

Independent Electricity System Operator
1600-120 Adelaide Street West
Toronto, ON

June 17, 2021.

Recommendations on IESO Gas Phase-Out Impact Assessment

Introduction and Context

The Atmospheric Fund (TAF) appreciates the opportunity to comment on the IESO's Gas Phase-Out Impact Assessment.

Based on the latest IESO data, carbon pollution from electricity generation in Ontario has increased by over 80% since 2017 due to increased generation by gas-fired plants. Further, IESO forecasts that based on current policy, emissions associated with electricity generation will triple by 2025, quintuple by 2030, and increase six-fold by 2040¹. This is incompatible with Ontario's climate targets and the more ambitious targets adopted by Ontario municipalities and the Government of Canada. Getting on track to meet these targets requires a dramatic change in Ontario's energy policies, reversing the trend towards ramping up natural gas. We applaud the IESO for recognizing these facts and launching the current assessment.

Municipalities across Ontario have declared climate emergencies and developed climate action plans, all of which rely on a clean electricity supply to enable beneficial electrification. Twenty-nine municipalities have since adopted resolutions calling on the Ontario government to phase out natural gas electricity generation².

The need to phase out natural gas electricity generation is increasingly recognized around the world. Last month, the International Energy Agency published its *Net Zero by 2050* roadmap report, which included a call for all advanced economies to achieve net-zero electricity generation by 2035³. Similarly, President Biden's administration has targeted a gas phase out by 2035⁴.

It is a question of when, and not if, Ontario must phase out gas-fired electricity generation.

Comments Regarding the Scope and Approach

Refining the Scenarios

We recommend the IESO redefine the scope of the three scenarios outlined on slide 26 of the Gas Phase-Out Impact Assessment presentation.

¹ IESO 2020 Annual Planning Outlook Report, Data Tables Figure 37. All comparisons are to a 2017 base year.

² [Clean Air Alliance, May 2021](#)

³ [IEA Report - Net Zero by 2050, May 2021](#)

⁴ [President Biden Sets 2030 Greenhouse Gas Pollution Reduction Target, April 2021](#)

It is deeply problematic that only one of the three proposed scenarios for the *Gas Phase-Out Impact Assessment* actually includes a gas phase-out.

It is also problematic to exclusively consider a 2030 phase-out date. While some of the above-noted municipalities requested a gas phase-out by 2030, others requested a phase-out as soon as possible in consideration of other system needs. Since the pressing question is *when* Ontario should phase-out gas; stakeholders and policymakers would be best served by an impact assessment that considers multiple phase-out dates. Assessing impacts for only a single phase-out date arbitrarily limits the scope and utility of the assessment for future energy planning purposes.⁵

As such, we recommend that the Assessment include analysis and comparisons of the emissions reductions, costs, and other impacts that would result from **multiple gas phase-out scenarios, with interim benchmarks for reducing natural gas use prior to the phase-out.**

For example:

- Complete phase-out of gas by 2030;
- Complete phase-out of gas by 2035, with at least a 50% reduction in gas generation emissions by 2030;
- Virtual phase-out of gas by 2035 (<2% of generation), with at least a 80% reduction in gas generation emissions by 2030.

Considering all the Alternatives

There is no single resource that can replace natural gas in Ontario's generation mix. All of the phase-out scenarios in this study should be based on replacing gas with a diverse mix of supply and demand side resources, including but not necessarily limited to:

- Enhanced Conservation and Demand Management (CDM): the 2019 Conservation Achievable Potential Study identified cost-effective savings potential two to three times greater than the savings included in the IESO's current demand forecasts. Even greater CDM outcomes are possible.
- Renewable energy, including both centralized and distributed resources
- Energy storage
- Demand response
- Reduced exports of gas-fired electricity
- Increased imports of clean electricity from Quebec

Sensitivities and Discontinuities

The Assessment needs to undertake sensitivity analysis of the findings. That should include examination of potential tipping points including market factors, public and political perspectives, technological breakthroughs which can affect timing, feasibility, and cost. Factors that should be subject to sensitivity/risk analysis include but are not necessarily limited to:

⁵ Currently, the Ontario Government is in the process of developing its Long-Term Energy Plan (LTEP). The IESO study will impact the LTEP's findings and future planning. As such, multiple scenarios are needed to provide options to the province for the development of plans for the next 5-10 years.

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- **Natural gas prices:** Today, natural gas supplies are relatively stable and affordable, but this cannot be assumed going forward. Natural gas used for electricity generation is currently largely exempt from carbon pricing, but a policy change in this regard could put upward pressure on prices. Moreover, as the situation with Enbridge Line 5 illustrates, other regulatory developments may result in higher-than-expected price escalation⁶.
 - **Regulatory risk:** With the Biden Administration aiming to phase out gas-fired generation by 2035, and the IEA recommending all advanced economies follow suit, there is a possibility that the Federal Government will act to phase-out gas-fired generation as it has already done for coal. A planned transition off gas generation would mitigate the risk of a rapid and unplanned transition.
 - **Renewable energy and energy storage prices:** Renewable energy and energy storage technologies have seen rapidly falling costs which have consistently fallen faster than predicted in most long-term forecasts.
 - **Federal funding for alternatives:** The Federal government is making significant funding available for renewable energy, smart-grids, and transmission infrastructure to enable a low carbon future⁷. Current and future federal funding could help defray the cost of phasing out gas generation.

Summary of Recommendations

We recommend the IESO should:

- 1. Include multiple gas phase-out scenarios, such as:**
 - a. Complete phase-out of gas by 2030;
 - b. Complete phase-out of gas by 2035, with a 50% reduction in gas generation emissions by 2030;
 - c. Virtual phase-out of gas by 2035 (<2% of generation), with at least a 80% reduction in gas generation emissions by 2030.
- 2. Make all modelling to assess these scenarios transparent, open to the public, and verifiable by independent experts,**
 - a. Transparency is vitally important, and the data should be independently verifiable for modelling. A transparent process can help guarantee that this process has resulted in a study that is effective and comprehensive.
- 3. Consider solutions beyond just supply-side energy generation, and factor in Conservation Demand Management (CDM) and how it can support phasing out natural gas electricity production.**

⁶ As Enbridge's own documents disclose, a shutdown of Line 5 could have significant repercussions in the Great Lakes Region and as such needs to be addressed in terms of its long-term viability and stability.

https://www.enbridge.com/~media/Enb/Documents/Factsheets/FS_Without_Line5_econ_impact.pdf

⁷ For example through the Canada Infrastructure Bank (\$2.5B to \$5B) and the Smart Renewables Electrification Pathways program (\$1B)

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- 4. Include sensitivity and risk analysis on key variables or uncertainties, including natural gas prices, regulatory changes, and the costs and capabilities of renewable energy and energy storage technologies.**

Summary

In conclusion, we urge the IESO to redefine the scope of its study to consider the costs and benefits from a number of gas phase-out scenarios. Additionally, it is absolutely vital that the modelling behind these scenarios is publicly available and transparent. These scenarios must be based on replacing gas with a diverse and optimized mix of supply and demand side resources, including renewables, energy storage, power from Quebec, and enhanced CDM. We urge the IESO to modify the focus/scope of its gas phaseout assessment study to appropriately address the relevant factors and undertake the assessment and share the results in an open and transparent manner. It is imperative we get this right so that municipalities across the province and the Ontario Government can make informed decisions about the social, economic, and environmental costs and benefits of energy plans and investments which will be with us for the coming decades.

Sincerely,

Bryan Purcell, VP of Policy and Programs
The Atmospheric Fund

About the Atmospheric Fund

The Atmospheric Fund (TAF) is a regional climate agency that invests in low-carbon solutions for the Greater Toronto and Hamilton Area (GTHA) and helps scale them up for broad implementation. Please note that the views expressed in this submission do not necessarily represent those of the City of Toronto or other GTHA stakeholders. We are experienced leaders and collaborate with stakeholders in the private, public and non-profit sectors who have ideas and opportunities for reducing carbon emissions. Supported by endowment funds, we advance the most promising concepts by investing, providing grants, influencing policies and running programs. We're particularly interested in ideas that offer benefits in addition to carbon reduction such as improving people's health, creating local jobs, boosting urban resiliency, and contributing to a fair society.