
Implementation of Cap and Trade Auction Proceeds Recycling to Electricity Consumers

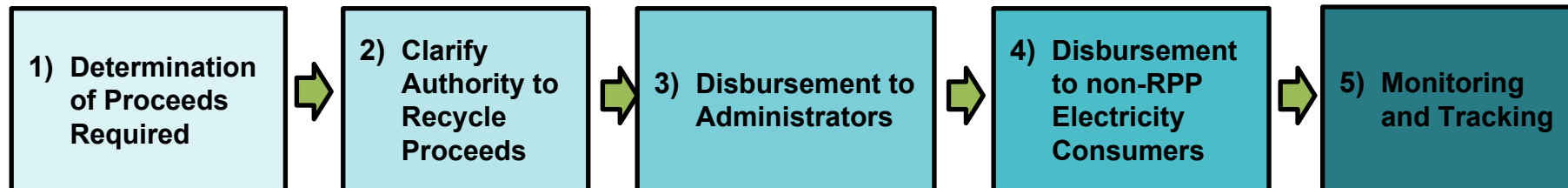
Working Draft

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CONFIDENTIAL DRAFT

Context

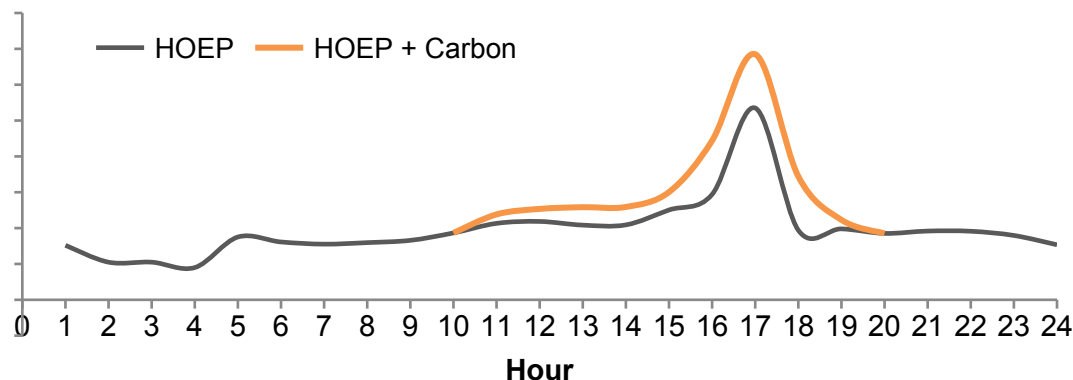
- Ministry of Energy is proceeding to implement an approach to recycle cap and trade auction proceeds “volumetrically in off-peak hours” (i.e., Option 3) to address the 2016 Throne Speech commitment.
- Formal decision making on the proposed proceeds recycling approach would include:
 - Legislation and Regulation Committee (i.e., December 13, 2016); and
 - Cabinet (i.e., December 14, 2016).
- Once formal approval has been received on the proceeds recycling approach, approval would be required for the funding.
 - Minister of Environment and Climate Change Review (TBD); and
 - TBS / PRRT (TBD).
- Proceeds recycling will not begin until proceeds are available following the first auction and local distribution companies (LDCs) and Independent Electricity System Operator (IESO) have completed necessary billing system changes to implement the recycling proposal.
- Implementation requires ongoing work with IESO, Ontario Energy Board (OEB) and LDCs.
- A number of steps are outlined below and will be described in the following slides.



Context – Impact of Cap and Trade on the Electricity Price

- The Hourly Ontario Energy Price (HOEP) is the hour-by-hour market clearing price that reflects the short run cost of producing electricity in Ontario.
- The HOEP is set by the last generator dispatched to meet demand. In peak hours this is typically a natural gas-fired power plant.
- An offer into the electricity market from a natural gas-fired power plant is primarily comprised of their fuel cost and varies with natural gas commodity prices.
- Under cap and trade, HOEP will increase when natural gas-fired plants set the price as they will include the cost of carbon in their offers.

Illustrative Hourly Ontario Energy Price (\$/MWh)



Recycling Auction Proceeds Proposal

Proposal – Recycling Proceeds Volumetrically in Off-Peak Hours

- ENERGY proposes to recycle an annual average of \$270 million in cap and trade auction proceeds through a volumetric mechanism in “off-peak” hours to commercial and industrial electricity consumers.
 - Proposal would recycle an annual average of approximately \$150 million for Class B electricity consumers (i.e., commercial) and approximately \$120 million per year for Class A electricity consumers (i.e., industrial) over the first compliance period.

Considerations

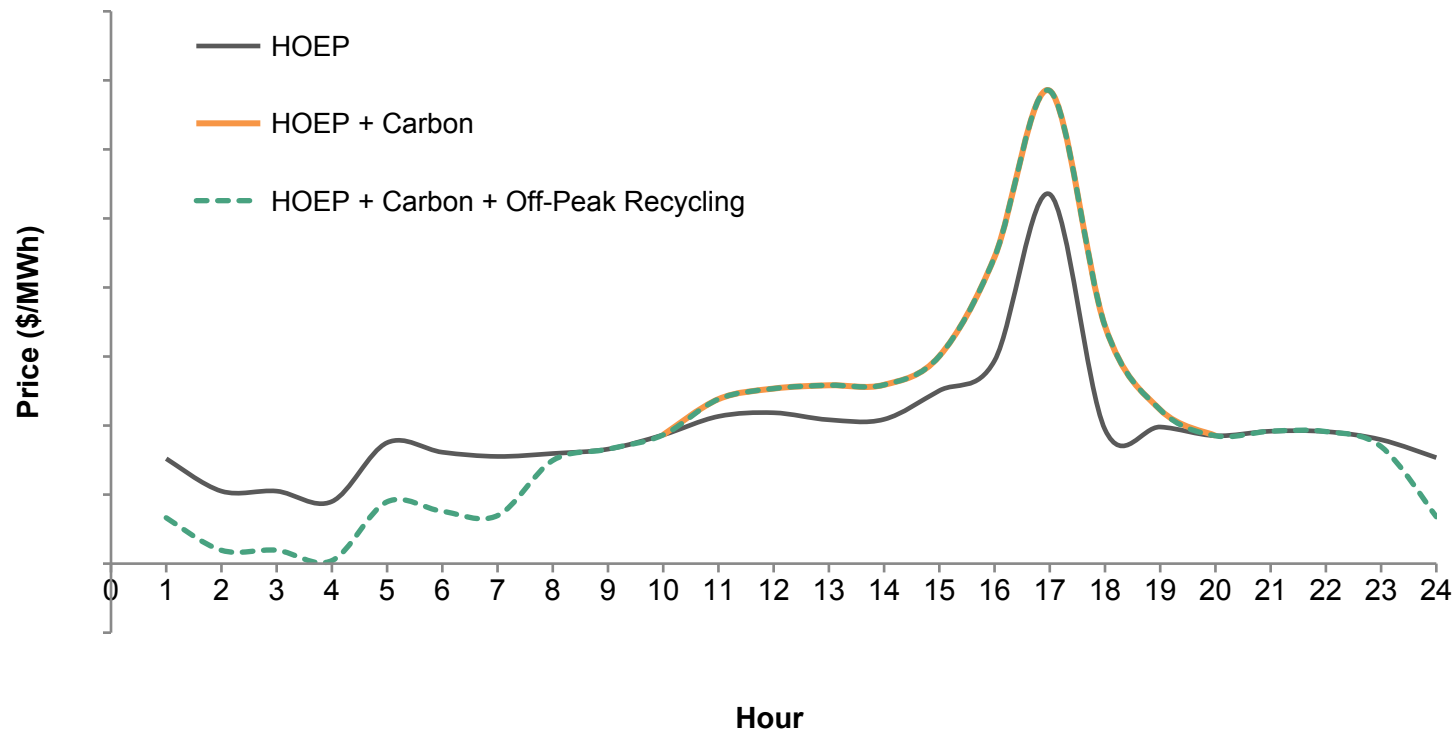
- Consistent with the September 2016 commitment to use cap and trade auction proceeds address the impact of cap and trade on commercial and industrial electricity consumers.
- Under this option, the vast majority of industrial/commercial electricity consumers would be better off as a result of the imposition of cap and trade.
- Volumetric recycling is more administratively complex than alternate proposals, particularly if it is targeted to off-peak hours.
- Under this option, the cost of continuing investments in cleaner generation and conservation which decrease GHG emissions would be offset for industrial and commercial consumers. Incenting consumption during off-peak hours, when Ontario’s current mix of resources typically emit low levels of emissions, would further reduce GHGs.

Recycling Proceeds Volumetrically in Off-Peak Hours – Variation in Electricity Costs

Note: The graph is based on transmission-connected industrials reflecting about 70 of the 300 electricity consumers that participate in ICI. While the graph shows an average, there is variation between individual facilities within sectors for Class A. The above benefits do not include the cost of ICI expansion (impact of \$1/MWh) and the RRRP update (impact of \$0.76/MWh). Estimates based on IESO's definition of "on peak" (hours 8 to 23 Monday to Friday) and "off-peak" (all remaining hours in the week); the wholesale market does not use a formal definition of on and off-peak hours.

Recycling Proceeds Volumetrically in Off-Peak Hours – Illustrative Example

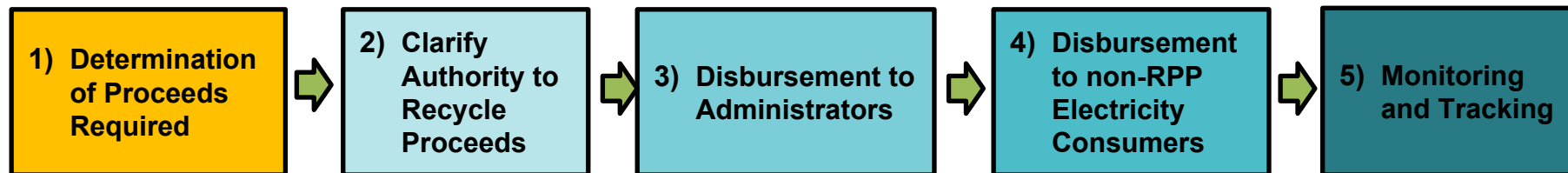
- The chart below shows the net impact to an industrial electricity consumer from cap and trade and proceeds recycling.



Note: Based on IESO's definition of on peak (hours 8 to 23 Monday to Friday) and off-peak (all remaining hours in the week) for informal purposes; the wholesale market does not use a formal definition of "on-peak" and "off-peak" hours.

Implementation Approach

Step 1 – Determination of Proceeds Required



- Province sets out the approach for proceeds recycling (i.e., volumetric off-peak).
- ENERGY, working with IESO, to provide a preliminary estimate of funds needed for each year to inform:
 - Greenhouse Gas Reduction Account (GGRA) funding request;
 - PRRT submissions; and
 - Minister of Environment and Climate Change Review (TBD).
- The estimate would reflect the forecast impact of carbon on the electricity system.

Considerations

- ENERGY undertaken a preliminary estimate of funds needed for the proposed recycling approach (see appendix).
- Ontario's cap and trade program comes into effect of January 1, 2016, but there won't be proceeds available until April 2017 at the earliest (i.e., 4-month lag).

Step 2 – Clarify Authority to Recycle Proceeds



- Neither the *Electricity Act, 1998* (EA) nor the *Ontario Energy Board Act* (OEBA) contemplate the use of cap and trade proceeds.
- An Order in Council (OIC) to the Ontario Energy Board (OEB) would provide certainty and would include step-by-step schedules related to the disbursement requirements of the OEB to LDCs and of LDCs to electricity consumers.
 - The OIC would require the OEB to change license conditions and the OEB would likely hold a hearing process. The nature and scope of the hearing would be determined by the OEB and may be written submissions.
- A Memorandum of Understanding (MOU) / Service Level Agreement with the Independent Electricity System Operator (IESO) would also set out the process and information requirements.

Considerations

- Legislation and Regulation Committee is on December 13, 2016.

Steps 3 and 4 – Disbursements

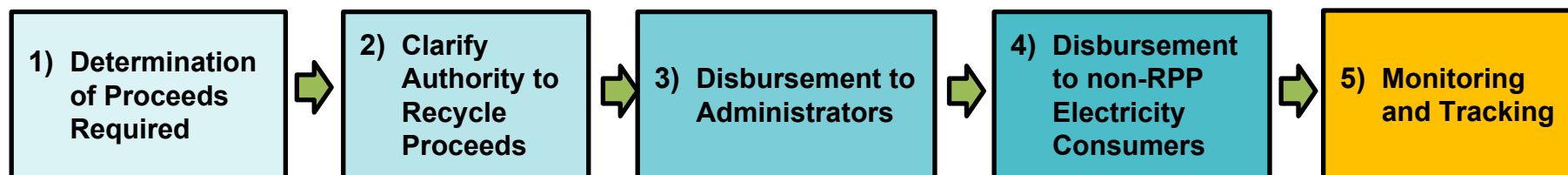


- ENERGY would receive money from the Greenhouse Gas Reduction Account (GGRA).
 - ENERGY would flow amounts to the IESO. IESO would set up a new account to receive these funds from the GGRA. Similarly, LDCs would have an account to receive funds from IESO.
- IESO would allocate an amount for transmission-connected customers.
- LDCs would report to IESO the required amount of funding for their customers. IESO would allocate amounts to LDCs for distribution to their customers.

Considerations

- A decision has not been made on bill presentment. A separate line item of Class A and non-residential Class B electricity consumers' bills could be required. Staff analysis is ongoing.
- The IESO and LDC would require billing system changes to facilitate proceeds recycling. While the impact of cap and trade would be added to electricity bills as of January 2017, the offsetting effect of proceeds recycling may not occur immediately. Ontario's cap and trade program comes into effect of January 1, 2016, but there won't be proceeds available until April 2017 at the earliest (i.e., 4-month lag).

Step 5 – Monitoring and Tracking

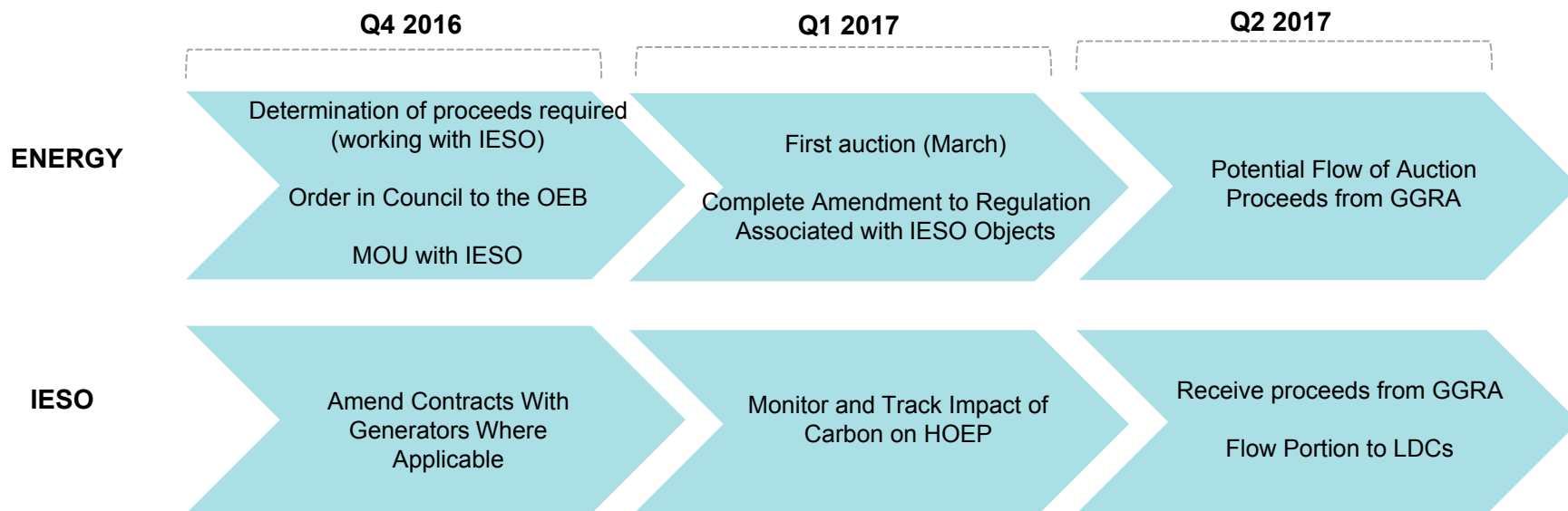


- The proposed recycling option will require the monitoring and tracking of the impact of carbon on HOEP. The Independent Electricity System Operator (IESO) will be responsible for the monitoring and tracking the impact of carbon on an ongoing basis.

Considerations

- True-up of the difference would be provided in next fiscal year. However, due to IESO and LDCs' need to implement billing system changes and proceeds recycling would likely not appear on bills immediately, payments could be made based on the actual cost of carbon.

Next Steps



Appendix

1. Proceeds Recycling Options
2. Illustrative Impact to Electricity Consumers (2017-2020)
3. Average Annual Proceeds Required

Proceeds Recycling Options – Overview

- Recycling cap and trade auction proceeds to lower the cost of electricity would:
 - Offset consumers' contributions to investments/initiatives which reduce GHGs (e.g., non-emitting generation and conservation programs);
 - Support CCAP goal of fuel-switching and electrification; and
 - Depending on the option chosen, incent “behavioural change” such as consuming electricity during off-peak times.
- The proposed auction proceeds recycling options include:
 1. Recycle proceeds back to electricity consumers via Global Adjustment (GA);
 2. Recycle proceeds volumetrically in “all hours” (as assumed in the September 12 Cabinet submission);
 3. Recycle proceeds volumetrically in “off-peak” hours;
 4. Recycle proceeds via a hybrid approach through GA and volumetrically in “all hours”; and
 5. Recycle proceeds via a hybrid approach through GA and volumetrically in “off-peak” hours.
- The proposed options are intended to balance the ability to meet the CCAP commitments, provide consistency with the September 2016 direction, maintain the potential for linking funding to GHG reductions and minimize administrative complexity.

Illustrative Impact to Electricity Consumers (2017-2020)

Option	GHG Reductions in 2020* (Mt)	Total (2017-2020)	Avg. Residential Impact (\$/month)	Avg. Class B Commercial Impact (\$/MWh)	Class A Industrial Impact** (\$/MWh)		
					High GA (e.g., chemical)	Medium (e.g., auto)	Low GA (e.g., pulp)
CCAP estimate was based on recycling via GA to offset the average industrial consumer	3.25	\$1.32 billion	- \$2.00	- \$2.50	- \$1.10	\$0	\$2.35
1. Global Adjustment (GA) recycling (Targeted amounts to Class A and Class B electricity consumers)	3.25	\$1.10 billion	N/A**	- \$1.70	- \$6.90	- \$4.50	\$0.60
2. Volumetric recycling in “all hours” (as assumed in the September 12 Cabinet submission)	3.25	\$1.10 billion	N/A***	- \$2.70	- \$3.25	- \$2.70	- \$1.30
3. Volumetric recycling in “off-peak hours”	3.27	\$1.10 billion	N/A***	- \$2.70	- \$3.15	- \$2.50	- \$1.60

* **Note:** The forecast amount of greenhouse gas (GHG) emissions savings is based on planned and committed electricity projects that have not yet been funded by electricity ratepayers.

** **Note:** The above benefits do not include the cost of ICI expansion (impact of about \$1/MWh) and the RRRP update (impact of about \$0.76/MWh). Proceeds recycling is net of the cost of carbon and represents an estimated average of the proceeds required over the first compliance period (2017-2020).

*** **Note:** Most residential consumers pay under the Regulated Price Plan (RPP). For simplicity, all non-RPP Class B consumers are referred to as “Class B/Commercial” throughout the deck. On September 15, 2016, the government introduced legislation that would provide an 8% rebate equal to the provincial portion of the Harmonized Sales Tax (HST) to consumers eligible for the RPP, such as residential households, small businesses and farms – exceeding the 2016 Budget commitment.

Illustrative Impact to Electricity Consumers (2017-2020) cont'd

Option	GHG Reductions in 2020* (Mt)	Total (2017-2020)	Avg. Residential Impact (\$/month)	Avg. Class B Commercial Impact (\$/MWh)	Class A Industrial Impact** (\$/MWh)		
					High GA (e.g., chemical)	Medium (e.g., auto)	Low GA (e.g., pulp)
CCAP estimate was based on recycling via GA to offset the average industrial consumer	3.25	\$1.32 billion	- \$2.00	- \$2.50	- \$1.10	\$0	\$2.35
4. Hybrid option in “all hours” (targeted amounts via GA to Class A, plus volumetric amount in “all hours” to Class A)****	3.25	\$1.10 billion	N/A***	- \$1.70	- \$6.20	- \$4.50	- \$0.80
5. Hybrid option with “off-peak hours” (targeted amounts via GA to Class A, plus volumetric amount in “off-peak hours” to Class A)*****	3.26	\$1.10 billion	N/A***	- \$1.70	- \$6.10	- \$4.40	- \$1.00

* **Note:** The forecast amount of GHG emissions savings is based on planned and committed electricity projects that have not yet been funded by electricity ratepayers.

** **Note:** The above benefits do not include the cost of ICI expansion (impact of about \$1/MWh) and the RRRP update (impact of about \$0.76/MWh). Proceeds recycling is net of the cost of carbon and represents an estimated average of the proceeds required over the first compliance period (2017-2020).

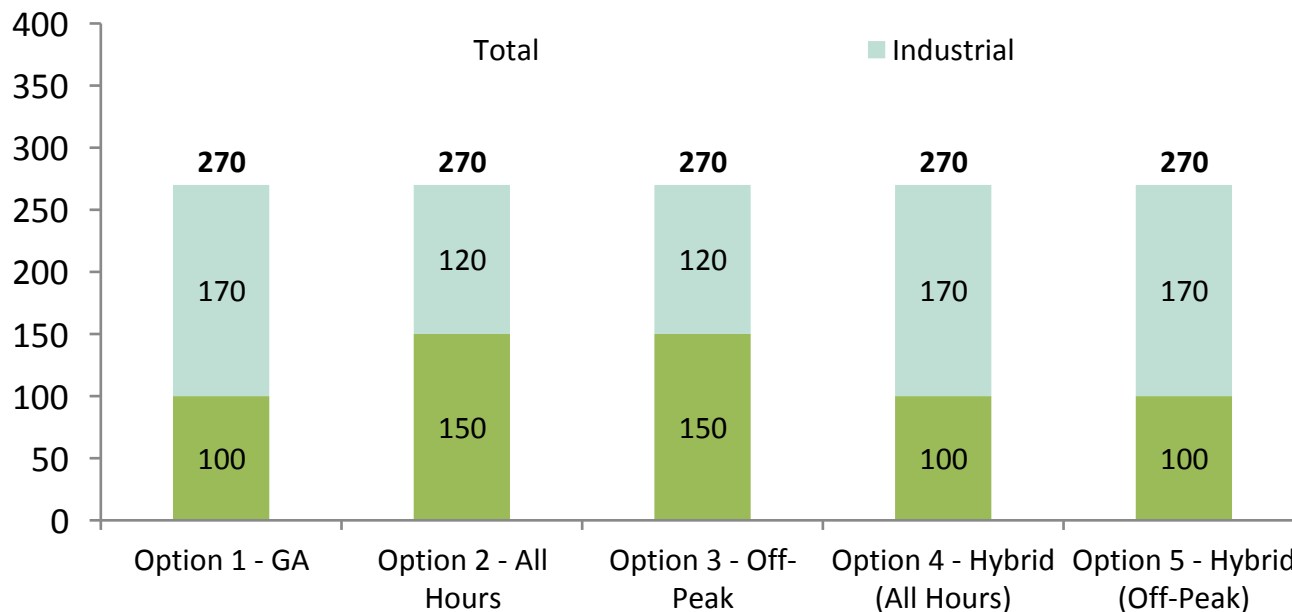
*** **Note:** Most residential consumers pay under the Regulated Price Plan (RPP). For simplicity, all non-RPP Class B consumers are referred to as “Class B/Commercial” throughout the deck. On September 15, 2016, the government introduced legislation that would provide an 8% rebate equal to the provincial portion of the Harmonized Sales Tax (HST) to consumers eligible for the RPP, such as residential households, small businesses and farms – exceeding the 2016 Budget commitment.

******Note:** The estimates assume that 60% of proceeds for Class A is recycled via a targeted GA and 40% is recycled volumetrically; Class B consumers are assumed to receive recycling via a targeted GA.

*******Note:** The estimates assume that 60% of proceeds for Class A is recycled via a targeted GA and 40% is recycled volumetrically to off-peak hours; Class B consumers are assumed to receive recycling via a targeted GA.

Average Annual Proceeds Required

Average Annual Proceeds Required (2017-2020)
in \$ millions per year



Note: The CCAP estimate which was based on recycling via GA to offset the average industrial consumer allocated an average of \$40 million per year to industrial electricity consumers and approximately \$175 million per year to commercial electricity consumers over the first compliance period.

Note: Option 2 reflects the assumptions in the September 12, 2016 Cabinet submission. Option 4 assumes that 60% of proceeds for Class A is recycled via a targeted GA and 40% is recycled volumetrically; Class B consumers are assumed to receive recycling via a targeted GA.