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# Real-time Generation Cost Guarantee OBPS Carbon Cost Methodology Proposal

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# Agenda

- Objective
- Background
- Proposed Methodology
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- Logistics
- Emissions Performance Standards
- Stakeholder Feedback
- Next Steps

# Objective

To gather feedback on the IESO's proposed methodology to reimburse Real-time Generation Cost Guarantee (RT-GCG) participants enrolled in the Output-Based Pricing System (OBPS) for their eligible carbon costs

# Background

- As per the [Greenhouse Gas Pollution Pricing Act](#) (GGPPA) and [OBPS Regulations](#), generators enrolled in the OBPS program who exceed their allowable annual emissions limit, known as their Output Based Standard, will be subject to an excess emissions charge
- As per [Market Manual 4.6](#), participants enrolled in the RT-GCG program are entitled to receive reimbursement for their eligible incremental, variable costs that are attributable to the period from start-up to when the resource reaches its minimum loading point (MLP)

## Background (cont'd)

- Start-up costs that are deemed to be reasonable by the IESO are reimbursed, to the extent that they are not recovered through market revenues
- During the [RT-GCG Three-year Review webinar](#) held on April 1, 2020, participants were asked to provide input regarding factors the IESO should consider while developing the methodology

## Background (cont'd)

- Stakeholder feedback received following this webinar indicated participants' primary concerns involved ensuring that the higher heat rate generator start-up contribution to the excess emissions be accurately reflected in the eligible portion of the overall carbon costs
- The IESO thanks those participants who provided input, and has taken this feedback into consideration in the development of the proposed methodology

# Proposed Methodology

$$GCG \text{ Reimbursement } (\$) = \text{Max}[0, \text{Min}(\text{Eligible Carbon Costs}, \text{Total Carbon Costs Incurred})]$$

where:

$$(1) \text{ Eligible Startup Carbon Costs } (\$) =$$

$$\left( \begin{array}{l} \text{Annual GCG Start Fuel Consumed (GJ)} \times \text{Average Fuel Carbon Content} \left( \frac{tCO_2e}{GJ} \right) \\ - \text{Output Based Standard} \left( \frac{tCO_2e}{GWh} \right) \times \text{Annual GCG Start Electricity Generated (GWh)} \end{array} \right) \times \text{Carbon Charge} \left( \frac{\$}{tCO_2e} \right)$$

and

$$(2) \text{ Total Carbon Costs Incurred } (\$) = \text{Total Carbon Costs } (\$) \text{ (net applied compliance credits)}^1$$

<sup>1</sup>details regarding the treatment of compliance credits have not yet been finalized (refer to slide 8 for more information)

## Proposed Methodology (cont'd)

<b>Component</b>	<b>Source</b>	<b>Description</b>
Output Based Standard (tCO <sub>2</sub> e/GWh)	<a href="#">Schedule 1</a> of the OBPS Regulations	Reference efficiency level set by the federal government
Excess Emissions Charge (\$/tCO <sub>2</sub> e)	<a href="#">Schedule 4</a> of the GGPPA	Financial penalty imposed by the federal government for producing emissions in excess of the Output Based Standard
Annual Startup Fuel Consumed (GJ)	IESO internal data	The sum of the startup fuel consumed, from initiation to MLP, for all RT-GCG eligible starts during the compliance period
Annual Startup Energy Produced (GWh)	IESO internal data	The sum of the startup energy produced, from initiation to MLP, for all RT-GCG eligible starts during the compliance period
Average Fuel Carbon Content (tCO <sub>2</sub> e/GJ)	Participant verification report	The carbon content of the fuel used by the resources averaged over the compliance period
Total Carbon Costs (\$)	Participant verification report	Total amount owing to the federal government for the compliance period, prior to applying any compliance credits

# Treatment of Compliance Credits - Considerations

- Under the OBPS program, surplus credits can be applied to offset a participant's federal carbon charge
  - The IESO is exploring the appropriate treatment of these credits while maintaining consistency with RT-GCG cost-recovery principles
- Options range from only netting the value of applied surplus credits from a participant's Total Carbon Costs, to additionally allowing recovery of costs associated with acquiring surplus credits
  - The IESO is seeking stakeholder feedback on the treatment of these credits – refer to slide 16 for details

# Logistics

- Participants must submit to the IESO<sup>1</sup> via the RT-GCG Web Portal<sup>2</sup>:
  - a copy of their verification report;
  - a separate document indicating the Average Fuel Carbon Content and Total Carbon Costs Incurred per RT-GCG registered facility; and
  - any other applicable supporting documentation to substantiate costs.

<sup>1</sup> After their carbon and credit costs have been paid or expected to be paid within 90 days

<sup>2</sup> All information submitted by participants may be subject to future IESO audit

## Logistics (cont'd)

- When the reimbursement methodology has been finalized with stakeholders, The IESO will calculate the carbon cost reimbursement per facility based on the IESO's review and confirmation of the requested values from the participant
- Participants will see the reimbursement as a manual adjustment on their next available invoice following the IESO's review

# Emissions Performance Standard (EPS)

- On Sept. 21, 2020, the federal government accepted a Made-in-Ontario Emissions Performance Standard (EPS) as an alternative to the OBPS
- Details associated with the EPS program and the transition from OBPS to EPS, including effective dates, are still to be determined
- The IESO will continue to monitor developments and keep stakeholders informed on any changes to the methodology that may be required
- Participants are encouraged to share any updates they receive on the EPS transition to help inform any future changes to the carbon cost recovery methodology

## Stakeholder Feedback Requested - Methodology

- Stakeholder feedback is requested on the proposed methodology to reimburse Real-time Generation Cost Guarantee (RT-GCG) participants enrolled in the Output-Based Pricing System (OBPS) for their eligible carbon costs
- The IESO would like to understand potential impacts to market participant behavior based on the proposed methodology
- Please refer to the proposed methodology on slide 9

# Stakeholder Feedback Requested – Compliance Credits

- The IESO is seeking feedback on the treatment of surplus credits within the principles of the RT-GCG program
- The IESO's early thinking on potential options to address these surplus credits could include:
  - OPTION 1: netting the value of applied surplus credits from a participant's Total Carbon Costs
  - OPTION 2: netting the difference between the value and cost of applied surplus credits from a participant's Total Carbon Costs
- Please refer to slide 11

# Stakeholder Feedback Requested – Compliance Credits

- Are there other considerations or options that the IESO should consider?
- The IESO would like to understand potential impacts to market participant behavior based on all possible options

# Stakeholder Feedback Requested – EPS Transition

- The IESO welcomes any information/updates from participants on the transition from the OPBS to the Ontario EPS program
- Please refer to slide 14

# Submitting Stakeholder Feedback

- Written feedback can be provided to [engagement@ieso.ca](mailto:engagement@ieso.ca) using the feedback form on the [engagement web page](#) by November 18.
- Please use the feedback form provided to ensure stakeholder feedback is compliant with the Accessibility for Ontarians with Disabilities Act (AODA). If you choose not use the IESO feedback form, please provide an AODA compliant pdf document.

## Next Steps

- The IESO aims to respond to stakeholder feedback and inform participants of any changes made to the proposed methodology, resulting from feedback received, by end of Q4 2020/early Q1 2021
- Once finalized, the methodology will be published and reflected in Market Manual 4.6, and the IESO will begin to process participants' carbon cost submissions

# Appendix: Example Calculations (2019 Compliance Year)

Example 1	Startup	Total
Output Based Standard (tCO <sub>2</sub> e/GWh)	370	370
Excess Emissions Charge (\$/tCO <sub>2</sub> e)	20	20
Annual Fuel Consumed (GJ)	559,150	4,497,591
Annual Energy Produced (GWh)	45	534
Average Fuel Carbon Content (tCO <sub>2</sub> e/GJ)	0.0502	0.0502
Carbon Costs Incurred (\$)	228,387	562,501
GCG Reimbursement (\$)	228,387	

Example 2 (> eff.)	Startup	Total
Output Based Standard (tCO <sub>2</sub> e/GWh)	370	370
Excess Emissions Charge (\$/tCO <sub>2</sub> e)	20	20
Annual Fuel Consumed (GJ)	503,235	4,047,831
Annual Energy Produced (GWh)	45	534
Average Fuel Carbon Content (tCO <sub>2</sub> e/GJ)	0.0502	0.0502
Carbon Costs Incurred (\$)	172,248	110,943
GCG Reimbursement (\$)	110,943	

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# Thank You

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