

March 11, 2016

To: Clients and Colleagues

From: Alison Cumming and Jason Chee-Aloy, Power Advisory LLC

RE: Update on Ontario Climate Change Legislation and Cap-and-Trade System Design

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On February 24, 2016, Ontario's Minister of Environment and Climate Change Glen Murray introduced Bill 172: *Climate Change Mitigation and Low Carbon Economy Act, 2016*<sup>1</sup>. On February 25, 2016 the Ontario Government published a consultation draft of the Ontario Cap-and-Trade regulation<sup>2</sup>. This publication coincided with the release of the Ontario Government 2016 Budget (the Budget)<sup>3</sup>. The purpose of this note is to summarize key elements of Bill 172 and the proposed cap-and-trade regulation, with an emphasis on electricity-sector generation implications. Specific references to climate change initiatives within the Budget are also highlighted.

## Background

Ontario first joined the Western Climate Initiative (WCI) with California, Quebec, Manitoba, and British Columbia in 2008. The WCI established a regional goal to reduce greenhouse gas (GHG) emissions to 15% below 2005 levels by 2020. The principal method to achieve these reductions is through market mechanisms, primarily cap-and-trade. However, at that time Ontario did not move forward with a cap-and-trade system. On February 12, 2015, the Ontario Ministry of Environment and Climate Change (MOECC) released Ontario's Climate Change Discussion Paper<sup>4</sup> which outlined the province's long-term vision for reducing GHG emissions. The province's emissions reduction target is 15% below 1990 levels by 2020, and 80% reduction by 2050. The discussion paper indicated that a carbon pricing policy will be established in Ontario. On April 13, 2015, Ontario Premier Kathleen Wynne announced that a cap-and-trade system<sup>5</sup> will be implemented in the province<sup>6</sup>. Following six months of consultation with community and industry stakeholders, the

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<sup>1</sup> Bill 172 is available here:

[http://www.ontla.on.ca/bills/bills-files/41\\_Parliament/Session1/b172.pdf](http://www.ontla.on.ca/bills/bills-files/41_Parliament/Session1/b172.pdf)

<sup>2</sup> The cap-and-trade regulatory proposal (EBR #012-6837) is available here:

[http://www.downloads.ene.gov.on.ca/envision/env\\_reg/er/documents/2016/012-6837\\_DraftReg.pdf](http://www.downloads.ene.gov.on.ca/envision/env_reg/er/documents/2016/012-6837_DraftReg.pdf)

<sup>3</sup> 2016 Budget is available here:

[http://www.fin.gov.on.ca/en/budget/ontariobudgets/2016/papers\\_all.pdf](http://www.fin.gov.on.ca/en/budget/ontariobudgets/2016/papers_all.pdf)

<sup>4</sup> The paper is available here: [http://www.downloads.ene.gov.on.ca/envision/env\\_reg/er/documents/2015/012-3452.pdf](http://www.downloads.ene.gov.on.ca/envision/env_reg/er/documents/2015/012-3452.pdf)

<sup>5</sup> The basic mechanics of a cap-and-trade system are presented in Appendix A.

<sup>6</sup> The news release is available here: <http://news.ontario.ca/opo/en/2015/04/cap-and-trade-system-to-limit-greenhouse-gas-pollution-in-ontario.html>

MOECC posted in November 2015 a policy paper to the Environmental Registry<sup>7</sup> to gather comments on cap-and-trade design options under consideration, with an indication that the draft regulatory proposal would be released in early 2016. Also in November 2015, the provincial government announced Ontario's Climate Change Strategy, which outlined general steps that the province will take in order to transition to a low-carbon economy.

### **Bill 172: *Climate Change Mitigation and Low Carbon Economy Act, 2016***

Bill 172 was introduced on February 24, 2016. This Bill intends to establish a long-term framework for climate action, and includes Ontario's GHG reduction targets, provisions for creating the province's five-year climate action plan, and details around the management of regulatory proceeds from Ontario's future allowance auctions and the creation of a new GHG Account. If passed, this legislation would dedicate cap-and-trade proceeds to the reduction of GHG emissions. Key elements of the proposed law include the following:

- Requirement for an annual report on funds flowing in and out of the GHG Reduction Account, as well as a description of supported initiatives;
- Enshrining the province's GHG targets in law and requirement for Government to develop a climate change action plan detailing how the province plans to meet those targets at least every five years; and
- Allowing for transitional allowances to large industrial emitters which would be phased out over a period of time.

### **Ontario Cap-and-Trade Regulation**

The much anticipated regulatory proposal for a cap-and-trade system in Ontario was posted on February 25, 2016. The regulatory proposal builds on details which were captured in the MOECC's November 16, 2015 policy paper<sup>8</sup>. Included as part of the proposal is an appendix which presents detailed technical information for the distribution of allowances to eligible capped emitters for the first compliance period, details related to early reduction credits, and an overview of complementary amendments for the reporting regulation and incorporated guideline to support implementation of the cap-and-trade program. Below is a summary of key cap-and-trade system design elements as presented in the February 25, 2016 Environmental Bill of Rights (EBR) posting<sup>9</sup>. These design elements build on the information that was released by MOECC in November 2015, a summary of

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<sup>7</sup> EBR #012-5666, available here: <http://www.ebr.gov.on.ca/ERS-WEB-External/displaynoticecontent.do?noticeId=MTI2NTI2&statusId=MTkwOTcw>

<sup>8</sup> See link in footnote 7 above.

<sup>9</sup> The Regulation Proposal Notice is available here:

<http://www.ebr.gov.on.ca/ERS-WEB-External/displaynoticecontent.do?noticeId=MTI3ODA1&statusId=MTkzMDc5&language=en>

which is included in Power Advisory's previous update on Ontario Cap-and-Trade, available here: <http://www.poweradvisoryllc.com/wp-content/uploads/2015/12/Ontario-Cap-and-Trade-and-Climate-Change-Strategy-Power-Advisory-Commentary-November-26-2015.pdf>

### Compliance Periods

- The compliance periods are the following:
  - January 1, 2017 to December 31, 2020; and
  - January 1, 2021 to December 31, 2023 and each subsequent three-year period.

### Proposed Caps

- The cap is set based on emissions forecasted during the first compliance and is set to push carbon emissions 15% below 1990 levels by 2020. The cap will decline each year at a rate of 4.7% to reach 2020 targets. After 2020, the province will review the allotment of emissions allowances.

### Allowances

- It is proposed that the number of allowances that an eligible capped participant receives free of charge in the first compliance period (i.e., 2017-2020) will be based on the approach in the appendix to the draft cap-and-trade regulation.
  - In the first compliance period, many of the allowances required by large emitters in Ontario will be distributed free of charge. This is a temporary measure, meant to reflect both the need for Ontario facilities to transition to an environment where emitting GHGs carries a cost they must bear, and also to protect against carbon leakage (i.e., the movement of production to jurisdictions that have not implemented carbon policies).
  - In future compliance periods, it is envisioned that fewer allowances would be distributed free of charge as Ontario facilities make the adjustment to carbon pricing.
- Emissions from certain types of operations and activities, including the electricity sector, will not be eligible to receive allowances free of charge.
- New facilities do not have a compliance obligation in the first two years of operation and will not be eligible to apply for allowances for those two years.

### Early Reduction Credits

- Certain capped participants will be eligible to apply for early reduction credits (ERCs) that may be used the same way that Ontario allowances can be used pursuant to the regulation. There will be a maximum of two million ERCs available for distribution:
  - If applications for ERCs exceed the amount available they will be distributed on a pro rata basis; and
  - If the applications for ERCs total less than two million, only the amount requested will be created and distributed.

## **Proposed Complementary Amendments to the Greenhouse Gas Emissions Reporting Regulation**

To support the proposed cap-and-trade program, the MOECC is now proposing to revoke the Greenhouse Gas Emissions Reporting Regulation (O. Reg. 452/09) and replace it with a new GHG reporting regulation and incorporated Guideline<sup>10</sup> under the *Climate Change Mitigation and Low-Carbon Economy Act*, if passed. Proposed changes will include:

- Requirements to report production and other process related information;
- Provisions to allow facilities with emissions between 10,000 and 25,000 tonne to opt-in;
- Clarifications on measurement requirements and reporting of biomass types; and
- Refinements to the Regulation and Guideline to facilitate implementation of the Cap-and-Trade Regulation.
  - This includes revisions to the regulation and calculation methods in the Guideline to estimate emissions from electricity importation.

## **Ontario Budget 2016**

With respect to climate change initiatives, the recently announced Budget makes reference to linkages between the global fight against climate change and new opportunities for driving Ontario's economic growth. This Budget also provides commentary on Ontario's transition to a low-carbon economy, citing elimination of coal-fired electricity and investment in clean and renewable energy as key activities that enabled the province to meet its goal to reduce GHG emissions in 2014. Finally, details regarding cap-and-trade proceeds are provided<sup>11</sup>. Highlights are as follows:

- In 2017, proceeds from the cap-and-trade program are projected to be \$1.9 billion;
- The coverage of electricity and fuel imports in the cap-and-trade program is cited to “provide a level playing field for Ontario's electricity generation and fuels sectors”;
- The Government is currently developing specific emission-reduction initiatives that will be laid out in Ontario's upcoming Climate Action Plan;
- Based on the current forecast for the price of carbon, the pump price of a litre of gasoline would increase 4.3 cents and the cost of a cubic metre of natural gas would rise by 3.3 cents as a result of cap and trade; and
- The Government will also 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,

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<sup>10</sup>The Revised Guideline for Greenhouse Gas Emissions Reporting is available here:

[http://www.downloads.ene.gov.on.ca/envision/env\\_reg/er/documents/2016/012-6837\\_Guideline.pdf](http://www.downloads.ene.gov.on.ca/envision/env_reg/er/documents/2016/012-6837_Guideline.pdf)

<sup>11</sup> Refer to Chapter III, Section B: Fiscal Outlook.

and that there would be a modest benefit of up to \$2 per month, on average, to residential consumers.

## **Independent Electricity System Operator Cap-and-Trade Consultation**

On March 3, 2016 the Independent Electricity System Operator (IESO) hosted a webinar with IESO-contracted natural gas-fired generators. The purpose of the webinar was to provide potential implications for the electricity sector in Ontario, and to commence the discussion of the IESO's potential approach to addressing implementation of the cap-and-trade program. Below is a summary of the IESO's key points related to electricity sector impacts of cap-and-trade, as presented in the webinar.

### Sector Coverage

- Any generation facility that uses fossil fuels is expected to be impacted by the regulation (i.e., natural gas, diesel, etc.).
  - Energy-from-Waste facilities treated as “waste disposal” are expected to receive 100% of allowances free of charge during first compliance period.
- Non-emitting generators such as renewable (e.g. solar, wind, hydro) and nuclear are not included.
  - Establishing whether a generator is “non-emitting” may depend on the fuel source (e.g., the inclusion of biomass generators may be dependent on the source of fuel used at the facility).

### Point of Regulation

- Virtually all emissions generated, and hence compliance obligations incurred, from the electricity sector are currently related to natural-gas fired generation.
  - The points of regulation (POR) related to the use of natural gas will be set upstream with the natural gas utilities.
    - The utilities will be required to obtain carbon allowances on behalf of their customers including: natural gas electricity generators; all residential/commercial customers; and, any industrial customers that do not have a direct compliance obligation (i.e., those with < 25 kT of CO<sub>2</sub> emissions).
- Utilities are expected to pass on the cost of carbon to their customers (potentially in \$/unit energy).
  - The rate is expected to be published publically and subject to regulatory oversight by the Ontario Energy Board (OEB).

- It is expected that the published rate will allow natural gas-fired generators to accurately price carbon compliance costs within their offers into the wholesale electricity market.
- One exception to this POR is generators that are supplied natural gas by a company that is not regulated by the OEB; they are expected to be covered directly under cap-and-trade.
- The OEB is expected to establish a regulatory framework for natural gas utilities for the recovery of prudently incurred cap-and-trade costs.

#### Impact of Carbon Pricing

- For domestic electricity, the upstream compliance obligation cost will ultimately make its way into the electricity market.
- Carbon pricing will result in an increase in the Market Clearing Price (MCP) within Ontario's wholesale electricity market when natural gas-fired generation is on the margin, as the cost of carbon is embedded into the offer prices of carbon emitting generators; this is expected to also result in a decrease in the Global Adjustment (GA).

#### Cogeneration Impacts

- Treatment of cogeneration facilities in a cap-and-trade program is complicated due to the output of multiple products from fuel combustion (i.e., electricity and heat/steam).
  - Electricity may be delivered to the grid, consumed “behind-the-meter” (BHM), or a combination of both.
  - Thermal energy (heat/steam) and electricity may be delivered to a variety of hosts (e.g., trade exposed industrials, municipalities-universities-schools-hospitals (MUSH) sector, district energy).
  - A cogeneration facility may or may not be able to pass carbon costs on to its customers (based on terms & conditions of off-take agreements).
- Emissions from cogeneration are proposed to be treated consistently with other electricity generation emission sources, which means that cogeneration facilities, including BMG, will be required to pay the upstream cost of carbon associated with all natural gas consumption; no free allowances.

#### Treatment of Imports and Exports

- Imported electricity will have a compliance obligation via the application of default emission factors (DEFs) to address carbon leakage risks and provide equal footing for domestic generation.
- There will be no adjustments for carbon costs associated with exports.

Also during the March 3 webinar, the IESO introduced a high-level approach to addressing cap-and-trade implementation. The following is a summary of what was presented.

### Scope

- Amendments to certain IESO generation contracts with emitting resources may be considered to reflect the implications of cap-and-trade.
  - These include potential amendments to Exhibit J or other relevant provisions in these contracts.
- IESO contracts with non-emitting generators (e.g., renewable generation) are not expected to require any amendments to reflect the implementation of cap-and-trade.
- Generating facilities not contracted by the IESO are not within the scope of these discussions (e.g., merchant facilities, those contracted with the Ontario Electricity Financial Corporation (OEFC), etc.).

### Contracts Impacted

- The IESO identified a total of 51 contracts representing 9,309 MW of capacity which may be impacted by cap-and-trade.
  - A breakdown of these contracts is provided in Appendix B of this note.

### IESO Proposed Stakeholder Engagement Process

- **The IESO is seeking feedback from potentially affected contract holders by March 31, 2016.**
  - The IESO will then review comments and provide counterparties with a preliminary position on IESO's views to provide context for further discussions.
- A group approach based on contract type, facility characteristics, or specific regulation requirements may be taken for engaging with counterparties.
- Taking into account the outcomes of the group session(s), draft amendments may be prepared where applicable.
- Following finalization of the cap-and-trade regulation by the Ontario Government and the regulatory framework by the OEB, the IESO will work with contract counterparties to finalize and execute contract amendments where applicable.

### **Ontario Energy Board Cap-and-Trade Compliance Plans Consultation**

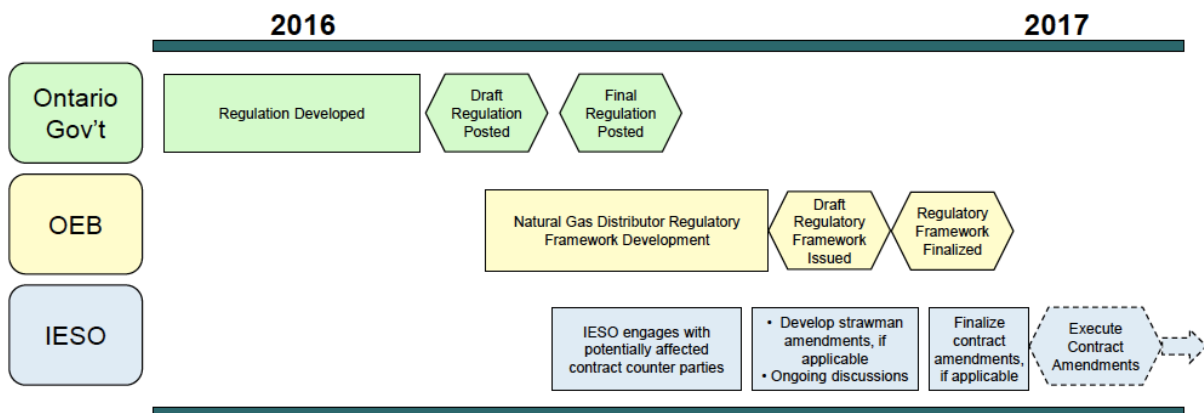
On March 10, 2016 the OEB announced an upcoming consultation to develop a natural gas regulatory framework to support the implementation of Ontario's cap-and-trade program. The framework will guide the OEB's assessment of natural gas distributors' Cap-and-Trade Compliance Plans, including the cost consequences of these plans and the mechanism for recovery of costs in rates. The announcement included the following information:

- The OEB intends to hold targeted preliminary meetings with selected stakeholders to help confirm issues and some of the possible options for the regulatory framework. Details on these meetings will follow in the coming weeks.
- A discussion paper will be prepared to set out the issues and options as well as proposals with respect to the regulatory framework.
- The OEB will establish a working group to assist with the review and assessment of proposals to be addressed in the regulatory framework.
- The OEB expects to conclude the development of the framework by October 2016.
- **Parties interested in participating in this consultation process are asked to indicate their intent to the OEB by March 22, 2016.**

### Timing and Next Steps

The **MOECC is seeking feedback on the draft cap-and-trade regulation by April 10, 2016**, with the next webinar to be held on March 21, 2016. It is expected that the final regulation will be published by July 1, 2016, followed by formal program implementation in January 2017 and the first auctioning of emission allowances in March 2017. Later this year, the Ontario Government is also expected to release a detailed five-year Climate Change Action Plan which will include specific commitments to meet the 2020 emissions reduction targets and identify the framework which will enable the province to meet 2030 and 2050 emissions targets.

An illustration of expected timelines is presented in the following figure.



Source: IESO March 3, 2016 Cap-and-Trade webinar, slide 27

### Conclusions

The release of detailed design elements for Ontario's cap-and-trade system provides stakeholders with insights into how the system is expected to take shape and what the potential impacts to each





sector may be. There is an opportunity for stakeholders to continue to engage with the MOECC as they move towards finalizing the regulation, and for potentially affected IESO contract holders to initiate discussions with the IESO. Power Advisory LLC will continue to review and analyze the draft regulation and ongoing updates from the IESO and OEB with a view of impacts to the electricity sector.

## Appendix A: Cap-and-Trade System Mechanics

The basic mechanics of a cap-and-trade system are as follows:

- The system places a cap, divided into allowances, on the amount of greenhouse gases that can be emitted in a given period. One allowance is generally equal to one tonne of carbon dioxide (CO<sub>2</sub>) pollution or CO<sub>2</sub> equivalent (CO<sub>2</sub>e).
  - Over time, the cap is lowered.
- Regulated emitters must acquire enough allowances to match their emissions, and those that have reduced emissions beyond their allowances can surrender them (to meet their compliance obligations in the current compliance period), bank them (for compliance in the next period), or sell their extra allowances to those that require allowances to meet their current compliance obligations.
- In some cap-and-trade systems, capped emitters can also acquire offsets to help meet their emissions targets. An offset is a reduction or removal of greenhouse gas emissions by non-capped industry, which can be sold to capped emitters to help meet their compliance obligations.
- During early stages of a cap-and-trade system, the Ontario Government will generally allocate enough allowances to match baseline operations for industry. They may also auction allowances in a competitive bidding process in order to help establish a market price on greenhouse gas pollution.
- Trading of allowances in the secondary market also establishes a carbon price, which fluctuates over time based on market conditions.
- Cap-and-trade provides a known emissions outcome for the portion of emissions under regulation, and theoretically an uncertain cost<sup>12</sup>.

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<sup>12</sup> However, many executions of cap-and-trade effectively cap the cost.

## Appendix B: IESO Contracts Potentially Impacted

Facilities under the following contracts (organized by contract type) may potentially be impacted by cap-and-trade.

Contract Type	# of Contracts	Total Average Contract Capacity (MW)
ACES	3	2,031
CES	5	2,861
EMCES	5	1,004
NYRP	1	393
CHP I	6	351
CHPSOP	7	24
CHPSOP 2.0	15	92
NUGs	8	553
LESA (OPG-Lennox)	1	2,000
<b>Total</b>	<b>51</b>	<b>9,309</b>

Source: IESO March 3, 2016 Cap-and-Trade webinar, slide 25