Ontario

MINISTRY OF
ENERGY

Cap and Trade Auction Proceeds for Commercial and Industrial Electricity Consumers

Working Draft

November 2016

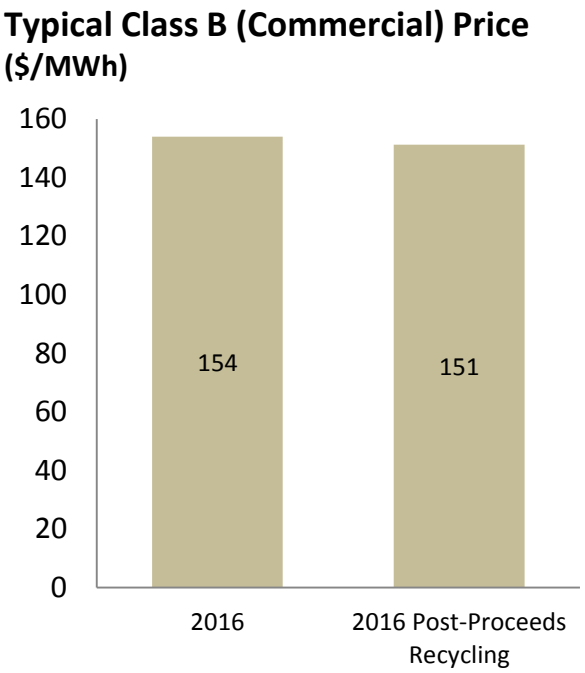
CONFIDENTIAL DRAFT

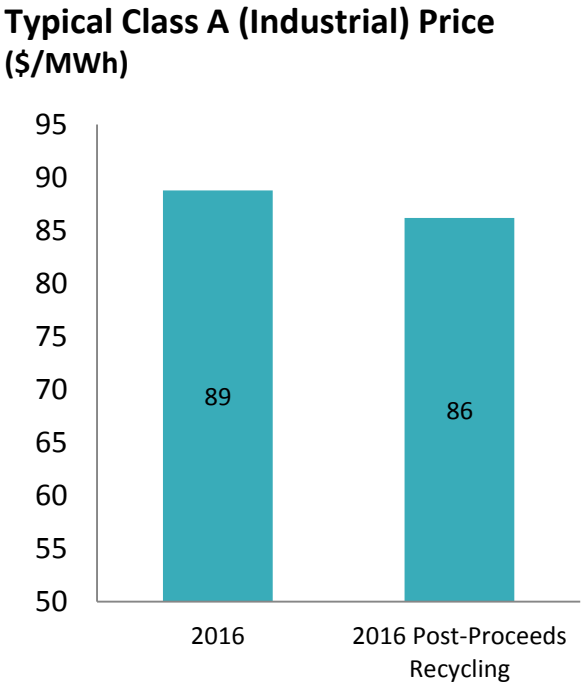
Context / Current Status

- On September 12, 2016, the Throne Speech announced a number of initiatives to reduce electricity bills for consumers across Ontario, including the government's intention "to use a portion of the cap and trade auction proceeds to reduce greenhouse gas (GHG) emissions by helping industrial and commercial electricity consumers use less electricity, which will also help to keep rates affordable".
  - The Climate Change Action Plan (CCAP) indicates a desire to "Keep Electricity Rates Affordable" (Action 4.4) and states that up to $1.3 billion of cap and trade proceeds will be used to "offset the cost of greenhouse gas pollution reduction initiatives that are currently funded by residential and industrial consumers through their bills."
- On September 12, 2016, ENERGY was directed to work with MOECC to develop options to recycle cap and trade auction proceeds from the Greenhouse Gas Reduction Account (GGRA) to commercial and industrial electricity consumers over the first compliance period (2017-2020).
- The *Climate Change Mitigation and Low-carbon Economy Act, 2016,* requires that auction proceeds be used to fund initiatives that are reasonably likely to reduce, or support the reduction of, GHG emissions.

Context – September 2016 Cabinet Submission

- In the September 12, 2016 Cabinet submission, ENERGY proposed to recycle approximately $1.1 billion of cap and trade auction proceeds through a volumetric rebate mechanism so commercial and industrial electricity consumers receive a net benefit. The below charts illustrate the consumer impacts of this recycling.





Note: Above graphs are for illustrative purposes. Recycling would not occur in 2016.

Ontario's Climate Change Legislation and Action Plan

Climate Change Legislation

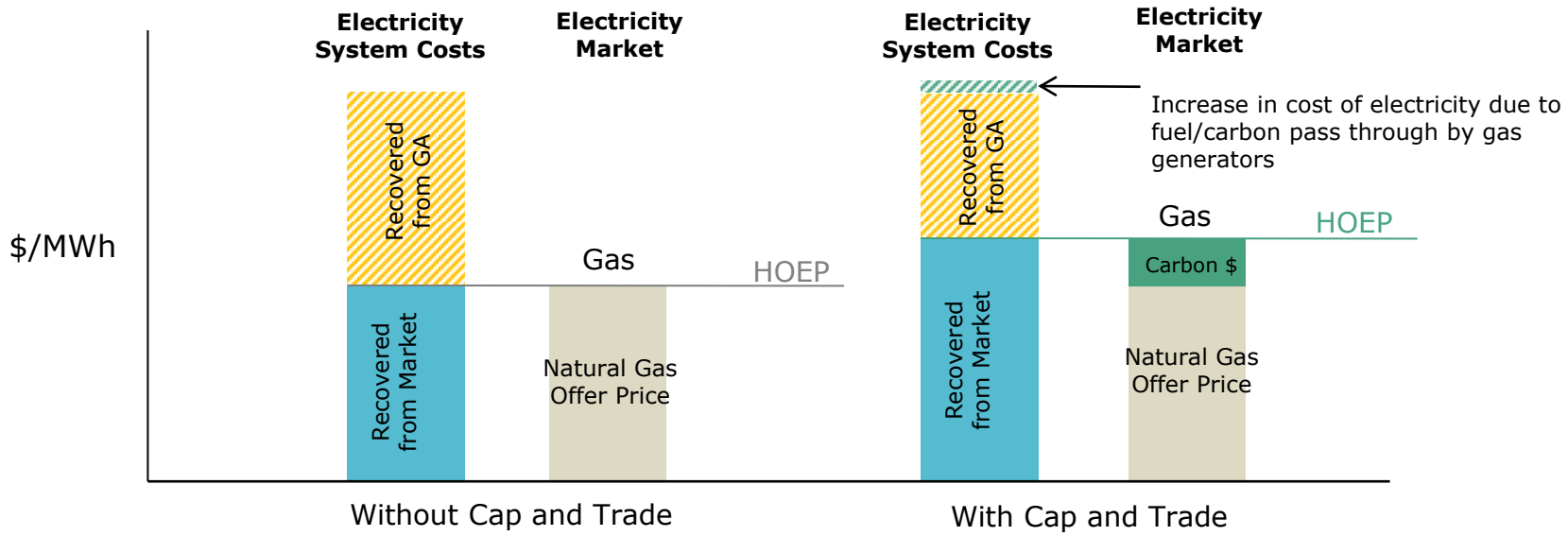
- The *Climate Change Mitigation and Low-Carbon Economy Act, 2016* requires that:
  - Auction proceeds from the Greenhouse Gas Reduction Account (GGRA) be used to directly and/or indirectly fund specific initiatives; and
  - Such initiatives must be reasonably likely to reduce, or support the reduction of, greenhouse gas (GHG) emissions, or be related to initiatives that are reasonably likely to do so (e.g., renewable energy, fuel switching, etc.).

Climate Change Action Plan

- Released on June 8, 2016, Ontario's Climate Change Action Plan (CCAP) expresses support for actions that incent fuel switching to electricity, incent off-peak electricity consumption and offset the cost of current and future GHG reduction initiatives.
  - Action 4.4 of the CCAP states that up to $1.3 billion of cap and trade proceeds will be used to "offset the cost of greenhouse gas pollution reduction initiatives that are currently funded by residential and industrial consumers through their bills."
  - CCAP did not set out potential approaches for proceeds recycling to the electricity sector.

Impact of Cap and Trade on the Electricity Market

- Under cap and trade, the wholesale hourly electricity price (HOEP) will increase in many hours as a result of peaking generators (i.e., often gas generators) including the cost of carbon in their offers. Fuel costs are essentially a pass through for these generators.
- The payments to gas generators through Global Adjustment (GA) will decrease a greater proportion of total system costs would be recovered through the market.
- On a net basis, these dynamics will cause the total system cost to increase as HOEP goes up, but GA goes down by a smaller amount.

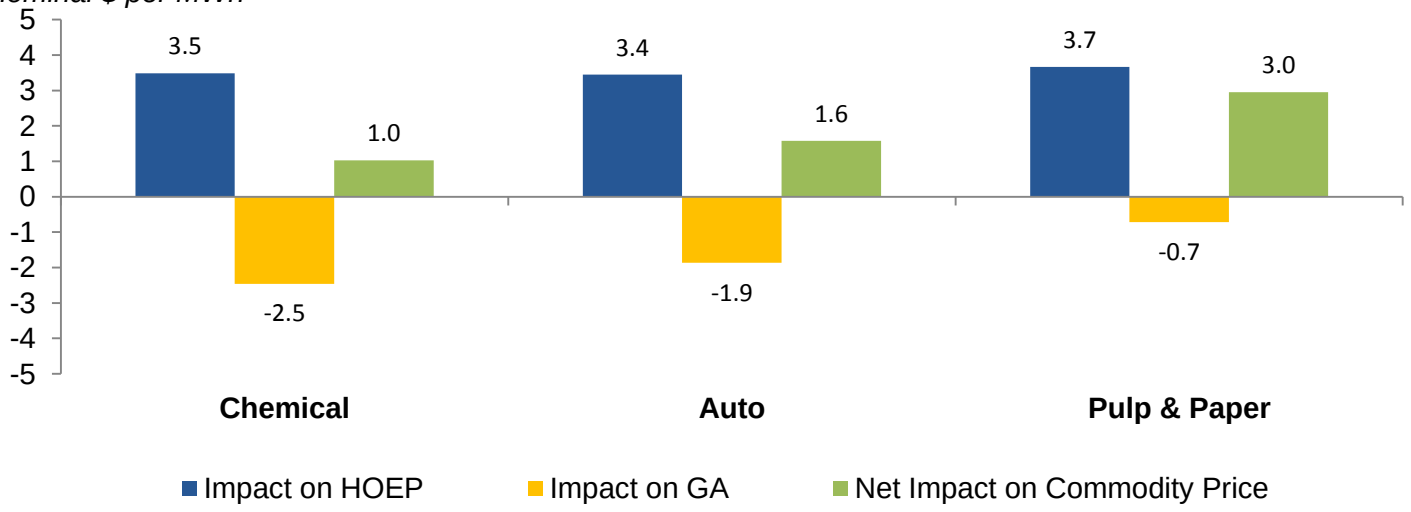


Cap and Trade Impact on Electricity Consumers

- There is significant variation in the commodity cost of large electricity consumers due to differences in their Global Adjustment (GA) costs:
  - GA paid by Class A electricity consumers varies depending on their ability to take advantage of the Industrial Conservation Initiative (ICI) and reduce consumption during peak hours.
  - Under ICI, large electricity consumers pay GA based on their share of peak demand during the five peak hours of the year. These "Class A" consumers can pay lower GA if they are able to reduce consumption during peak times.

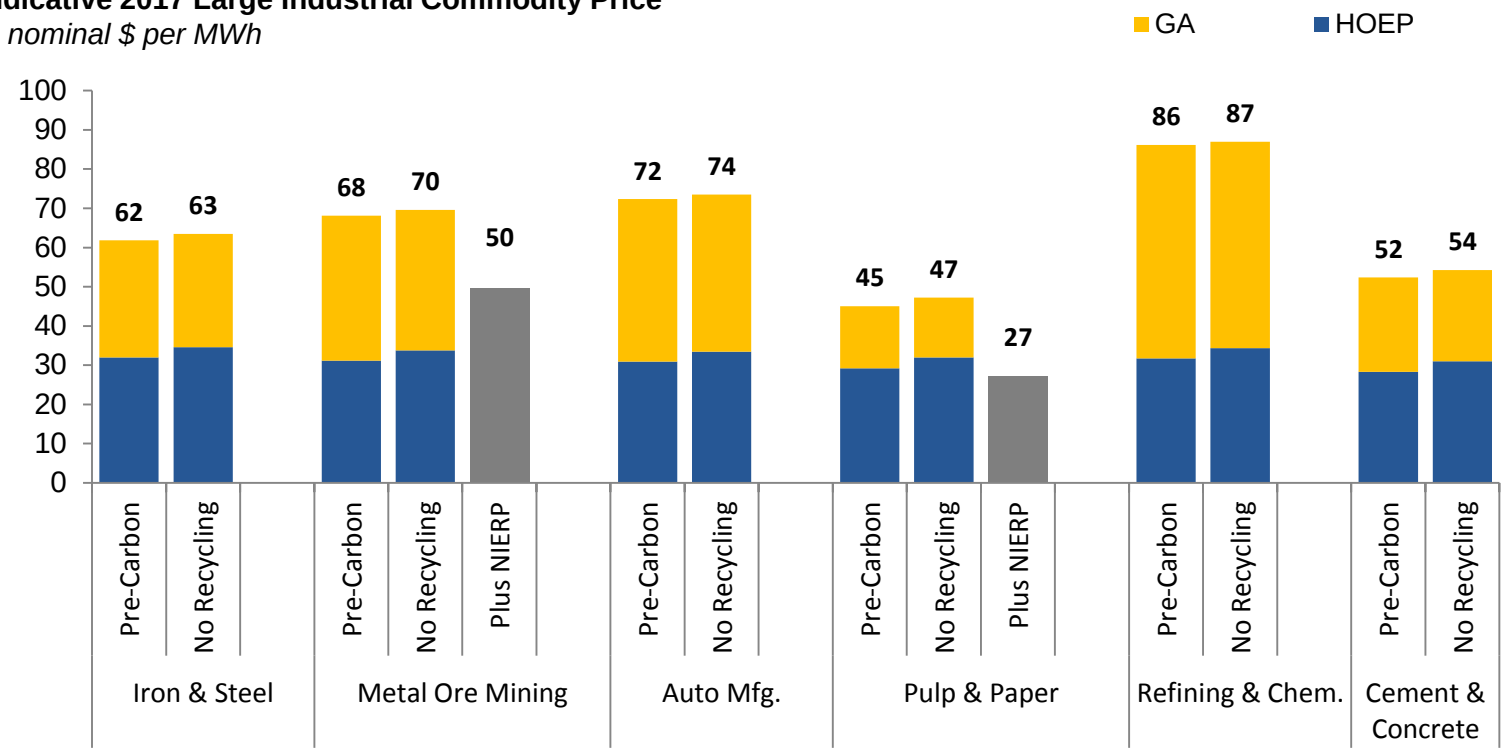
- Because of this variation, the net impact of cap and trade on the Hourly Ontario Energy Price (HOEP) and GA varies.

Indicative Average Impact (2017-2020)
in nominal $ per MWh



Cap and Trade Impact on Electricity Consumers (cont'd)

Indicative 2017 Large Industrial Commodity Price
in nominal $ per MWh



Note:

1) 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.

2) Most large industrial consumers in northern Ontario participate in the Northern Industrial Electricity Rebate Program (NIERP), which provides a $20/MWh rebate on eligible consumption. This impact is not included in the chart.

Proceeds Recycling Options

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; and
  4. Recycle proceeds via a hybrid approach through GA and volumetrically.

- 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.

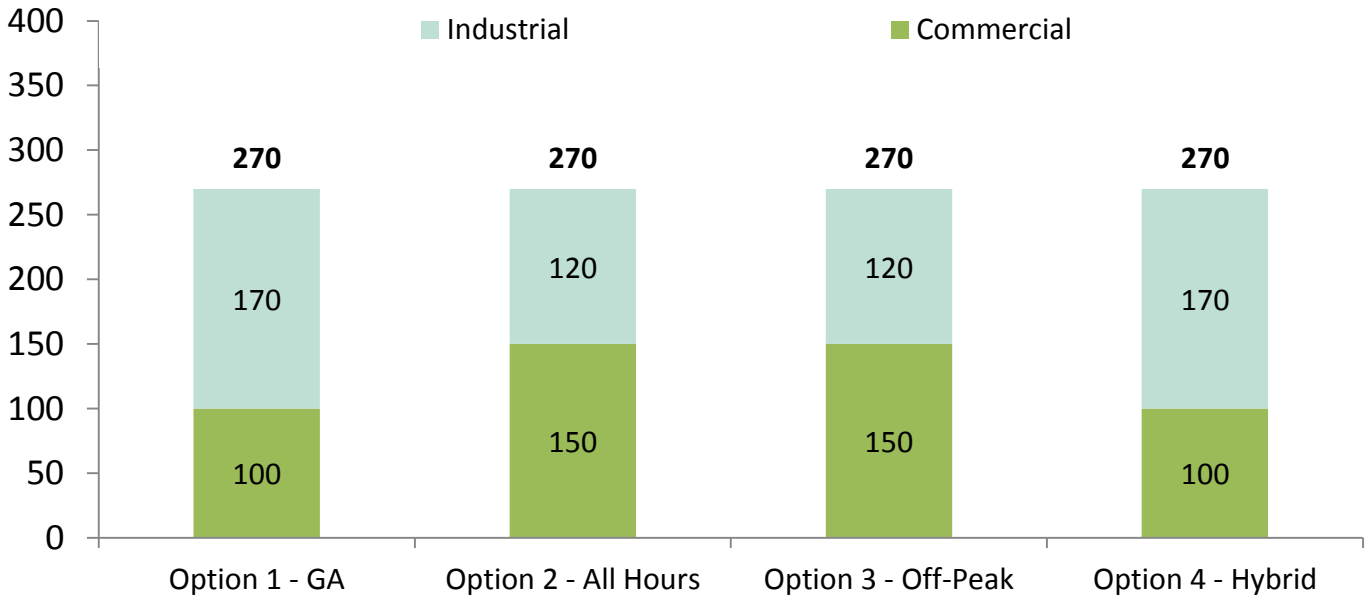
Illustrative Impact to Electricity Consumers (2017-2020)

Option	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	$1.3 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)	$1.1 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)	$1.1 billion	N/A**	- $2.70	- $3.25	- $2.70	- $1.30
3. **Volumetric recycling in "off-peak hours"**	$1.1 billion	N/A**	- $2.70	- $3.15	- $2.50	- $1.60
4. **Hybrid option** (targeted amounts via GA to Class A, plus volumetric amount in "all hours" to Class A)***	$1.1 billion	N/A**	- $1.70	- $6.20	- $4.50	- $0.80

*** 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.

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.

1. Recycling Proceeds via the Global Adjustment (GA)

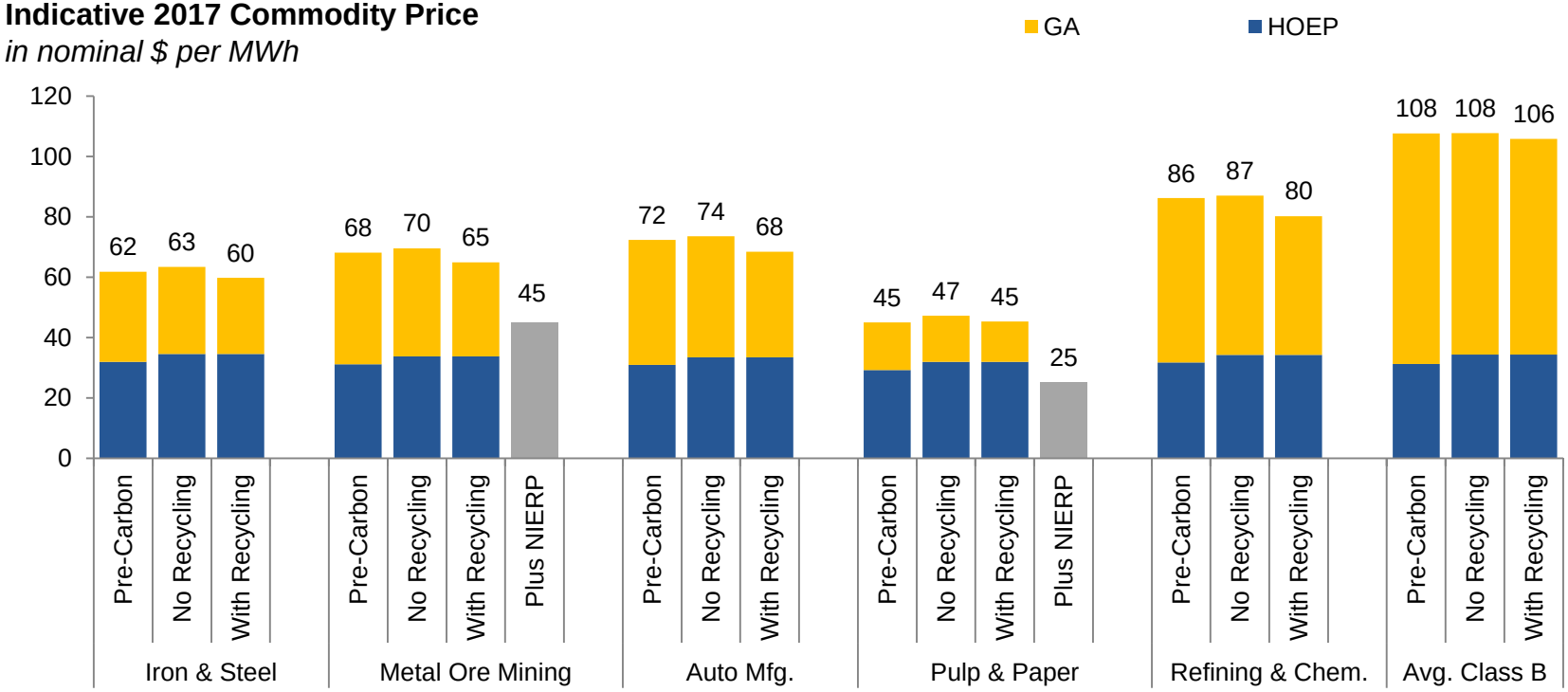
- Propose to recycle an annual average of $270 million in cap and trade auction proceeds through the Global Adjustment (GA) mechanism to commercial and industrial electricity consumers.
  - Proposal would recycle an annual average of approximately $100 million to offset the impact to the average Class B electricity consumers (i.e., commercial) and allocates the remaining $170 million per year to Class A electricity consumers (i.e., industrial) over the first compliance period (2017-2020).
  - Represents a reduction of approximately $60 million per year on average from the CCAP commitment.

Considerations

- Does not meet the September 12, 2016 commitment to provide a benefit to all industrial and commercial electricity consumers. Under this option, some industrial electricity consumers would continue to pay a carbon price and the net benefit would differ between consumers.
  - Many large industrials (particularly those participating in the ICI program) would not pay sufficient GA to benefit enough to offset the costs associated with the cap and trade program.
  - Class A consumers in sectors that are currently paying lower GA (e.g., pulp & paper, cement, iron & steel) would receive relatively less proceeds recycling compared to consumers in sectors that currently pay higher GA (e.g., auto manufacturing, petroleum products refining and chemical producers).
- Provides a strong link to the MOECC legislation and the GGRA since amounts would be used directly to lower the costs associated with GHG-lowering activities and initiatives (including the pooled costs of the FIT, microFIT, Large Renewables, Conservation and Demand-side Management (CDM)) and ratepayers incurring the highest GA costs would also see greater benefits.

1. Recycling Proceeds via GA – Variation in Electricity Costs

Indicative 2017 Commodity Price
in nominal $ per MWh



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 electricity consumers. The above benefits do not include the cost of ICI expansion (impact of $1/MWh) and the RRRP update (impact of $0.76/MWh).

2. Recycling Proceeds Volumetrically in “All Hours”

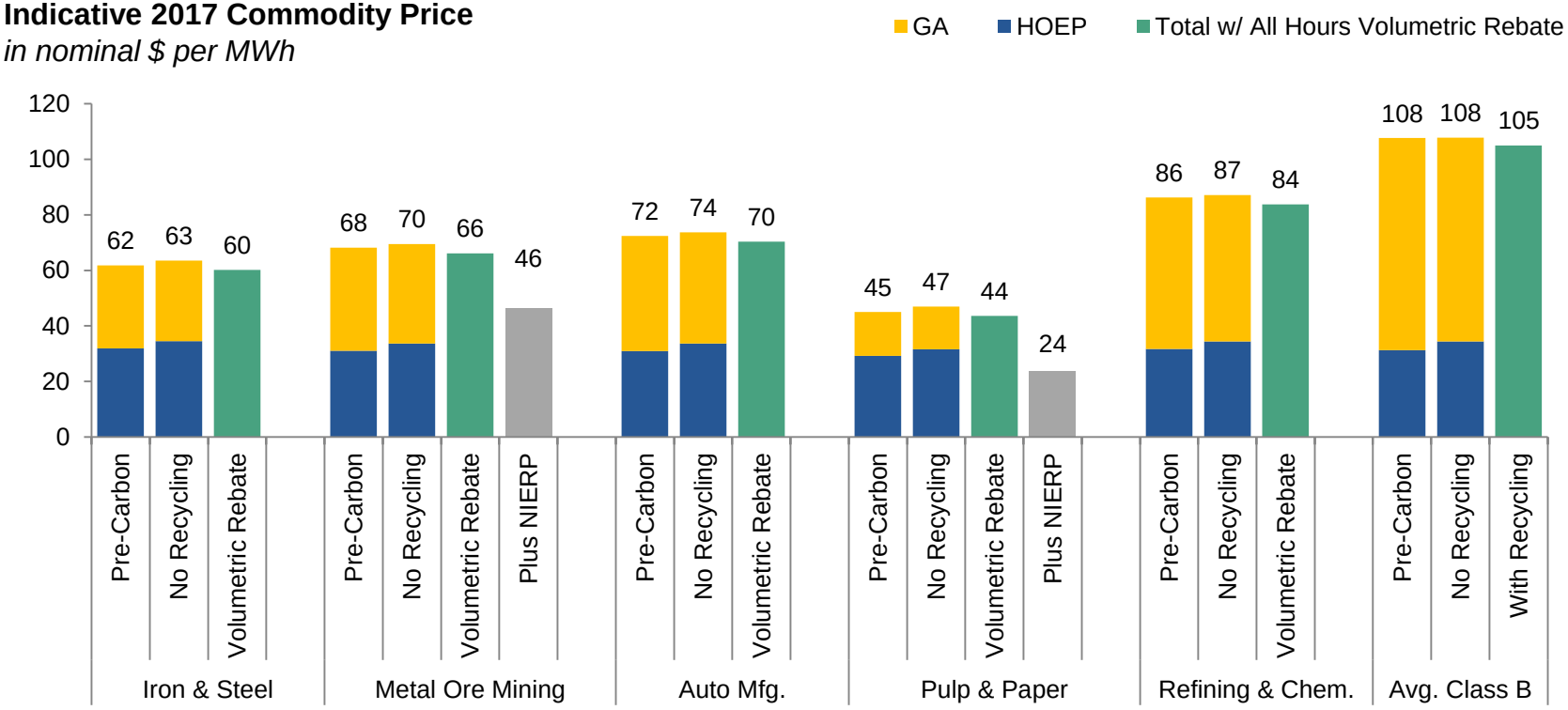
- Propose to recycle an annual average of $270 million in cap and trade auction proceeds through a volumetric mechanism in “all hours” to commercial and industrial electricity consumers.
  - Proposal would recycle an annual average of approximately $150 million for Class B electricity consumers ((i.e., commercial) and approximately $120 million per year for Class A electricity consumers (i.e., industrial) over the first compliance period (2017-2020).
  - This represents a reduction of approximately $60 million per year on average from the CCAP commitment.

Considerations

- Consistent with the September 2016 commitment to use cap and trade auction proceeds to provide a net benefit to commercial and industrial electricity consumers.
- Volumetric recycling is more administratively complex than recycling through GA.
- 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. Additionally, this option would maintain the price differential between on- and off-peak hours, thereby encouraging “behavioural change”.

2. Volumetric Recycling in "All Hours" – Variation in Electricity Costs

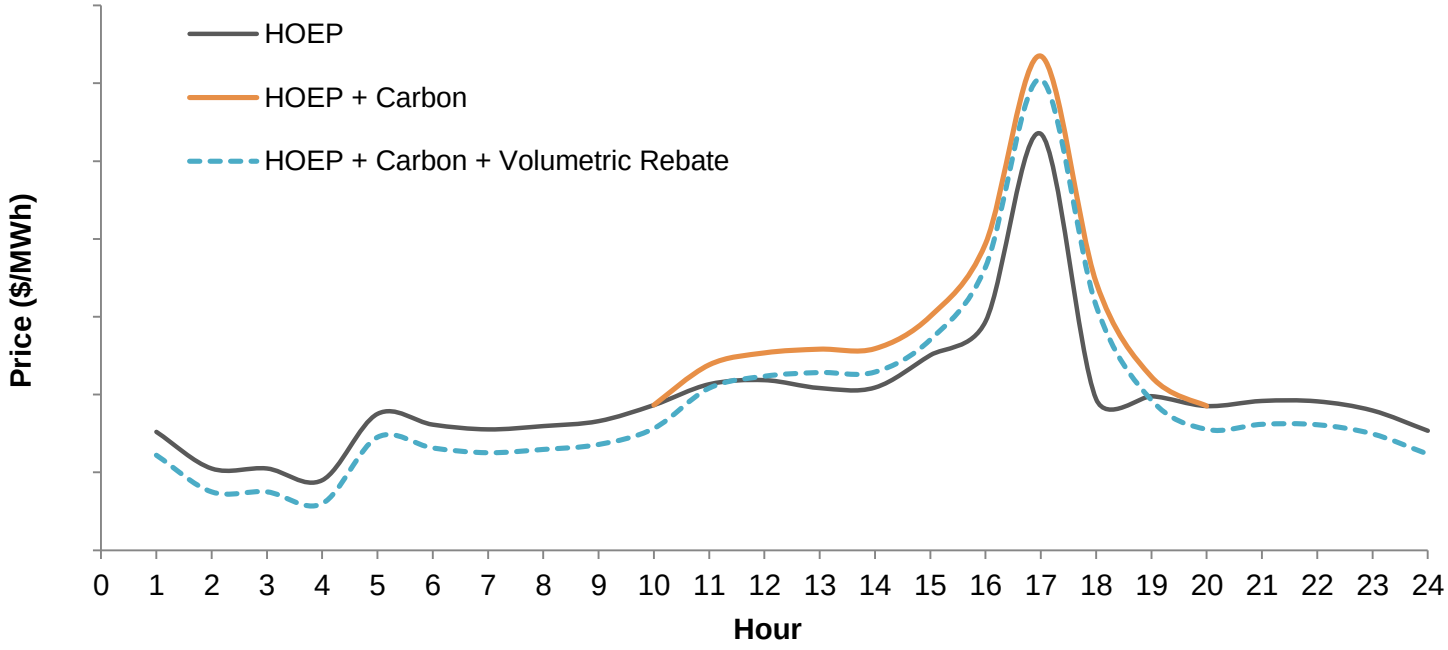
Indicative 2017 Commodity Price
in nominal $ per MWh



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).

2. Volumetric Recycling in “All Hours” – Illustrative Example

- Cap and trade will result in an increase in on-peak electricity prices. Redistributing auction proceeds volumetrically across “all hours” would maintain the incentive for off-peak electricity usage.



3. Recycling Proceeds Volumetrically in “Off-Peak” Hours

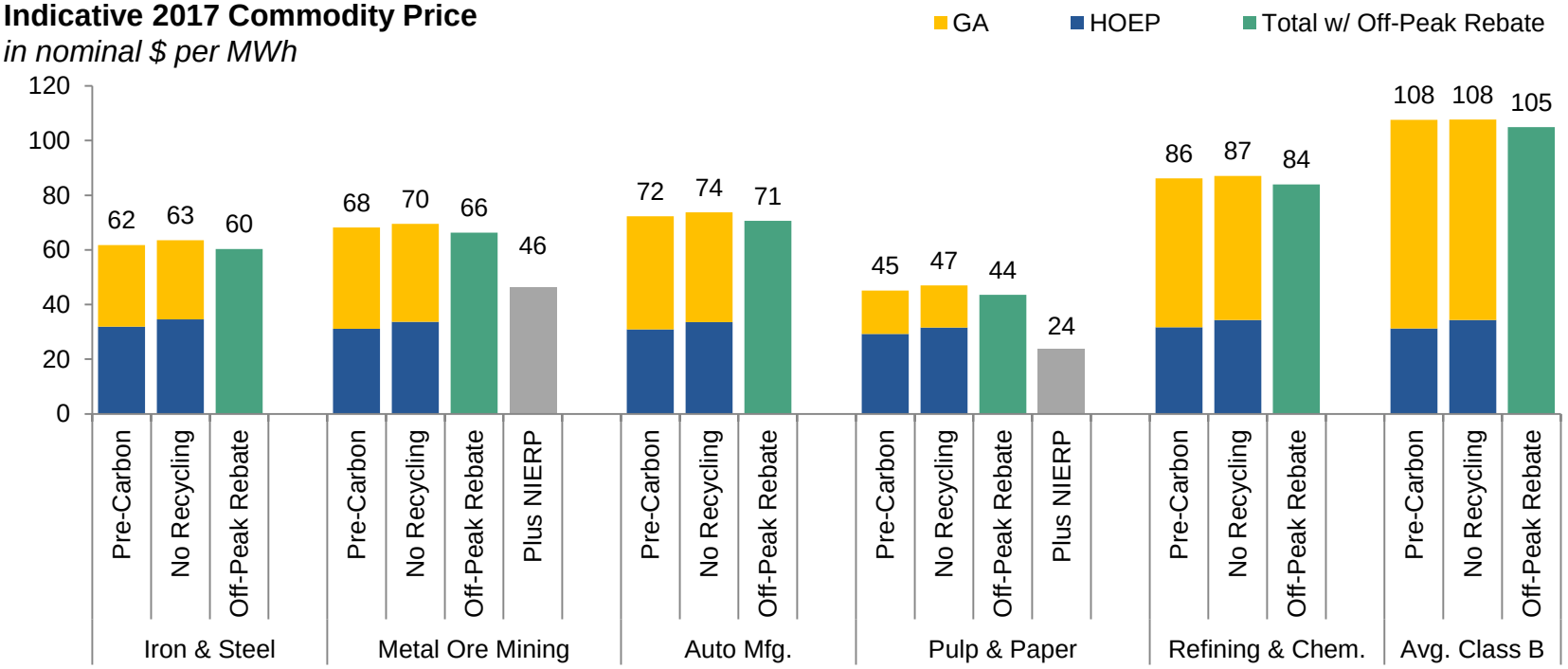
- Propose to recycle an annual average of $270 million in cap and trade auction proceeds through a volumetric mechanism in “off-peak” hours to commercial and industrial electricity consumers.
  - Proposal would recycle an annual average of approximately $150 million for Class B electricity consumers (i.e., commercial) and approximately $120 million per year for Class A electricity consumers (i.e., industrial) over the first compliance period.
  - This represents a reduction of approximately $60 million per year on average from the CCAP commitment.

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, no industrial/commercial electricity consumer would be worse off as a result of the imposition of cap and trade.
- Volumetric recycling is more administratively complex than recycling through GA. Recycling in only off-peak hours would add further complexity to the process.
- Incenting consumption during “off-peak” hours, when Ontario’s current mix of resources typically emit low levels of emissions, could further reduce GHGs.

3. Volumetric Recycling in "Off-Peak" Hours – Variation in Electricity Costs

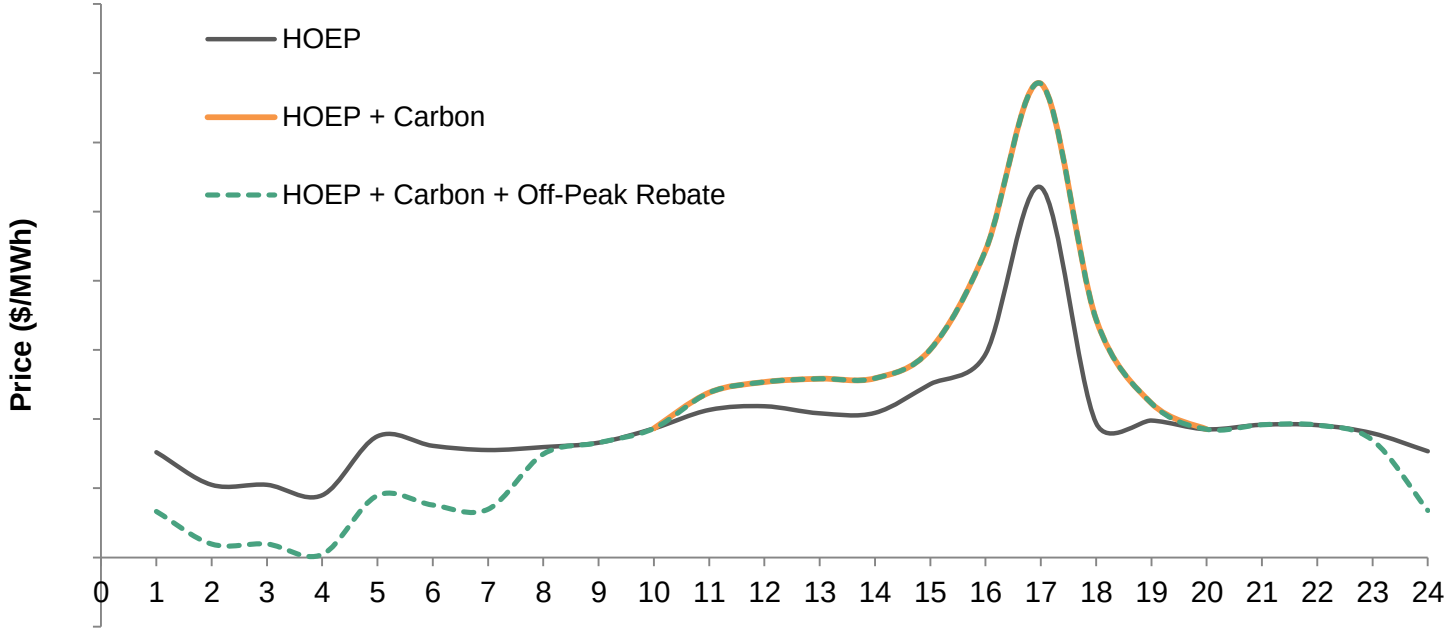
Indicative 2017 Commodity Price
in nominal $ per MWh



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) for informal purposes; the wholesale market does not use a formal definition of on and off-peak hours.

3. Volumetric Recycling In "Off-Peak" Hours – Illustrative Example

- To further incent "off-peak" consumption, proceeds could be redistributed to off-peak hours only.



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.

4. Recycle Proceeds via GA and Volumetrically (Hybrid)

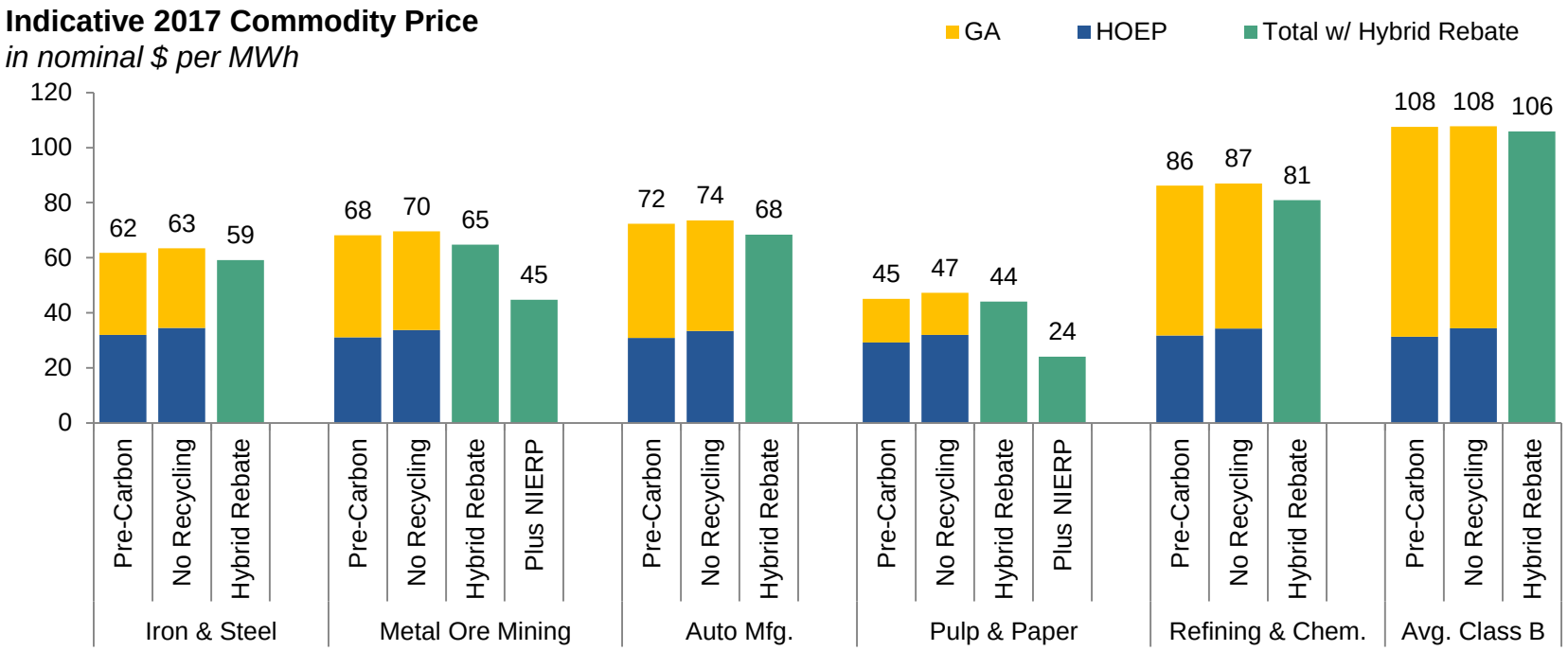
- Propose to recycle an annual average of $200 million in cap and trade auction proceeds through the GA mechanism to commercial and industrial electricity consumers, and an annual average of $70 million volumetrically to industrial electricity consumers.
  - Proposal would recycle an annual average of approximately $100 million to offset the impact to the average Class B electricity consumers (i.e., commercial) and approximately $170 million per year to Class A electricity consumers (i.e., industrial) over the first compliance period.
  - Represents a reduction of approximately $60 million per year on average from the CCAP commitment

Considerations

- Consistent with the September 2016 commitment to use cap and trade auction proceeds to provide a net benefit to commercial and industrial electricity consumers. Similar to the GA-only option, companies with a specific load profile (e.g., such as the ability to avoid the top five peaks to pay lower GA while consuming on-peak in all other hours) would receive less relative to other companies due to their exposure to GA.
  - While the use of the volumetric portion of a hybrid approach could lower the cost impact on consumers who not pay sufficient GA to benefit from a GA-only approach, certain Class A consumers would receive relatively less proceeds recycling.

- A hybrid approach provides a strong link to the MOECC legislation and the GGRA since amounts would be used directly to lower the costs associated with GHG-lowering activities and initiatives funded through GA. However, this option is the most administratively complex given that it involves multiple mechanisms.

4. Recycling Proceeds via Hybrid Approach – 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 electricity consumers. The above benefits do not include the cost of ICI expansion (impact of $1/MWh) and the RRRP update (impact of $0.76/MWh). Assumes that two amounts could be targeted via GA. The estimates assume that 60% of proceeds for Class A is recycled via a targeted GA and 40% is recycled volumetrically.

Rationale / Considerations

Achieving the CCAP Commitment / Cost Savings

- The Climate Change Action Plan (CCAP) committed up to $1.3 billion over four years for electricity mitigation for industrial, commercial and residential electricity consumers from GGRA proceeds.

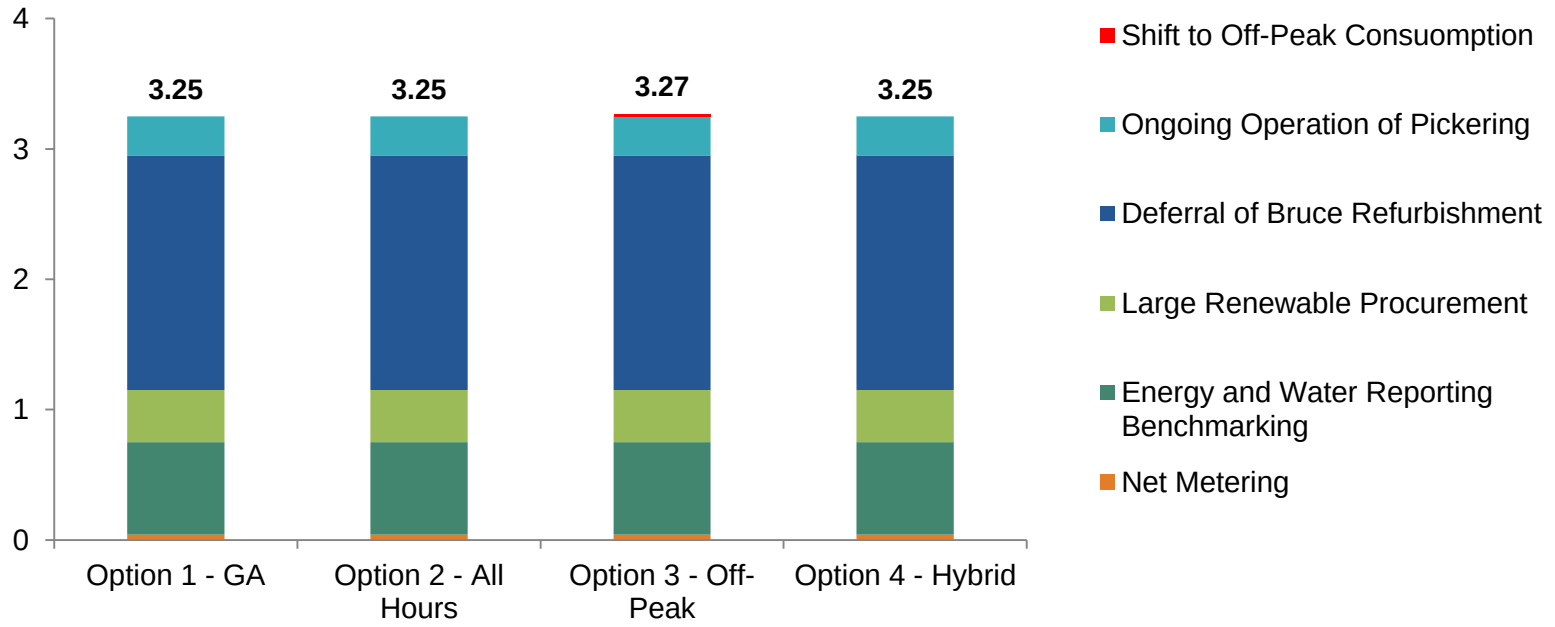
- The proposals require approximately 20% less in auction proceeds, saving approximately $0.24 billion relative to the CCAP commitment over the first compliance period (2017-2020).
  - The GA option assumes that two amounts could be targeted via GA – one specific to Class A electricity consumers and one specific to Class B consumers. This option does not meet the September 12 commitment as some industrial consumers would continue to pay a carbon price.
  - The volumetric proposals (i.e., “all hours” and “off-peak”) meet the 2016 Budget commitment and ensure that no industrial/commercial electricity consumer would be worse off as a result of cap and trade.
  - The hybrid option also assumes that two amounts could be targeted via GA and that government would specify amounts that would flow through GA and through a volumetric mechanism for Class A consumers. However, some industrial consumers with “specific load” shapes would continue to be disadvantaged compared to other consumers due to their lack of exposure to GA.

- Consistent with the September 12 minute, consideration could be given to allocating the $0.24 billion in reduced proceeds required towards other existing initiatives that also reduce greenhouse gas (GHG) emissions.

Reducing GHG Emissions – Summary

- ENERGY has estimated the GHG emissions reductions associated with “planned/committed” electricity sector initiatives that were developed following the 2013 LTEP and the rebate in off-peak periods.

Average Annual GHG Reductions (2017-2020)
in megatonnes (Mt) CO2



Reducing GHG Emissions – Investments in Clean Electricity and Conservation

- All the proposed options are capable, once fully developed, of demonstrating a link between proceeds recycling and the lowering of GHGs by offsetting the costs of investments in clear electricity generation and conservation (i.e., 90% GHG-free).

- Since 2003, Ontario has invested more than $30 billion in over 11,000 megawatts (MW) of new and refurbished clean generation, including nuclear, hydro, wind and solar – this represents about 30% of our current supply.

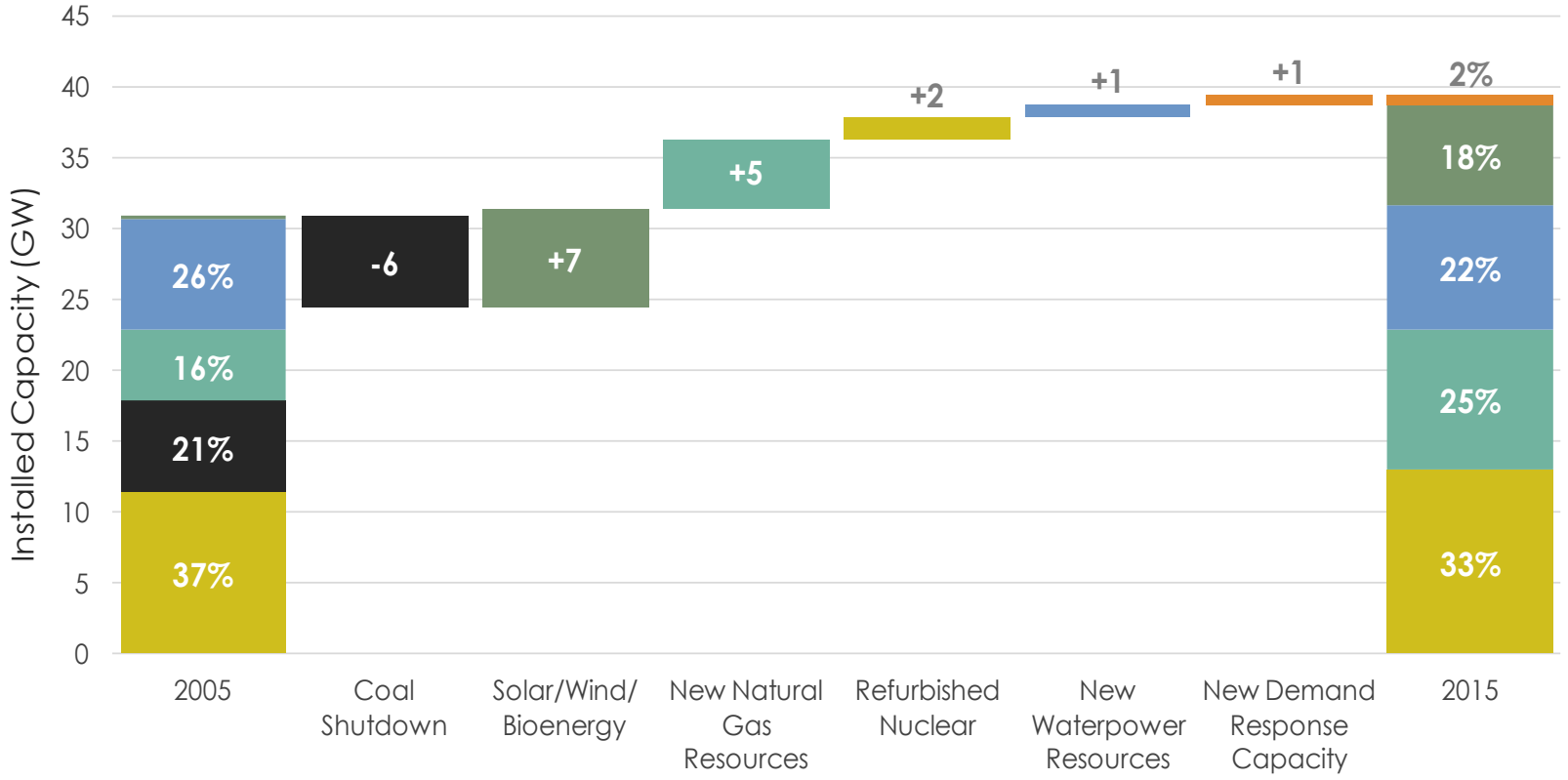
- The costs associated with these ongoing investments in the electricity sector to ensure a clean, low-GHG-emitting system are significant and continue to be borne by electricity ratepayers. Recycling helps pay for committed investments/initiatives which reduce GHGs (e.g., non-emitting generation, nuclear and conservation programs).

- Due to the long-term nature (typically 20 years) of electricity generation contracts and conservation programs, the associated costs are ongoing and are expected to be about $7 billion dollars annually during the first cap and trade compliance period. These costs will continue well beyond the timelines described in the CCAP.

- Decisions made since the 2013 LTEP, including approving Ontario Power Generation's plan to pursue Pickering life extension, represent an estimated more-than-3Mt reduction in emissions during the first compliance period.

Reducing GHG Emissions – Investments in Clean Electricity and Conservation (cont'd)

Change in Installed Supply Resources (2005-2015)



Source: Ontario Planning Outlook, 2016

Reducing GHG Emissions – Load Shifting / Fuel Switching

- All of the proposed options have the potential to reduce GHG emissions by incenting consumers to switch from using electricity over fossil fuels and using electricity during periods when there is less carbon in our electricity generation.

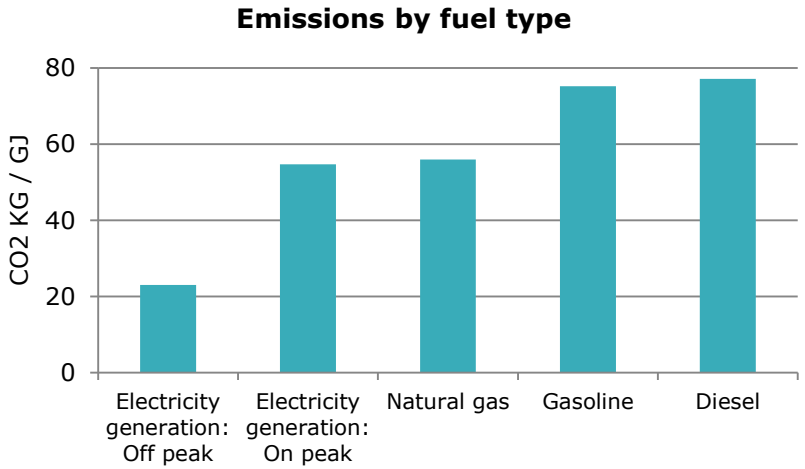
- All four options would make electricity more affordable, incenting fuel switching to electricity that is relatively cleaner than other fuels (i.e., natural gas, oil).

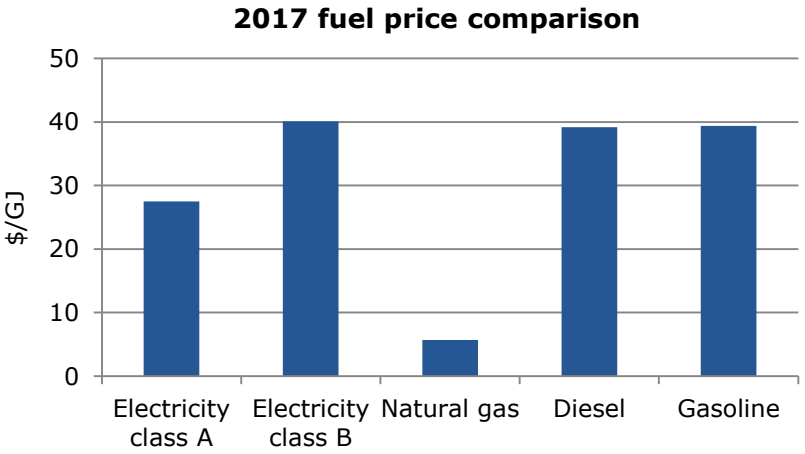
- The volumetric “all hours” option maintains existing price differentials while lowering the overall cost impact on consumers. This preserves the current market price-signal to load-shift from on-peak periods to off-peak.
  - The volumetric “off-peak” hours option would further increase the incentive to shift to off peak periods.
  - Both volumetric recycling options could lead to implementation/administrative complexity for LDCs.

- Based on ENERGY preliminary analysis, providing the rebate in off-peak periods could further reduce emissions by up to 20,000 tonnes (i.e., 0.02 Mt) over the first compliance period, with higher savings expected over the long term as the carbon price, consumer response and amount of recycling increases.

Reducing GHG Emissions – Load Shifting / Fuel Switching (cont'd)

- The use of cap and trade auction proceeds to lower the cost of clean electricity would make it more competitive with traditionally cheaper fossil fuels, providing an incentive to fuel switch from fossil fuels to electricity is a "behavioural change" consistent with the goals of CCAP.
- During "off-peak" hours, Ontario's current mix of resources typically emit extremely low levels of GHG emissions.
- Ontario's grid electricity currently has an emission factor which is far lower than the carbon content of natural gas or diesel. This puts Ontario's electricity sector in a strong position to support fuel switching as a GHG-reducing activity.





Source: ENERGY analysis, FTR 2016, OPO 2016, EIA, STATCAN

Implementation Considerations

- 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 depending on implementation and potential alignment with the first auction expected in March 2017.

- Due to IESO and LDCs' need to implement billing system changes, proceeds recycling would likely not appear on bills immediately after January 1, 2017, but would require an initial catch-up/true-up payment at first. Recycling either primarily or exclusively to "off-peak" hours would increase administrative complexity for the IESO and LDCs.

- Any of the recycling options would require the tracking of the impact of carbon on HOEP. However, a "true-up" mechanism may need to be done more frequently (i.e., monthly) for the volumetric "all hours" and "off-peak" options.

- The volumetric options may require a "separate regulatory" line item of Class A and non-residential Class B electricity consumers' bills. Staff analysis is ongoing.

- Contemplated legislative amendments to implement proceeds recycling would require approval of the House (Legislature) including its committee process. However, legislation provides more certainty regarding legal authority.

Stakeholder Considerations

Stakeholder	Current Status / Comments
AMPCO	• ENERGY has regularly met with the Association of Major Power Consumers of Ontario (AMPCO). IESO and MOECC have attended some of the meetings. • AMPCO expressed concerns regarding the GA option as some consumers would see an increase in the cost of electricity associated with the cap and trade program. These concerns would likely persist for a hybrid option. • AMPCO is generally supportive of "volumetric" recycling and of providing a net benefit to electricity consumers. **Note:** Additional information on the potential impact was requested by AMPCO and its members. • Following initial discussions on the "off-peak" proposal in October 2016, AMPCO raised concerns that some of their members would be worse off under the proposal.
LDCs	• ENERGY has established a rate mitigation working group with LDCs and the Electricity Distributors Association (EDA). Proceeds recycling has been discussed with the working group. • LDCs have expressed concerns regarding the timing of implementing billing system changes which could take several months or more depending on complexity. • LDCs have requested for further clarity on timing and the approach in order to scope the changes needed.

Legal Considerations

- Three broad legal issues arise with the proposal to use cap and trade auction proceeds for commercial and industrial electricity consumers:

1. Meeting the requirements of the *Climate Change Mitigation and Low-carbon Economy Act, 2016* (the “Act”)

2. Addressing constitutional law requirements to ensure that cap and trade proceeds will not be characterized as an unconstitutional tax; and

3. Ensuring sufficient authority within the electricity system to receive GGRA proceeds and apply them as intended.

1. Legal Considerations – Meeting the Requirements of the Act

- The Act allows funds collected from cap and trade to be used to fund, directly or indirectly, costs relating to listed initiatives that are reasonably likely to reduce, or support the reduction of greenhouse gas (GHG) emissions and costs relating to any other initiatives that are reasonably likely to do so.

- Listed initiatives include initiatives relating to the reduction of GHGs from energy sources and uses through the use of renewables and alternative energy sources, including:
  i. The production or installation of renewable, low-carbon, carbon-free and net zero alternative energy; and
  ii. distributed renewable energy generation and energy management technologies to eliminate the need for grid-based electricity during natural gas peaking.
  iii. Initiatives relating to the reduction of GHGs from industry, including fuel switching.

- The MOECC Minister must review and provide an evaluation of the initiatives to Treasury Board that considers, among other things, the potential GHG reductions of the initiative.

- The selected proceeds recycling option must therefore be able to demonstrably reduce GHGs.

- Evidence that links the use of proceeds with the GHG reduction will be required for compliance with the Act.

2. Legal Considerations – Constitutional Law

- In addition to meeting the requirements of the Act, in order for the cap and trade program to be characterized as a "regulatory charge", rather than an unlawful tax, it is critical that auction proceeds be spent on the regulatory purpose of the program - initiatives that are reasonably likely to reduce or support the reduction of GHGs**.**

- The way auction proceeds are used will be significant to characterizing the program as a regulatory charge:
  - The more tenuous the link between expenditures and the regulatory purpose of GHG emissions reduction (e.g., climate change adaptation), the greater the constitutional risk;
  - There is no requirement to spend proceeds received from one sector proportionally on that sector;
  - Ontario should begin by investing in projects very clearly related to reducing GHG emissions;
  - A court is unlikely to second guess the government's assessment of the value or wisdom of particular investments in GHG reduction initiatives; and
  - Auction proceeds can be spent on existing GHG reduction initiatives.

- The link between the use of proceeds in the electricity sector and the reduction of GHGs must be based on evidence that can withstand the scrutiny of the court.

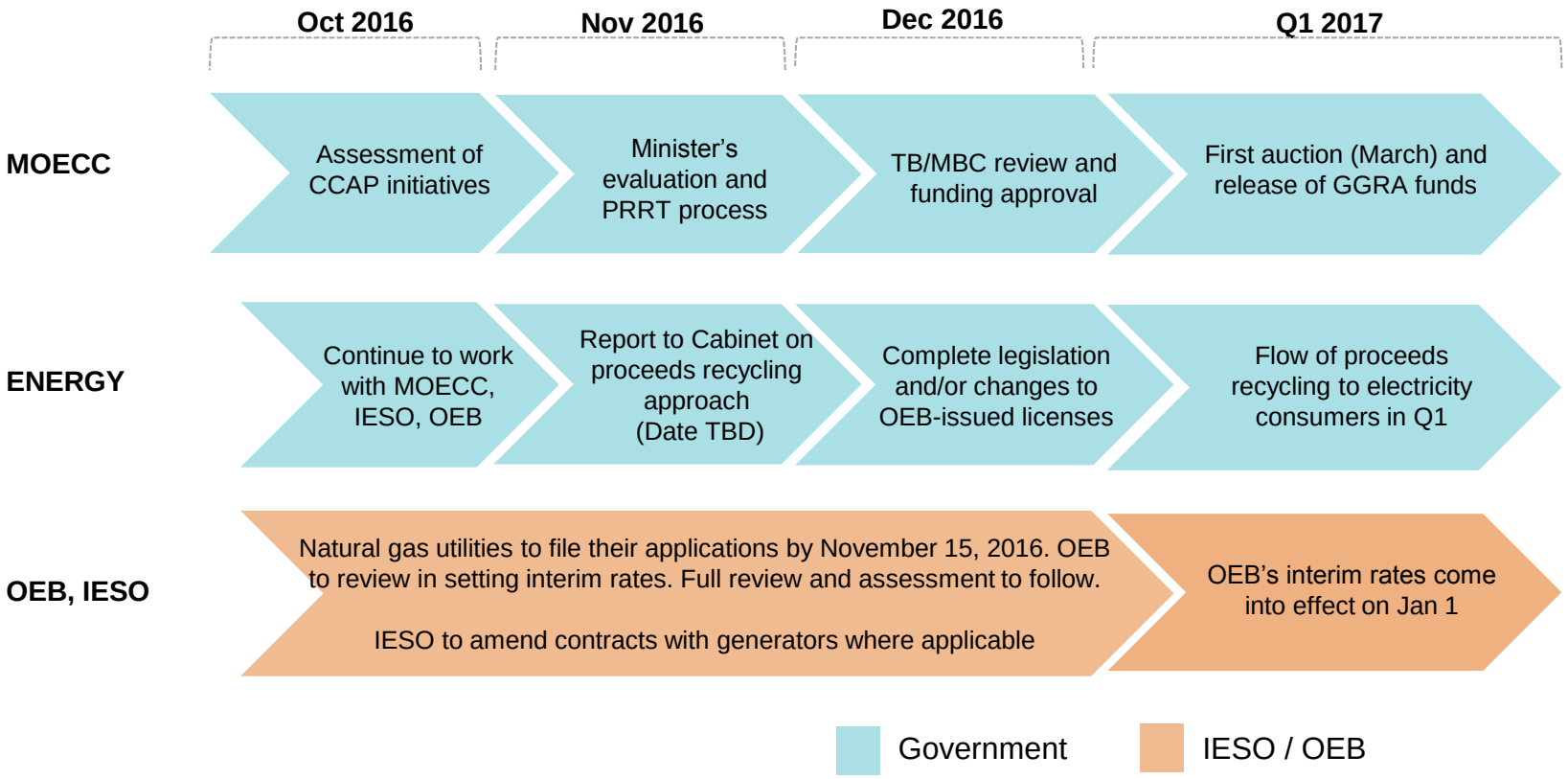
3. Legal Considerations – Ensuring Authority to Use Cap and Trade Proceeds

- While the Act allows funds collected from cap and trade to be used to fund various initiatives, neither the *Electricity Act, 1998* (EA) nor the *Ontario Energy Board Act* (OEBA) contemplate the use of cap and trade proceeds.
- This creates uncertainty about the abilities of IESO to receive and settle cap and trade amounts.
- Legislative amendments that allow IESO to receive and pay out cap and trade proceeds for the benefit of certain rate payers would provide this certainty.
- Similarly, legislative amendments that give the Ontario Energy Board (OEB) authority to take steps to implement proceeds recycling (such as amend licenses, create or amend a Code) would provide certainty.
- Without such certainty, IESO may feel constrained in their abilities to recycle proceeds as contemplated in this deck and their actions could be subject to scrutiny and, potentially, challenge.
- Despite the risk of legislative uncertainty, it is possible that existing legislative authority could be used to facilitate proceeds recycling.
- Implementation of all four options could be further supported with legal instruments such as an LGIC-approved directive to the OEB or a Memorandum of Understanding/ Service Level Agreement with IESO.

Legal Considerations – Ensuring Authority to Use Cap and Trade Proceeds (cont'd)

Option	Implementation Mechanism	Potential Additional Measures
GAM	• Legislation • Amendments to O. Reg. 429/04 (GA Reg.) made under Electricity Act, 1998	• MOU/SLA with IESO • Amend IESO objects regulation
Volumetric all hours	• LGIC OIC and directive to OEB	• MOU/SLA with IESO • Amend IESO objects regulation
Volumetric off-peak	• LGIC OIC and directive to OEB	• MOU/SLA with IESO • Amend IESO objects regulation
Hybrid option	• Legislation • Amendments to O. Reg. 429/04 (GA Reg.) made under Electricity Act, 1998 • LGIC OIC and directive to OEB	• MOU/SLA with IESO • Amend IESO objects regulation

Key Dates and Milestones



Next Steps

- ENERGY to work with Independent Electricity System Operator (IESO), Ontario Energy Board (OEB), LDCs (as necessary) and MOECC, MNDM and MEDG on final recycling approach.
  - Depending on the option chosen, begin working with OLC on legislative and regulatory amendments and creation of other instruments as needed.

- ENERGY to consult with LDCs and stakeholders regarding the design and implementation of proceeds recycling.

- ENERGY to report back to Cabinet on a recommended approach in November 2016.

Appendix

Cost of Electricity

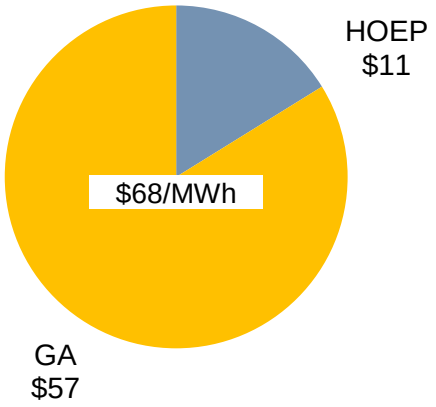
- Ontario's electricity consumers pay for electricity in different ways. The commodity cost of electricity is the sum of:
  - Hourly Ontario Energy Price (HOEP) which is the hour-by hour market clearing price that reflects the short run cost of producing power; and
  - Global Adjustment (GA) which ensures 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), part of the Global Adjustment regulation, large consumers pay GA based on their share of peak demand during the five peak hours of the year. These "Class A" consumers can pay lower GA if they are able to reduce consumption during peak hours.
  - Class A consumers* are typically large industrials.
  - 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).
  - About 300 participating consumers collectively reduced Ontario's peak demand by an estimated 1,000 MW in 2015.

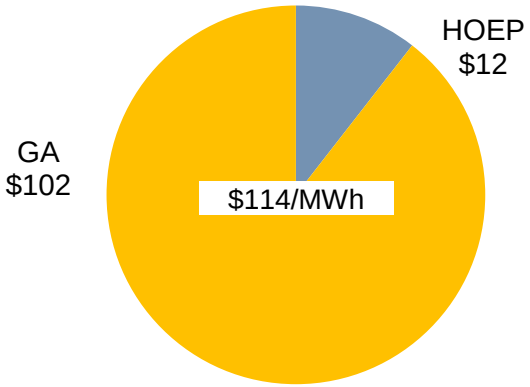
- Consumers not eligible for ICI pay GA on each unit of consumption.
  - These are known as Class B consumers and are typically commercial or institutional facilities.

Commodity Cost of Electricity YTD June 2016

Class A (Industrial) in $/MWh



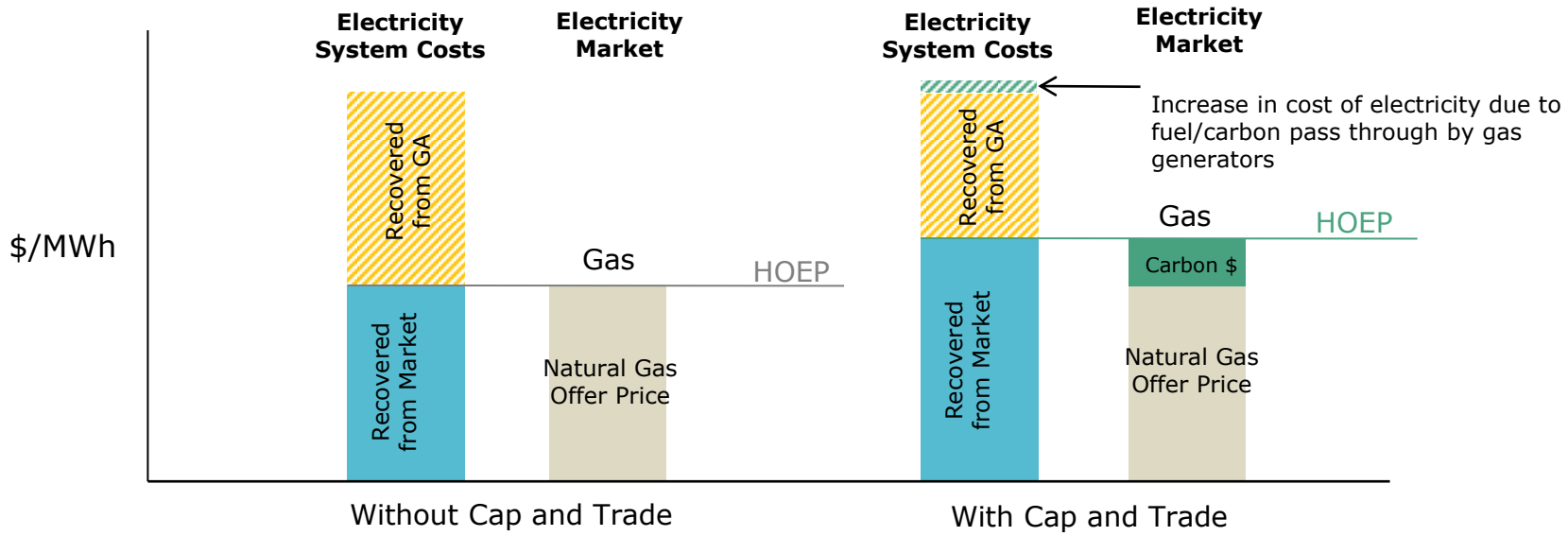
Class B (Commercial) in $/MWh



***** 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. Ontario is expanding the ICI by lowering the threshold to 0 MW and removing sector restrictions; new participants who in would see the change on their bills in 2018.

Impact of Cap and Trade on the Electricity Market

- Under cap and trade, the wholesale hourly electricity price (HOEP) will increase in many hours as a result of peaking generators (i.e., often gas generators) including the cost of carbon in their offers. Fuel costs are essentially a pass through for these generators.
- The payments to gas generators through Global Adjustment (GA) will decrease as a greater proportion of total system costs would be recovered through the market.
- On a net basis, these dynamics are expected to cause the total system cost to increase as HOEP goes up, but GA goes down by a smaller amount.

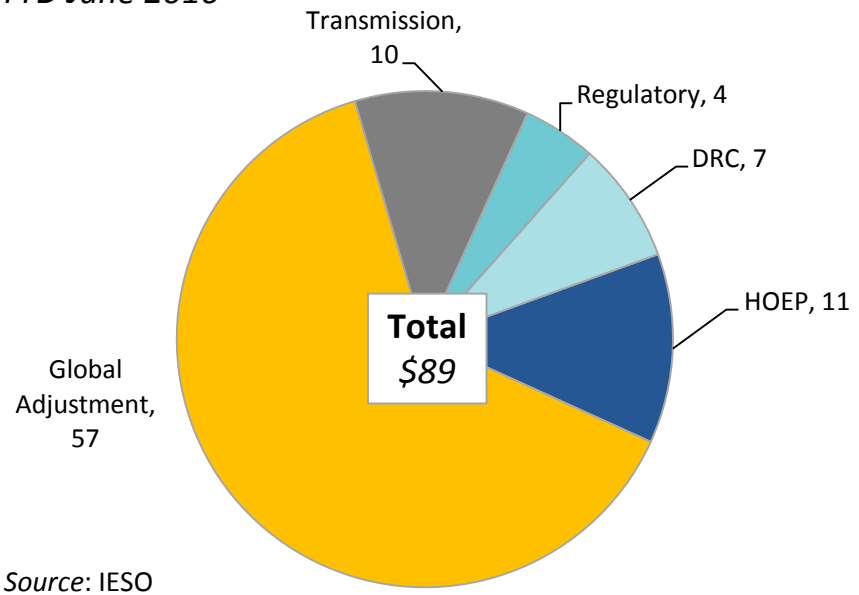


Class A (Industrial) Electricity Prices

- There are currently about 300 large industrial consumers in Ontario.
- Measures in place to mitigate industrial electricity prices include the Industrial Conservation Initiative (ICI) and Northern Industrial Electricity Rate Program (NIERP).
- Under ICI, Class A consumers are charged GA based on their share of peak demand. ICI lowers costs for eligible large electricity consumers (i.e., those with monthly peak demand exceeding 3 MW) that reduce consumption during peak periods.
  - ICI consumers reduce their electricity rates one-third on average.

Typical Large Industrial Price ($/MWh)

YTD June 2016



Source: IESO

- Participants in NIERP receive a rebate of $20/MWh. On average, industrial electricity prices are reduced by about 20% through the program, reducing all-in prices to $69/MWh for these consumers. The program is funded through the tax base.

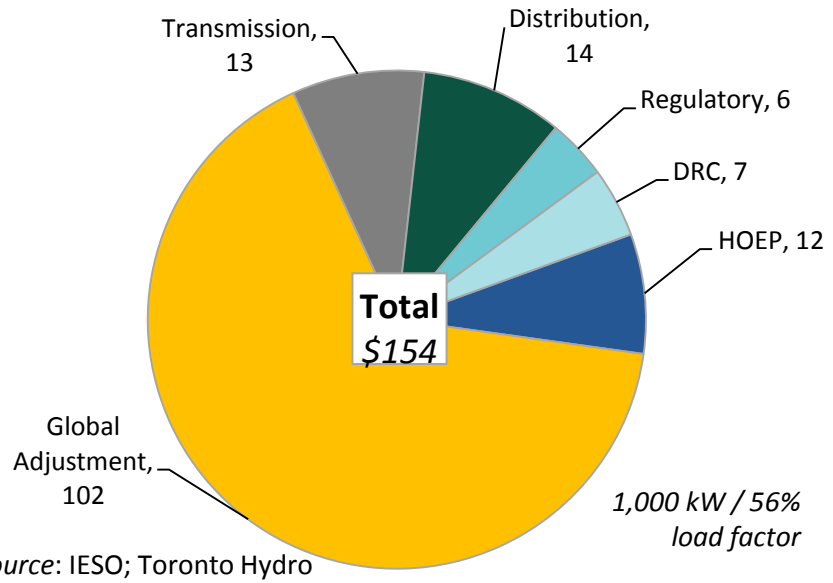
*** Note:** Industrial consumers receive input tax credits for their HST.

Class B (Commercial) Electricity Prices

- There are approximately 55,000 commercial and institutional consumers in the province. These consumers are Class B consumers, and have separate line items on the electricity bill for HOEP and GA.
- There is a high degree of differentiation amongst consumers within the commercial sector in terms of size and consumption patterns. For example, an elementary school has a much different hourly load profile compared to a full service restaurant. This is an important consideration when looking at the bill impacts of policy options.

Typical Commercial Price ($/MWh)

YTD June 2016 (Non-RPP Class B)



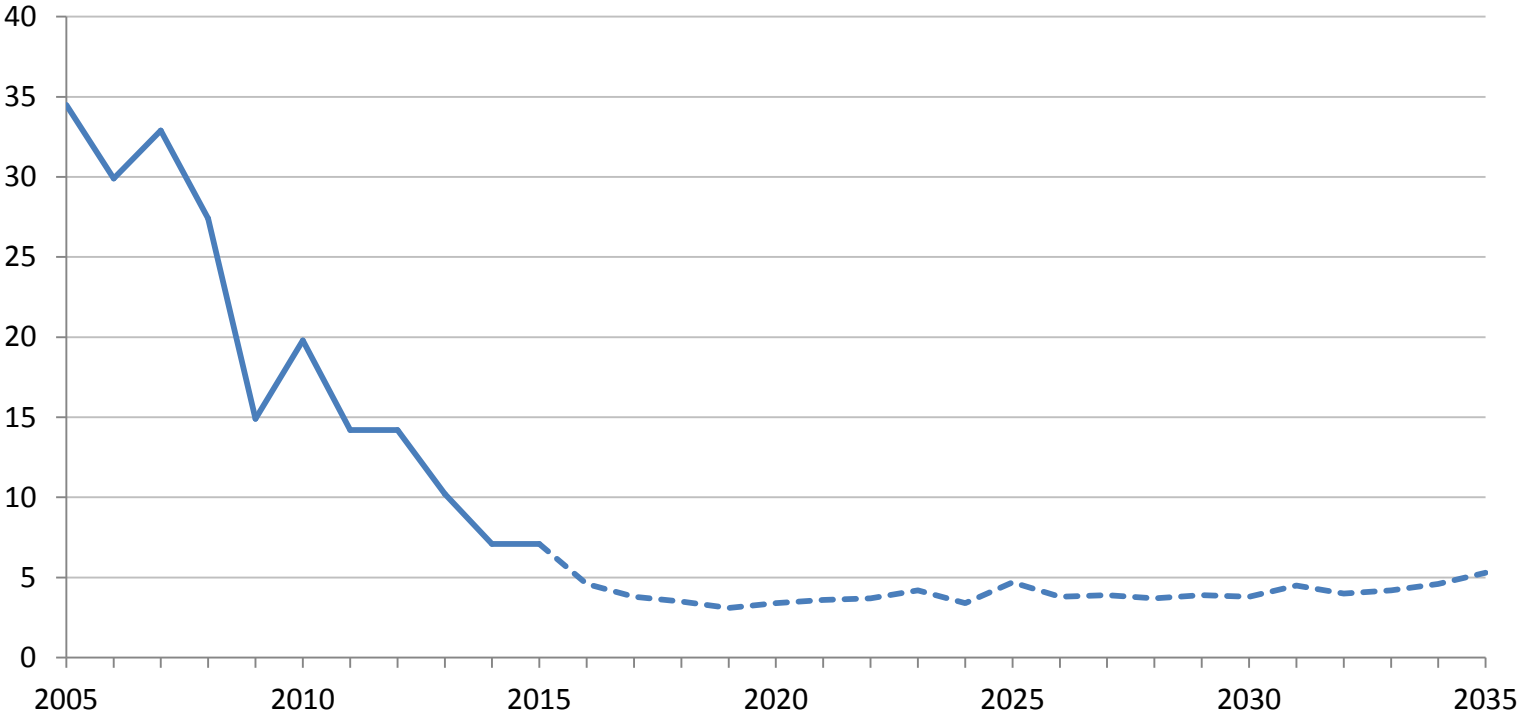
Source: IESO; Toronto Hydro

- Consumers in the commercial sector do not pay time-of-use prices and have little incentive to shift demand away from high demand hours.
- Targeted pricing programs are currently not available for Class B consumers.

*** Note**: Most commercial consumers receive input tax credits for their HST.

Electricity Sector Emissions

Electricity Sector Emissions
in millions of tonnes CO2



Source: Ontario Planning Outlook, 2016

Illustrative Disbursement