

Feedback Form

Gas Phase-Out Impact Assessment – May 27, 2021

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Date: June 16, 2021

To promote transparency, feedback submitted will be posted on the Gas Phase-Out Impact Assessment webpage unless otherwise requested by the sender.

Please provide feedback by June 17, 2021 to engagement@ieso.ca. Please use subject:

Feedback - Gas Phase-Out Impact Assessment

Questions

Topic	Feedback
<p>Are there additional considerations the IESO has not identified in defining the scope of the assessment to examine the reliability, operability, timing, cost and wholesale market implications of reduced emissions on the electricity system?</p>	<ul style="list-style-type: none">• Use a portfolio approach for evaluating clean energy options in Ontario that considers how a combination of renewables, energy efficiency, demand side management, and storage could reduce costs to the system operator (through more efficient investments) while meeting Ontario’s reliability needs.• Consider the possibility to supply affordable and clean electricity in Ontario from other provinces or states through provincial interties as part of the new resources considered, and the implications on reliability, safety, and cost.• The assessment should explore how new electricity pricing schemes, that allow for load shifting to low-demand hours, could be used to improve operability and reliability, and reduce costs for the system operator and consumers. Specific considerations should be given to electrification end-uses with unique consumption profiles such as charging a fleet of electric delivery vehicles.• In the market-based scenario, the assessment should consider the influence of the federal price on carbon to Ontario’s electricity prices, the cost savings associated with a gas phase out, and how effective carbon pricing is as a market signal to adopting clean energy projects in Ontario.• The assessment should examine the GHG emissions impacts of the different scenarios that it considers.

General Comments/Feedback

We appreciate the IESO in undertaking an assessment on the impacts of a gas phase-out and seeking early stakeholder input on the scope. We see this as a valuable opportunity to help improve stakeholder understanding of the issues and the potential solutions associated with reduced reliance on gas for electricity generation.

In May 2021, the International Energy Agency released a roadmap for the global energy sector to reach net-zero by 2050. A key milestone identified in the pathway to net-zero was for developed countries like Canada to achieve 100% clean electricity by 2035.¹ Studies from other jurisdictions in Canada show that steeply declining costs of renewable energy and energy storage make clean energy portfolios cost competitive with gas-fired generation today.²

Under current conditions where peak demand is met by gas-fired generation, increased demand for electricity is expected to lead to increased demand for natural gas, and therefore higher GHG emissions than other low-carbon alternatives like wind and solar. Emissions from gas-fired generation are expected to triple from 3.35 MtCO₂e in 2018 to 10.90 MtCO₂e in 2035.³ OPG anticipates that once the Pickering nuclear generating station is retired in 2024, that there will be an increased dependence on natural gas as a replacement leading approximately to an additional 5 MtCO₂e of GHG emissions every year.⁴ That is why IESO's assessment should examine the emissions impacts of the different scenarios that it considers.

By 2040, the Canada Energy Regulator estimates Ontario would need 160 TWh⁵ of electricity and IESO forecasts electricity demand in 2040 to be 174 TWh.⁶ However, the Green Ribbon Panel's study shows that fully electrifying Ontario would require 280 TWh⁷ of electricity, almost twice the demand in 2019 (135TWh), and 1.6 times IESO's 2040 estimate.

We encourage the IESO to consider a tiered approach in the study that includes different rates of phase out of emissions from gas-fired generation. This would include a few scenarios for the amount of unabated emissions from gas-fired generation that remains in 2030, such that the grid can still become net-zero by 2035, while also helping meet Ontario's 2030 climate targets. A net zero carbon grid allows for inclusion of carbon capture technologies. These scenarios should also include cases where gas is completely replaced by renewables, storage, energy efficiency, and demand side management.

¹ International Energy Agency. *Net Zero by 2050, A Roadmap for the Global Energy Sector* (May 2021), 20.

² Jan Gorski and Binu Jeyakumar, *Reliable, affordable: The economic case for scaling up clean energy portfolios* (Pembina Institute, 2020). <https://www.pembina.org/pub/reliable-affordable-economic-case-scaling-clean-energy-portfolios>

³ The Atmospheric Fund. *A Clearer View on Ontario's Emissions: Electricity emissions factors and guidelines* (2019). <https://taf.ca/wp-content/uploads/2019/06/A-Clearer-View-on-Ontarios-Emissions-June-2019.pdf>

⁴ Ontario Power Generation. *Building a Brighter Tomorrow: Our Climate Change Plan* (November 2020).

⁵ Canada Energy Regulator. *Canada's Energy Future 2020: Energy Supply and Demand Projections to 2050* (2020).

⁶ Independent Electricity System Operator, *Annual Planning Outlook, Ontario's electricity system needs: 2022-2040* (2020), 14.

⁷ Green Ribbon Panel, *Clean air, climate change and practical, innovative solutions to grow the economy and reduce GHG emissions in Ontario* (2020), 9.

Furthermore, consideration should be given to a few scenarios of demand impacts from high levels of decarbonization, as well as the opportunities it would provide in terms of grid flexibility.

We understand that the suggested additional analyses can require resources and effort. We welcome the opportunity to further discuss our comments with you and to support IESO in its efforts to scope and prioritize a few illustrative scenarios that considers the above input.

Thank you again for the opportunity to provide feedback.