
Rate Mitigation Through Proceeds Recycling

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CONFIDENTIAL DRAFT

Context / Current Status

- With the introduction of cap and trade, preliminary modeling shows that an average carbon price of \$18/tonne CO₂ emissions between 2017 and 2020 will result in the following impacts to ratepayers:
 - Large Industrial: Increase of about \$1.60/MWh on average;
 - Commercial*: Increase of about \$0.09/MWh on average; and
 - Residential: Increase of about \$0.07/month on average.

- The Ontario Clean Energy Benefit ended as planned on December 31, 2015, removing a pressure of approximately \$1.2 billion per year from the fiscal plan. In the 2016 Budget, Ontario committed to “...take steps to ensure that the net impact of cap and trade would not result in an overall increase in electricity costs for commercial and industrial consumers, and that there would be a modest benefit of up to \$2 per month, on average, to residential consumers.” (Source: Ontario 2016 Budget)
 - Approx. 300 large industrial consumers;
 - Approx. 55,000 Class B consumers, including commercial consumers**;
 - Approx. 4.9 million Regulated Price Plan (RPP) consumers, of which 4.5 million are residential and 400,000 are small businesses**.

- The 2016 Budget commitment was Initially modelled on an approach where proceeds were recycled via the Global Adjustment (GA) which considered linking funding to GHG reductions, consistent with the legislation. ENERGY has subsequently developed an alternative option described in the following slides that may be inconsistent with the legislation.

* Commercial also includes small industrials, etc.

** Based on the 2014 OEB Yearbook.

Alternative Option

- The following funding option and delivery mechanisms consider the ability to meet the 2016 Budget commitment, potential for linking funding to GHG reductions and costs and administrative complexity (see Appendix for other options considered).

Consumer	Average Annual Funding (2017-2020)	Mechanism	Assumptions / Impact
Class A (Large Industrial)	\$90M	Volumetric Rebate	- No consumer is worse off - Decrease of \$1.90/MWh for the average large industrial
Non-RPP Class B (Commercial, small industrial, etc.)	\$5M	Volumetric Rebate	No net change (\$0/MWh) for the average commercial
RPP (residential, small business)	\$150M	Via the RPP	Reduction of \$2.00/month for the average residential
Total	\$245M		

- The current option requires approximately \$95 million less on average over the first compliance period (i.e., 2017-2020) than recycling proceeds through the previous GA proposal (i.e., on average \$340M).

Note: Estimates based on the 2013 Long-Term Energy Plan. As non-residential Class B consumers pay GA volumetrically, the above outcome could also be achieved via recycling to GA.

Class A Consumers (Large Industrial)

- Ensuring that no large industrial is worse off due to cap and trade, regardless of their exposure to Hourly Ontario Energy Price (HOEP) and GA, would require an annual average of approx. \$90 million per year (i.e., \$65 million to \$120 million over the first compliance period) in auction proceeds to be recycled via a volumetric rebate.
- This approach would mitigate the impact on all large industrial consumers. **Note:** Due to electricity market dynamics, this would mean an average annual benefit of approximately of \$1.90/MWh (i.e., \$1.40/MWh to \$2.55/MWh) to the average large industrial over the first compliance period.
- Under this approach, proceeds from the Greenhouse Gas Reduction Account (GGRA) would flow directly to IESO. IESO would then provide:
 - A volumetric rebate to those Class A consumers IESO bills directly; and
 - Proceeds to Local Distribution Companies (LDCs), who would provide the volumetric rebate to LDC-billed Class A consumers.
- IESO would have to undertake periodic true-ups to determine the rebate required in order to offset the impact of cap and trade.

Flow of Cap and Trade Auction Proceeds to Consumers



Note: Large industrial consumers participate in a number of programs to reduce their cost of electricity, including ICI, the Industrial Electricity Incentive (IEI) and the Northern Industrial Electricity Rate Program (NIERP). For example, NIERP participants from the pulp and paper sector receive about \$44 million per year and mining sector participants receive about \$59 million per year.

Variation in Electricity Costs for Consumers



Note: The graph is based on transmission-connected industrials reflecting about 70 of the 300 consumers participating in ICI. While the graph shows an average, there is variation between individual facilities within sectors for Class A.

Non-RPP Class B Consumers (Commercial)

- Ensuring that the average non-RPP Class B consumer (i.e., commercial) is no worse off due to cap and trade would require an annual average of approx. \$5 million per year (i.e., \$2 million to \$6 million over the first compliance period) in auction proceeds to be recycled via a volumetric rebate.
- Class B includes commercial consumers and many small and mid-sized industrials (e.g., manufacturers). While on average these consumers would not experience a net impact under this proposal, some consumers would see either a cost or benefit, particularly if they consume more or less electricity during peak periods than the average.
 - Note:** Because many non-RPP Class B consumers such as small to mid-sized industrials are below MOECC's reporting threshold, they do not receive free allowances under cap and trade.
- Under this approach, proceeds from the GGRA would flow directly to IESO. IESO would then provide:
 - A volumetric rebate to those Class A consumers IESO bills directly; and
 - Proceeds to LDCs, who would provide the volumetric rebate to LDC-billed Class A consumers.
- The IESO would have to undertake periodic true-ups to determine the rebate required in order to offset the impact of cap and trade.

Flow of Cap and Trade Auction Proceeds to Consumers



Note: As non-RPP Class B consumers pay GA volumetrically, the above outcome could also be achieved via recycling to GA.

RPP Consumers (Residential)

- Ensuring that the budget commitment that residential consumers will see a \$2 benefit on average due to cap and trade is met would require an annual average of approx. \$150 million per year (i.e., \$151 million to \$152 million over the first compliance period) in auction proceeds to be recycled via the RPP.
 - RPP consumers are largely residential households and some small businesses such as convenience stores.
- Proceeds would flow from the GGRA directly to the OEB's RPP Variance Account. The RPP process is managed and facilitated by the OEB as per the *Ontario Energy Board Act*.
- The OEB would have to undertake periodic true-ups to determine the rebate required in order to offset the impact of cap and trade.

Flow of Cap and Trade Auction Proceeds to Residential Consumers



Considerations

- The Ministry has asked for an opinion from the Ministry of the Attorney General on this option with respect to auction proceeds recycling. The Ministry notes that:
 - It is more difficult to directly link a volumetric rebate to emission reductions and therefore this option may not align with MOECC's draft Climate Change Bill.
 - The RPP, under which most residential consumers pay time-of-use (TOU) pricing, is designed to encourage electricity conservation. Recycling auction proceeds through RPP could constitute a link between the use of auction proceeds to initiatives that will result in GHG reductions (i.e., encourages conservation).
 - **Note:** Tax-base funding would remove the need to link the volumetric consumer rebates to GHG emission reductions. Proceeds from the Consolidated Revenue Fund (CRF) could flow directly to IESO and LDCs and then to industrial and commercial consumers in the form of a rebate. The Ontario Clean Energy Benefit is a precedent for this approach.
- A volumetric rebate may require its own line item on the electricity bill of Class A and non-residential Class B electricity consumers. Staff analysis is ongoing.
 - **Note:** The RPP option would not require a separate line item on bills because the rebate would be reflected in the total commodity cost.
- Further legal analysis is required to determine the regulatory / legislative amendments that would be needed to enable this option.

Summary

- Targeting recycling at the three major electricity consumer classes could be used to meet and/or exceed the 2016 Budget commitment.
 - Recycling an annual average of \$90 million per year to Class A electricity consumers via a volumetric rebate would ensure that no large industrial is worse off and would provide a decrease of \$1.90/MWh for the average large industrial (exceeding the 2016 Budget commitment).
 - Recycling an annual average of \$5M per year via a volumetric rebate to non-residential Class B electricity consumers would offset the impact for the average commercial consumer (consistent with the 2016 Budget commitment).
 - Recycling an annual average of \$150M per year via the RPP would provide a \$2/month benefit for the average residential electricity consumer (consistent with the 2016 Budget commitment).
- While this option meets the 2016 Budget commitments, it may be inconsistent with the proposed *Climate Change and Low-carbon Economy Act, 2016*. The Ministry supports an option that is consistent with the climate change legislation.

Appendix

Previous Options Considered (at Fiscal Prep – May 4, 2016)

	Annual Funding over 2017-2020 (average)		Linkage to GHG Reductions	Meets Budget Commitment	Estimated Impact and Range of Required Funding (average)		
	Cap and Trade Proceeds	Tax-Base			Avg. Industrial Consumers	Avg. Commercial Consumers	Avg. Residential Consumers
1. Proceed Recycling							
A) GA Approach <i>No net increase for average industrial and commercial customers and benefit of up to \$2 for residential consumers.</i>	\$253M - \$440M (\$340M)	None	Yes	Yes	No net change (\$0/MWh) \$30M - \$53M/year (\$40M)	Reduction of \$2.50/MWh \$135M - \$230M/year (\$180M)	Reduction of \$2.00/month \$88M - \$157M/year (\$119M)
B) Volumetric Approach <i>i) No net increase for average industrial and commercial customers but does <u>not</u> meet the budget commitment for residential.</i>	\$170M - \$295M (\$225M)	None	No	No	No net change (\$0/MWh) \$30M - \$53M/year (\$40M)	Reduction of \$1.50/MWh \$85M - \$145M/year (\$110M)	Reduction of \$1.20/month \$55M - \$100M/year (\$75M)
<i>ii) No net increase in electricity costs for average industrial and commercial customers and benefit of up to \$2 for residential consumers.</i>	\$360M - \$367M (\$365M)	None	No	Yes	Reduction of \$1/MWh \$65M - \$66M/year (\$65M)	Reduction of \$2.50/MWh \$175M - \$182M/year (\$180M)	Reduction of \$2.00/month \$119M - \$120M/year (\$119M)
<i>iii) No net increase for any industrial customer and budget commitment for res. exceeded.</i>	\$360M - \$660M (\$495M)	None	No	Yes	Reduction of \$2/MWh \$65M - \$118M/year (\$90M)	Reduction of \$3.40/MWh \$179M - \$321M/year (\$243M)	Reduction of \$3.00/month \$118M - \$218M/year (\$165M)

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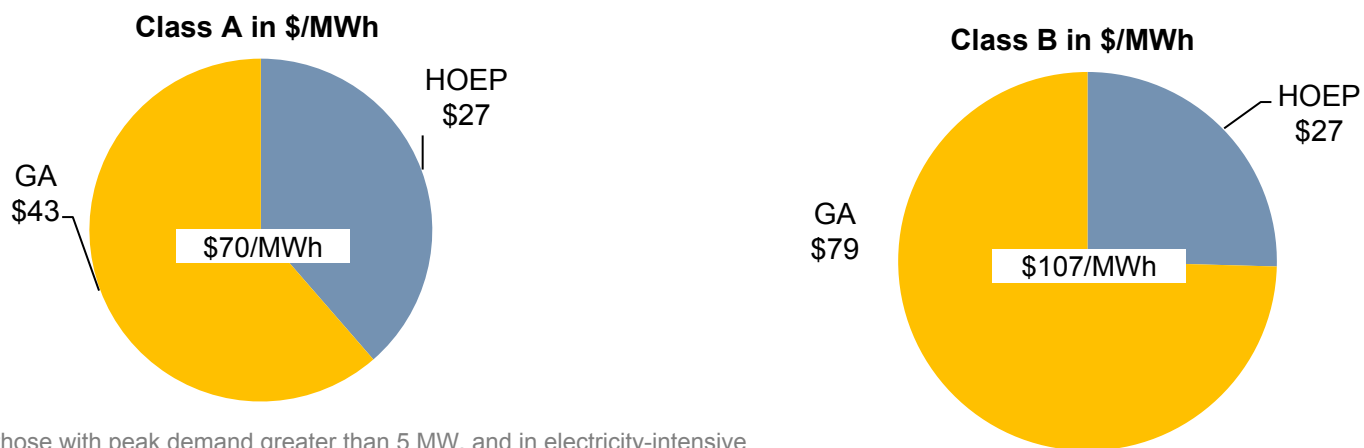
Previous Options Considered (at Fiscal Prep – May 4, 2016) (cont.)

	Annual Funding over 2017-2020 (average)		Linkage to GHG Reductions	Meets Budget Commitment	Estimated Impact and Range of Required Funding (average)		
	Cap and Trade Proceeds	Tax-Base			Avg. Industrial Consumers	Avg. Commercial Consumers	Avg. Residential Consumers
2. Tax-Based Rebate							
i) No net increase for average industrial and commercial customers but does <u>not</u> meet the budget commitment for residential.	None	\$170M - \$295M (\$225M)	No	No	No net change (\$0/MWh) \$30M - \$53M/year (\$40M)	Reduction of \$1.50/MWh \$85M - \$145M/year (\$110M)	Reduction of \$1.20/month \$55M - \$100M/y (\$75M)
ii) No net increase in electricity costs for average industrial and commercial customers and benefit of up to \$2 for residential consumers.	None	\$360M - \$367M (\$365M)	No	Yes	Reduction of \$1/MWh \$65M - \$66M/year (\$65M)	Reduction of \$2.50/MWh \$175M - \$182M/year (\$180M)	Reduction of \$2.00/month \$119M - \$120M/year (\$119M)
iii) No net increase for any industrial customer and budget commitment for res. exceeded.	None	\$360M - \$367M (\$365M)	No	Yes	Reduction of \$2/MWh \$65M - \$118M/year (\$90M)	Reduction of \$3.40/MWh \$179M - \$321M/year (\$243M)	Reduction of \$3.00/month \$118M - \$218M/year (\$165M)
3. Hybrid Option							
No net increase in electricity costs for average industrial and commercial customers and benefit of up to \$2 for residential consumers.	(\$119M - \$120M) (\$119M)	\$115M - \$200M (\$150M)	Yes	Yes (RPP)	No net change (\$0/MWh) \$30M - \$53M/year (\$40M)	Reduction of \$1.50/MWh \$85M - \$145M/year (\$110M)	Reduction of \$2.00/month \$119M - \$120M/year (\$119M)
	Total: (\$234M - \$320M)						

Electricity Price Components

- Ontario's electricity consumers pay for electricity in different ways. The commodity cost of electricity is the sum of:
 - Hourly Ontario Energy Price (HOEP) which is the hour-by hour market clearing price that reflects the short run cost of producing power; and
 - Global Adjustment (GA) which ensures recovery of long run generation. Ontario's conservation programs and clean sources of electricity supply (e.g., renewables, etc.) are funded through the GA.
- Under the Industrial Conservation Initiative (ICI), large industrial consumers* pay GA based on their share of peak demand during the five peak hours of the year. Large industrial consumers can pay lower GA if they are able to reduce consumption during peak hours.
 - In 2015, the "cost shift" from Class A to Class B consumers was about \$890 million (i.e., a bill impact of approximately \$4.90/month for a typical residential consumer).
- Residential, commercial, institutional and small business consumers pay GA on each unit of consumption.

Forecast 2016 Commodity Cost of Electricity**



*Reflects consumers are those with peak demand greater than 5 MW, and in electricity-intensive sectors with peak demand between 3 MW and 5 MW.

** Based on the 2013 LTEP

Residential Bill Components

Component	Subcomponents	Notes
<i>Electricity</i>	Hourly Ontario Energy Price (HOEP) + Global Adjustment (GA)	The Electricity line reflects the cost of generation and conservation initiatives in Ontario. HOEP is the hour-by hour market clearing price that reflects the short term cost of producing power. Global Adjustment ensures recovery of long-term generation and conservation costs.
<i>Delivery</i>	Transmission + Distribution	Costs to build and maintain the high-voltage transmission grid and distribution lines, towers and poles. A portion of these charges are fixed, while others are variable and increase with the amount of electricity usage.
<i>Regulatory</i>	IESO fees, rural/remote rate protection	The costs of administering the wholesale electricity system and maintaining the reliability of the provincial grid.
<i>HST</i>	n/a	Applied at a rate of 13%

Note: To ease pressure on residential ratepayers, the government removed DRC from residential electricity bills for consumption beginning January 1, 2015.

Industrial / Commercial Bill Components

Component	Notes
<i>Electricity</i>	Industrial users pay HOEP, this is the hour-by hour market clearing price that reflects the short term cost of producing power.
<i>Global Adjustment</i>	Large industrial users (over 3 MW** average monthly peak demand) pay GA based on their share of demand during the five highest demand hours of the year. All other industrials pay GA as a flat rate, based on their monthly consumption.
<i>Delivery</i>	Includes transmission and distribution charges where applicable. Grid-connected industrial users pay only for the cost of transmission and avoid distribution costs.
<i>Wholesale Market Service Charges</i>	The costs of administering the wholesale electricity system and maintaining the reliability of the provincial grid.
<i>Debt Retirement Charge</i>	Electricity distributors collect this charge from consumers on behalf of the Ontario Electricity Financial Corporation. DRC services pays down the stranded debt and liabilities of the former Ontario Hydro.

*Includes Industrial Conservation Initiative benefit based on average for all eligible customers

**Eligibility expanded to 3 MW for certain industries, effective 2015