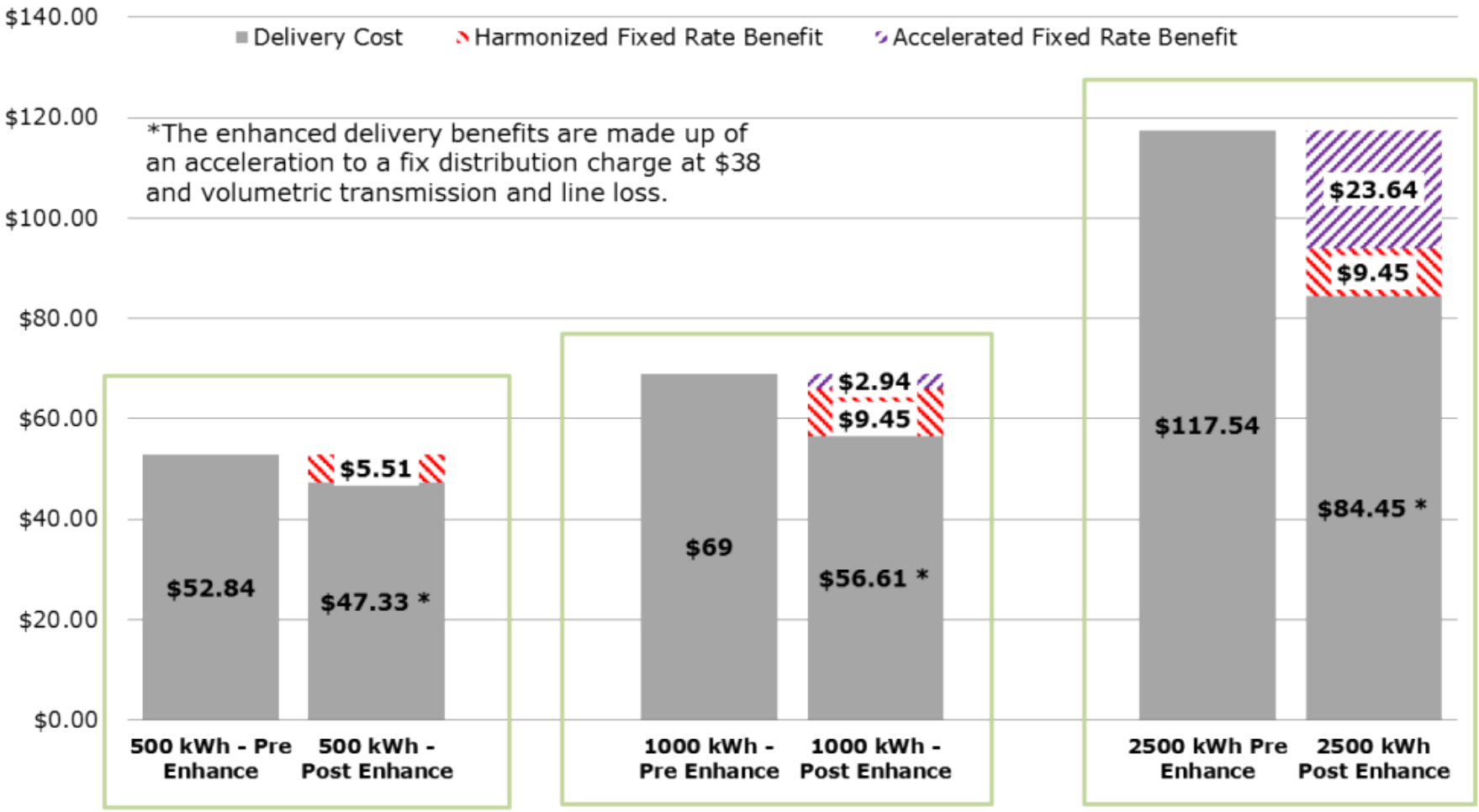
Note: *Rates are for 2017 (either approved or proposed)*

Option 2: Hydro One and Other LDCS – Accelerating Fixed Rate Benefit and Harmonizing Fixed Rate Benefit (Hydro One R1)



Note: *Rates are for 2017 (either approved or proposed)*

Option 2: Hydro One and Other LDCS – Accelerating Fixed Rate Benefit and Harmonizing Fixed Rate Benefit (Innpower**)



**There are seven LDCs that would benefit from the accelerated fixed rate benefit and harmonized fixed rate benefit which have similar benefits such as Innpower

Note: *Rates are for 2017 (either approved or proposed)*

Ontario Electricity Support Program (OESP)

- The OESP, an income-tested, application based program that lowers electricity costs of the most vulnerable consumers, provides a rebate directly on bills.

- As outlined in the tables below there are two benefit scales
  - The first table outlines the basic program credits by income and household size. The credits range from $30/month to $50/month
  - The second table outlines an enhanced benefit credits for: Indigenous, electric heat consumers and certain medical devices. The credit ranges from $45/month to $75/month.

- As of February 3, 2017, over 278,000 applications for the OESP have been received by the Ontario Energy Board. This represents 50% of the total targeted low-income population as identified by the Low Income measure (target is 571,000 low income customers).

Table 1: Current base program credits

Sliding Scale #1		Household Size						
		1 Person	2 Persons	3 Persons	4 Persons	5 Persons	6 Persons	7 or More Persons
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
	$48,000 - $52,000	-	-	-	-	-	-	$30

Table 2: Current enhanced program credits

Sliding Scale #2		Household Size						
		1 Person	2 Persons	3 Persons	4 Persons	5 Persons	6 Persons	7 or More Persons
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
	$48,000 - $52,000	-	-	-	-	-	-	$45

Ontario Electricity Support Program (OESP) cont'd

- Under the proposed program enhancement, OESP credits could be increased by 50%.
  - This would mean that single low income consumers who receive the lowest credit amount would get an increase from $30 to $45/month ($540/year), and the lowest credit for the enhanced scale would increase from $45 to $67.50 ($810).

- OESP funding is collected from a charge levied on all ratepayers. Given this is essentially a social program, program costs could be funded through the tax base.
  - Average residential customer savings: $0.83/month, and average industrial customer savings: $1.10/MWh.

- At the time of program design, it was estimated that 40-50% participation would be high for an application-based program delivered through electricity bills. OESP can be enhanced by working to ensure the program uptake is as close as possible to 100%:
  - Streamlining the application process to make it easier / quicker to get through (e.g., an alternative to wet signature consent forms);
  - Putting in place a more aggressive communications strategy to make sure people are aware of the program;
  - Increasing funding for key partner agencies to work directly with individuals who are applying; and
  - Exploring automatic OESP qualification for those who receive provincial programs (e.g., OW, ODSP).

Establishing a New LDC Affordability Fund

- Under the Conservation First Framework, the Home Assistance Program, delivered by LDCs, provides eligible low-income customers with energy efficiency upgrades and education, at no cost, to help improve the energy efficiency and comfort of their homes.

- Home Assistance Program eligibility is aligned with other low-income support programs such as the OESP.

- Measures under the 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).

- In 2016, ~2,500 Hydro One customers participated in the HAP program with an average of $1,600 worth of measures per customer.

- Other low income pilots/programs delivered by utilities include:
  - Hydro One low income air source heat pump pilot;
  - Hydro One Budget Billing; and
  - Toronto Hydro / Enbridge Joint Low-Income Program Delivery pilot.

Establishing a New LDC Affordability Fund (cont'd)

- Some electricity customers who struggle to pay their electricity bills do not meet the definition of a low-income household and therefore are not eligible for the Home Assistance Program.

- Establishing an "Affordability Fund" for LDCs could provide a means to help struggling customers who do not qualify for low income programs and cannot upgrade their homes without financial assistance.
  - Over time the Fund could help these customers get back on track with their bills and also save on disconnection costs; and
  - The Fund would be targeted to customers on an as-needed basis (vs. widely marketed as an open-intake program).

- ENERGY is currently in discussions with several large LDCs to determine the feasibility of establishing a Fund and to identify a willing funding partner(s).

- To allow for funds to flow in 2016/17, ENERGY would sign a Transfer Payment Agreement (TPA) with one or several LDCs to administer the Fund.
  - LDCs would apply for funding and redistribute support to those customers that meet the targeted eligibility criteria.

- Recipients could receive measures similar to those available in the Home Assistance Program , e.g., weatherization, energy efficient appliances and lighting controls ranging from $3,500 to $5,000 per customer, at no or minimal cost. Consideration could also be given to including cold climate air source heat pumps for electrically heated homes.
  - 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.

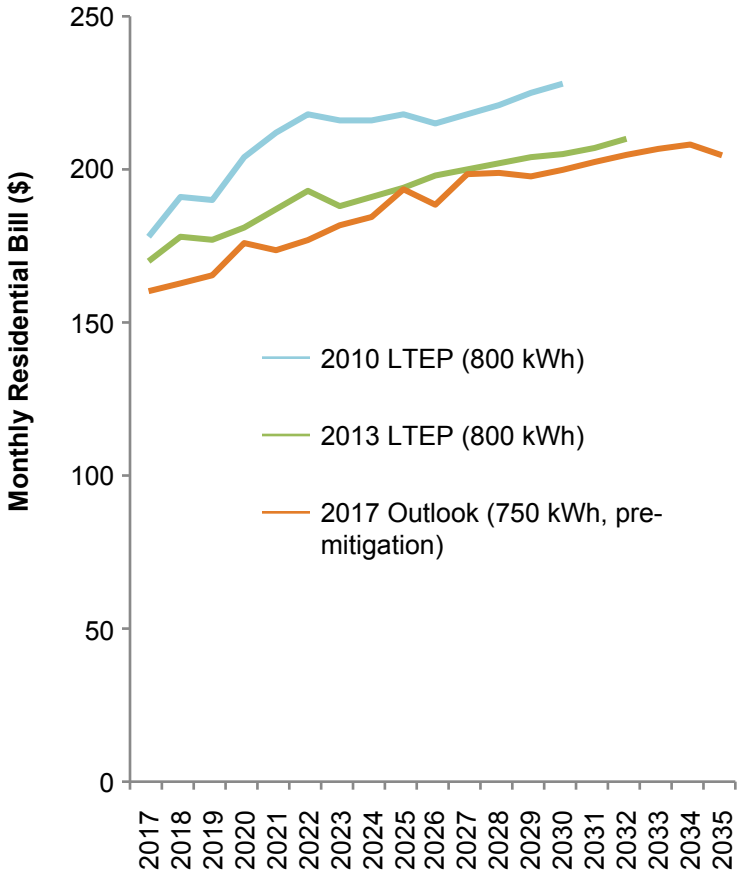
Implementing On-Reserve First Nations Rate

- First Nation and Political-Territorial Organization leaders have advocated for the review of delivery charges associated with transmission and distribution assets within the context of historical grievances and the need for electricity rate relief for on-reserve customers.
- The Minister committed to consider options for addressing the issue at the Apr. 18, 2016 First Nations-Ontario Energy Table meeting and was also discussed during the Hydro One negotiations with the Chiefs of Ontario (COO).
- In June 2016, 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 OEB report 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 up to $20 million or 11 cents a month for a typical residential electricity consumer, in funding through the tax-base.
  - 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.
- The OEB suggested the program should be funded from the tax-base as it is targeted to a particular segment of the provincial population.

2) Bending the Future Cost Curve of Electricity

Existing Rate Mitigation Actions To Bend The Cost Curve

- 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.
  - 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.
  - 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 as much as $600 million.



Sources: *2010 LTEP (800 kWh/month); 2013 LTEP (800 kWh/month); Revised Ontario Planning Outlook (750 kWh/month as of December 2016).*

OEB – Red-Tape Reductions / LDC Efficiencies and Rates

Leveraging the OEB

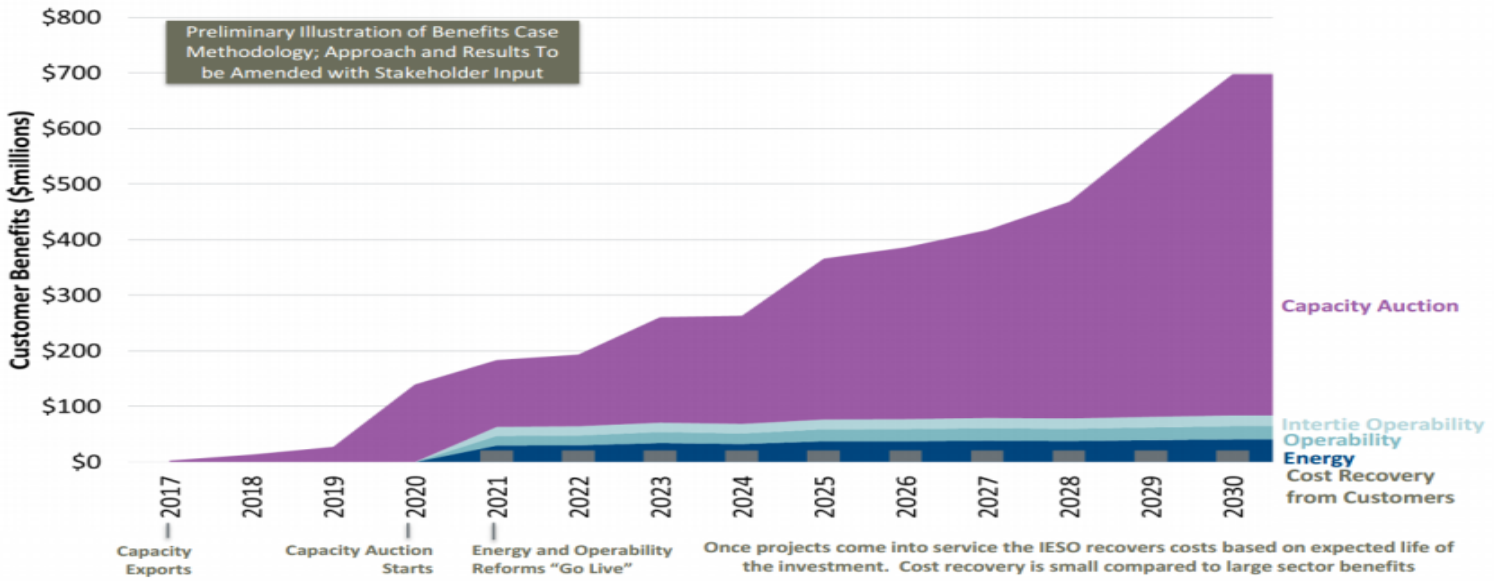
- The Ontario Energy Board (OEB) has a mandate to regulate the electricity distribution sector in the public interest, ensuring the financial viability of the sector while promoting reliable service to customers at just and reasonable rates.
- The OEB, through the Renewed Regulatory Framework for Energy (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.

Opportunities

- ENERGY could help promote or accelerate these efforts by asking the OEB to look at opportunities to further drive LDC efficiencies and productivity.
- 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.

IESO – Market Renewal

- Continue to move forward with Independent Electricity System Operator's (IESO) Market Renewal initiatives:
  - 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.
  - Moving to "technology-agnostic" procurements will provide new opportunities for innovation and modernization and ensure ratepayers receive the best prices possible.
- 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.



3) Global Adjustment (GA) Smoothing

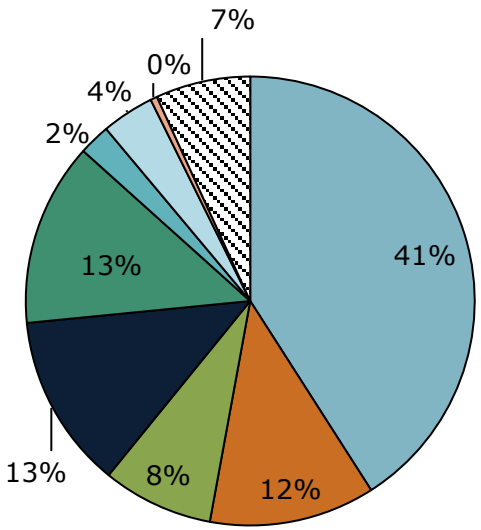
GA Smoothing

- 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.
  - The GA recovers the 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. 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 options under consideration show potential rate mitigation measures to meet a targeted 25% and 20% 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.

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.
- 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

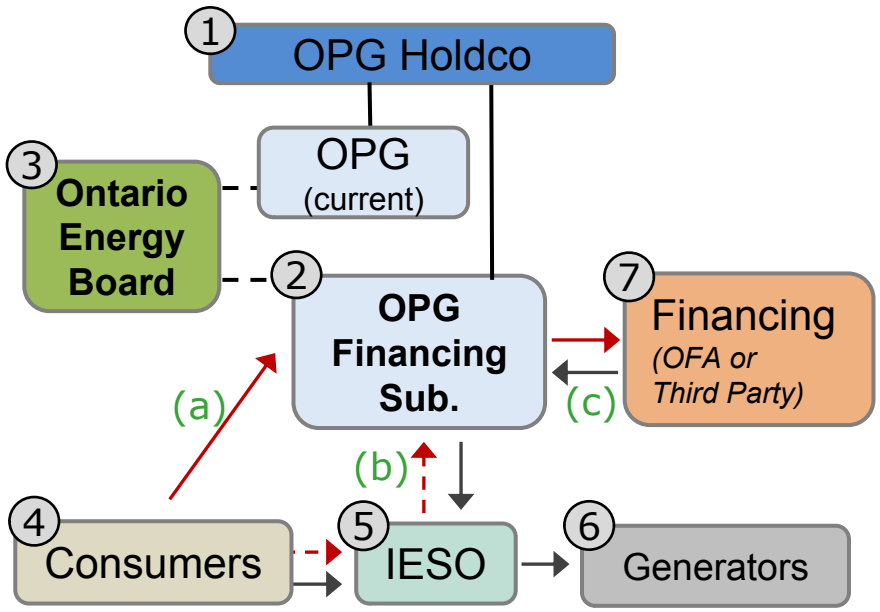
*OEFC indicates the cost of generator contracts managed by the OEFC which include contracts for natural gas, hydro and biomass generators .
** Conservation measures, not quantified here, serve to reduce Ontario energy demand. Actual electricity generation would be larger than 155 TWh in the absence of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

GA Smoothing – Implementation

- The Province continues to consider mechanisms to finance and administer GA smoothing. The leading option under consideration is to allow Ontario Power Generation (OPG) to assume responsibility for GA smoothing.
  - Other options considered have included using the Independent Electricity System Operator (IESO) and/or creating a new special purpose entity, independent from the Province that would be dedicated to GA smoothing.
- OPG is potentially positioned to administer GA Smoothing for the following reasons:
  - OPG represents about one-third of GA costs and should have a role in smoothing. It is also well placed to forecast future GA expenses;
  - Currently, jointly managing $18 billion nuclear fund, therefore has infrastructure and expertise;
  - Regulated by OEB and OPG has experience with regulatory deferral and variance accounts; and
  - OPG borrows from Province, and from 3rd parties, allowing to access lowest cost financing option.

GA Smoothing – OPG Model

- The diagram outlines a implementation approach that includes a Financing Subsidiary of OPG.

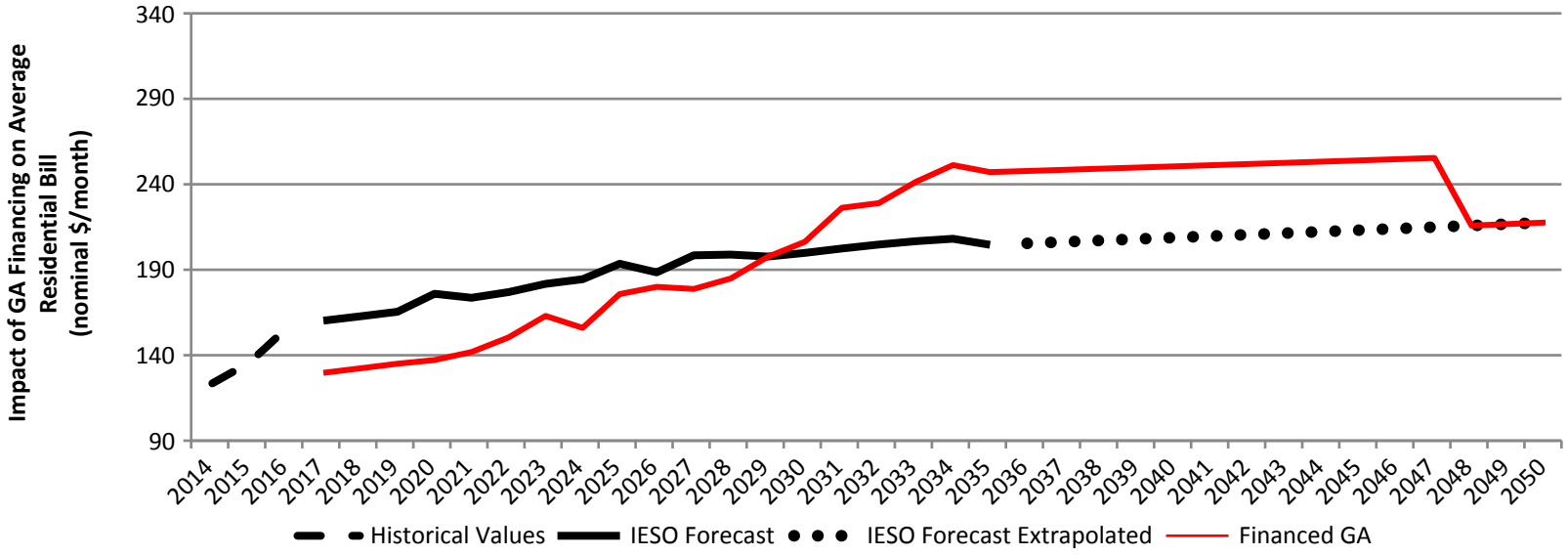


→ Early year fund flow

→ Future Repayment Mechanism

1. OPG would create a holding company which would own shares in the existing OPG Inc., as well as a new Financing Subsidiary.
2. The OPG Financing Sub. funds part of the GA and (a) would have a legislative right to recover associated principle, interest and administrative costs from customers (settled via service agreement with IESO).
3. OEB, while continuing to regulate the current OPG, provides light -touch oversight of the OPG Financing Sub., as well as the GA smoothing mechanism.
4. Consumers pay IESO a portion of the GA in early years. In the future, the OPG Financing Sub. recovers principle, interest and administrative costs from consumers. Customers bill presentation remains unchanged (costs should diminish in early years).
5. The IESO pays generators (in early years), partially from consumers and partially financed by the OPG Financing Sub. (b) The IESO provides collection services to the Financing Entity under a service contract.
6. Generators continue to receive payments from IESO according to existing contract / regulatory structures.
7. The OFA or a 3rd party lender funds the GA shortfall in early years and (c) receives payments from the OPG Sub. as debt is repaid.

Option 1: GA Smoothing for RPP Only (Borrow $2.2 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 *($/month)*	-27.0	-26.9	-26.9	-34.3	-28.1	-23.5	-16.6	-25.2	-15.7	-7.5	-17.4	-12.4	-0.1	5.7	21.1	21.4	30.7	38.1	37.6	37.5	37.3	37.2	37.0	36.8	36.7	36.5	36.4	36.2	36.1	35.9	35.8	0.0
Total Accumulated Debt *($ billion)*	2.2	4.6	7.0	10.2	13.1	15.7	17.8	20.8	23.2	25.0	27.7	30.1	31.7	32.8	32.7	32.6	31.7	30.1	28.4	26.6	24.8	22.8	20.8	18.6	16.3	13.9	11.4	8.8	6.0	3.1	0.0	0.0
Total Change in Accumulated Debt *($ billion)*	2.2	2.3	2.4	3.2	2.8	2.6	2.2	3.0	2.4	1.8	2.7	2.4	1.6	1.1	-0.1	-0.1	-0.9	-1.6	-1.7	-1.8	-1.9	-2.0	-2.1	-2.2	-2.3	-2.4	-2.5	-2.6	-2.8	-2.9	-3.1	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 with a limit of $3.2 billion above the true cost of GA in any given year. IESO forecast is based on IESO's revised OPO forecast as of December 2016. 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. RPP does not include customers on retail contracts.

Option 1: GA Smoothing for RPP 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.

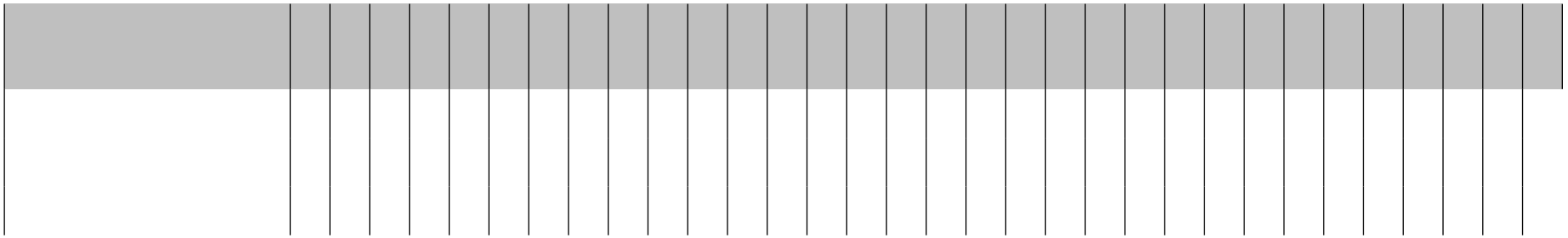
Residential (750 kWh/month)	Actual 2016	2017	2018	2019	2020	2021
Total Bill (includes HST)	**163**	**172**	**175**	**178**	**189**	**187**
Total Bill (excludes HST)	145	153	155	158	168	165
Impact of GA Financing		-27	-27	-27	-34	-29
Impact of Tax-Basing Social Programs		-2	-2	-2	-3	-3
Subtotal		123	126	128	131	133
8% rebate		-10	-10	-10	-10	-11
HST		16	16	17	17	17
Revised Bill (includes HST)	**163**	**129**	**132**	**135**	**137**	**140**
Year-over-Year Change		-21%	2%	2%	2%	2%
Change from Forecast		**-25%**	**-25%**	**-24%**	**-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 December 2016. 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. RPP does not include customers on retail contracts.

Option 2: GA Smoothing for RPP Only (Borrow $1.6 billion in 2017, Residential Bills Lowered 20%)



Option 2: GA Smoothing for RPP Only – Residential Bills Lowered 20% (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)	**163**	**172**	**175**	**178**	**189**	**187**
Total Bill (excludes HST)	145	153	155	158	168	165
Impact of GA Financing		-19	-19	-18	-26	-21
Impact of Tax-Basing Social Programs		-2	-2	-2	-3	-3
Subtotal		131				

Fiscal – Considerations

Fiscal Impact ($M)	16-17	17-18	18-19	19-20	20-21
Legacy Rural or Remote Rate Protection (RRRP)*	-	126	130	133	136
RRRP 2016 – Speech from the Throne Expansion*	-	117	120	123	127
Accelerating Fixed Rates for Hydro One**	-	61	51	40	29
Harmonizing Fixed Rates for Hydro One and High Cost LDCs***	-	150	149	150	152
Ontario Electricity Support Program 50% Enhancement	-	178	239	290	334
First Nation Rate	-	20	20	20	20
LDC Affordability Fund****	200	-	-	-	-
Fiscal Impacts – Sub Total	200	652	709	756	798
Change in 8% Rebate (Option 1)*****		-138	-120	-171	-147
Change in 8% Rebate (Option 2)*****		-75	-56	-106	-86

Notes:
*Current regulatory framework calls for RRRP to increase by average distribution rate increase. Forecast assumes 2.6% annually though is subject to OEB proceedings.
**Funding for accelerating fixed rate benefits is completed as the move to fixed rates is accomplished over OEB timelines.
***Cost forecasts assumes 2.6% annual rise in distribution rates; will be subject to 2017 Hydro One cost of service application. Until move to fixed rates is complete, fiscal projection is subject to consumer consumption patterns that may change due to extreme weather or other factors.
**** Funding for the LDC Affordability Fund is one-time in 2016/17.
***** The 8% rebate represents savings compared to fiscal plan due to the bill reduction from GA financing and other mitigation measures.