

Feedback Form

Gas Phase-Out Impact Assessment

Feedback Provided by:

Name: Anne Keary, Kathleen Moleski, Marianne Ariganello

Title: Local Team Leads

Organization: For Our Kids Toronto, for Our Kids Mississauga-Oakville-Burlington-Hamilton, For Our Kids Ottawa-Gatineau

Email: [REDACTED]

Date: June 17, 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

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?

Thank you for this opportunity to provide stakeholder input to IESO's assessment of the implications of phasing out gas-powered electricity in Ontario.

As parents, we represent the "everyday" citizens of Ontario: voters, taxpayers, and most importantly, parents concerned that every day there is more evidence that our children's health, well-being, and future existence is being directly and seriously impacted by climate change.

It's clear on all counts that phasing out gas and transitioning to renewable energy would have multiple short and long-term benefits to the health and well-being of Ontarians; ramping up gas-plant production would have the opposite effect.

IESO's assessment must consider the social and environmental costs and benefits along with the immediate and long-term costs in terms of dollars and cents for producers and consumers. Specific considerations are set out below.

Reliability

Research and real-world examples show that solutions already exist with the capability to meet the reliability needs of Ontario's electricity demands, and those solutions have been proven to work at the scale needed.

1. Ontario Clean Air Alliance's report: [*Phasing Out Ontario's Gas-Fired Power Plants: A Road Map*](#) (updated Jan. 2021) provides clear direction for how phasing out gas in Ontario by 2030 would be achievable through a combination of conservation, made-in-Ontario wind and solar, and water power and storage imports from Quebec. Implementation of energy efficiency measures alone could reduce electricity consumption by almost 50% by 2030.
2. A study undertaken by the Pembina Institute looked at whether clean energy solutions can deliver a reliable supply of electricity in an affordable way, focusing on Alberta but using modelling and examples from across Canada and the US. The study showed that "the clean portfolios provide the same services as the gas plant at a lower cost over the lifetime of the energy source" and "non-emitting renewable energy portfolios [such as wind, solar, battery energy storage] can reduce consumer costs along with climate and health impacts while delivering the same or greater services as gas plants." ⁽¹⁾
3. The worldwide transition to renewable energy is rapidly gaining pace, with the US as only one example. Under the Biden administration, the US is investing billions in clean energy production and research. The recent budget set out for 2022 includes major funding for Department of Energy (DOE) programs to drive clean energy innovation, including \$4.7 billion in regular-year

funding for DOE's Office of Energy Efficiency and Renewable Energy.⁽²⁾ These investments reflect confidence in the reliability and capacity of renewable energy to meet the country's needs. (More examples of global investments and transition to renewable energy are included in the General comments and feedback section below.)

Cost and Wholesale Market

Challenges raised in IESO's presentation include the unknown cost of ending current contracts for gas generation. Additional considerations that should be part of defining the scope of the assessment are the significant and ongoing drop in prices for renewable power sources, longer-term savings for producers and consumers, growing investment opportunities and job creation, and lower health-care and absentee costs related to chronic and acute illness caused by emissions and climate change events.

1. Phasing out gas and transitioning to renewable energy will be economically advantageous to Ontario on numerous counts. It is clear that renewable energies are the energy sources of the future. By phasing out gas, investing in infrastructure to bring in Quebec hydro power, and by developing its own renewable energy sector, Ontario will attract international investment in clean-tech innovation and research. If we fail to grasp this opportunity, the province will fall farther and farther behind.
2. Prices for renewable power have dropped dramatically in the past decade due to economies of scale. Wind is currently priced at 3.4 to 7.0 cents/kWh for onshore and 11.2 cents/kWh for offshore. Solar costs 3.8 - 5.5 cents/kWh. Prices are expected to continue falling through to 2030. Water power is also a reliable source of electricity and has been offered to Ontario from Hydro Quebec at a very favourable price of 5.0 cents/kWh. The city of Cornwall has sourced its electricity from Hydro Quebec for the past 50 years and its residents pay an average of 35% less than Hamilton residents and 40% less than Toronto electricity customers.
3. Transmission upgrades along existing corridors between Quebec and Ontario would significantly increase the amount of hydro power Ontario could import. While these upgrades could cost upwards of \$1.44 B, these costs are relatively low compared to \$25.8 B to rebuild Ontario's 10 aging nuclear reactors or the \$3 B Ontario recently spent on purchasing gas plants.
4. The Rocky Mountain Institute (a US-based, independent, non-partisan, non-profit organization of experts across disciplines working to accelerate the clean energy transition) estimated in its 2019 report that the projected drop in the cost of clean portfolios means that clean energy sources are likely to be cheaper than the operating costs of 90% of gas plants, as early as 2035.⁽³⁾

Effects on Human Health

In addition to the elements identified in IESO's assessment, the impact of reducing emissions on the health of people and the planet has to be considered; in fact, it should be the primary consideration, because healthy people and communities are the province's biggest economic asset.

Canadian Association of Physicians for the Environment (CAPE)'s ***Call to Action on Climate Health*** from 2019 cited data linking chronic exposure to fine particulate air pollution resulting from the burning of fossil fuels to 7,100 premature deaths in Canada per year and annual health-related costs of \$53.5 billion. The ***Call to Action*** goes on to say that "... climate solutions directed at cars, trucks, coal plants, industry, and oil and gas extraction, would save many lives, reduce rates of heart disease, asthma and lung cancer, and cut healthcare costs for the people of Canada, while reducing climate emissions."⁽⁴⁾

The Government of Canada's Environment and Natural Resources website recognizes the impact of emissions on planetary and human health:

Burning fossil fuels (such as coal and natural gas) and petroleum-based fuels (such as diesel and heavy fuels) has negative impacts on our environment and human health including:

- *producing a large part of Canada's air pollution – including sulphur oxides, nitrogen oxides, particulate matter (soot) and mercury pollutants which contribute to the formation of acid rain and smog*
- *creating the largest uncontrolled industrial source of mercury emissions in Canada*
- *emitting large amounts of climate-warming greenhouse gases*
- *harming water quality, biodiversity and species' habitats* ⁽⁵⁾

Children are especially vulnerable to the adverse effects of air pollution and climate change as a result of fossil fuel combustion. Due to their rapid growth and immature immune and detoxification systems, unborn children and young children are particularly affected biologically. Children breathe more air per kilogram of body weight than do adults, and require three to four times the amount of food on a body-weight basis than adults, so they are more exposed to pollutants in air and food – pollutants that come from the combustion of fossil fuels. The effects of fossil fuel combustion are long-term, lasting multiple decades as children grow and mature, and they cannot necessarily be reversed. Phasing out fossil fuels as soon as possible will minimize these impacts on children and ensure future generations are not exposed to these health risks. ⁽⁶⁾

The impacts on human health are significantly higher for members of vulnerable communities, particularly low-income and racialized communities, who are most often physically situated more closely to the sources of pollution and least resourced to be able to deal with the impacts.

Along with air and water pollution, GHG emissions hasten climate change, leading to more frequent dangerous heat events, more extreme weather events such as flooding and drought which threaten food and housing security, and above all, irreversible damage to the environment.

As the International Institute for Sustainable Development has made clear, gas expansion is inconsistent with the Paris Agreement goals of pursuing all efforts to keep warming to 1.5C. As they note: "In the median 1.5°C scenario used in the IPCC *Special Report on 1.5°C* (IPCC, 2018]; International Institute for Applied Systems Analysis & Integrated Assessment Modeling Consortium, 2018), global gas use is halved from 2020 to 2040." Further, "Most scenarios see power generation almost completely decarbonized by mid-century, even in a 2°C world (IPCC, 2018, p. 112)." ⁽⁷⁾ In addition, according to the recent ***Net Zero by 2050*** report from the International Energy Agency (IEA) all new fossil fuel projects must be stopped if we are to have a chance at meeting the goal of net zero

by 2050.⁽⁸⁾ Increasing Ontario's greenhouse gas emissions by ramping up gas-fired power plants would endanger Canada's ability to meet its international climate goals and worsen our climate crisis - endangering the health and well-being of Ontarians by exposing them to extreme weather events, deadly heat-waves, destructive flooding, and more insect-borne disease.

It is worth noting here that Ontario is currently being sued by seven youth climate activists for rolling back the province's climate targets and replacing them with a significantly weaker 2030 target.⁽⁹⁾ The applicants in the case are asking the Court to order Ontario to mitigate the disasters that climate change is causing and set a science-based GHG reduction target. The government's attempt to dismiss the case failed and the case is now proceeding to a full hearing. If, as in a growing number of jurisdictions around the world, the applicants win the case, this will put any plans to ramp up gas-plants in jeopardy. Indeed, it would render such plans a liability.

General Comments/Feedback

It's important to look at the pace of the global transition to renewable energy as an opportunity for Ontario, rather than a hurdle.

As indicated above, the US is investing heavily in clean energy production and research. Along with the Clean Energy Accelerator proposed in the American Jobs Plan, they expect to secure significant energy savings for American households, create nearly 700,000 good paying jobs, and encourage tens of billions in private sector co-investment.⁽¹⁰⁾

American states are also moving ahead to decarbonize their electricity grids. New York recently launched a new large-scale renewable energy procurement program, known as Competitive Tier 2, which is expected to advance the governor's goal of obtaining 70% of the state's electricity from renewable sources by 2030 as mandated in the state's Climate Leadership and Community Protection Act.⁽¹¹⁾ And in Minnesota, the state utility Great River Energy, will be piloting a new "aqueous air" battery system. This 1-megawatt project is expected to be able to discharge power for up to 150 hours, an unprecedented achievement for the storage industry.⁽¹²⁾ Nevada recently passed a clean energy bill, SB488, that will accelerate construction of the Greenlink Nevada project to create new transmission lines connecting population centres to areas with potential for geothermal and solar energy production.⁽¹³⁾

Internationally, other jurisdictions are also rapidly increasing renewable energy production to the benefit of their citizens.

- In the state of New South Wales, Australia, the government has developed an Electricity Infrastructure Roadmap to create five renewable energy zones, with a combined capacity of 12GW to replace existing fossil-fuelled power stations as they retire. The Roadmap is expected to attract up to AU\$32 billion of private sector investment in electricity infrastructure and create more than 9,000 jobs by 2030, while helping the state reach its goal of becoming net zero by 2050.⁽¹⁴⁾
- In the state of South Australia, renewable energy generation grew from 0% to 60% in just 14 years and the connection of South Australia's electricity grid with neighbouring state Victoria through two interconnectors, enables South Australia to export low-cost renewable energy to Victoria.⁽¹⁵⁾

- In Scotland, the Industry body Scottish Renewables has seen output tripled in the last ten years, producing enough power for the equivalent of seven million households and employing over 17,000 people. In 2020, renewables met 97% of Scotland’s electricity demand. ⁽¹⁶⁾
- In Europe more broadly, renewables rose to generate 38% of Europe’s electricity in 2020, for the first time overtaking fossil-fired generation, which fell to 37%. Together, wind and solar generated a fifth of Europe’s electricity in 2020. ⁽¹⁷⁾

Given these considerations, our response to the IESO’s request for feedback is that the IESO’s assessment must include the global surge in the development of renewable energy, and the benefits this development brings in terms of jobs, revenue, clean air, and reduced greenhouse gas emissions. The choice is clear: ramping up gas-plants production would take Ontario backwards; phasing-out gas plants and investing in renewable energy and the transmission of available hydro power from Quebec would help propel Ontario forward into a clean energy future.

References

- (1) [*Reliable, affordable: The economic case for scaling up clean energy portfolios*](#), Oct. 2019, Pembina Institute
- (2) <https://cleantechnica.com/2021/06/03/5-wins-for-clean-energy-innovation-in-bidens-budget/>
- (3) [*The Growing Market for Clean Energy Portfolios*](#), 2019, Rocky Mountain Institute
- (4) Howard C, Rose C, Rivers N. Lancet Countdown 2018 Report: Briefing for Canadian Policymakers. Canadian Medical Association, Canadian Public Health Association, The Lancet; 2018 November
- (5) <https://www.canada.ca/en/environment-climate-change/services/managing-pollution/energy-production/electricity-generation.html>
- (6) Perera F. “[*Pollution from Fossil-Fuel Combustion is the Leading Environmental Threat to Global Pediatric Health and Equity: Solutions Exist*](#)” International Journal of Environmental Research and Public Health, 2018
- (7) <https://www.iisd.org/system/files/2021-06/natural-gas-finance-clean-alternatives-global-south.pdf> p. vi.
- (8) <https://www.iea.org/reports/net-zero-by-2050>
- (9) <https://ecojustice.ca/case/genclimateaction-mathur-et-al-v-her-majesty-in-right-of-ontario/>
- (10) <https://www.whitehouse.gov/ceq/news-updates/2021/05/17/fact-sheet-biden-administration-accelerates-efforts-to-create-jobs-making-american-buildings-more-affordable-cleaner-and-resilient/>
- (11) See <https://www.governor.ny.gov/news/governor-cuomo-announces-new-competitive-program-retain-new-yorks-existing-renewable-energy> See also <https://www.nyserda.ny.gov/Researchers-and-Policymakers/Clean-Energy-Dashboard/View-the-Dashboard>
- (12) <https://www.greentechmedia.com/articles/read/form-energys-first-project-pushes-long-duration-storage-to-new-heights-150-hour-duration>
- (13) <https://www.utilitydive.com/news/nevada-passes-clean-energy-bill-requiring-state-to-join-rto-accelerating/601106/>
- (14) <https://www.pv-tech.org/new-south-wales-opens-call-for-8gw-renewable-energy-zone/>
- (15) <https://ieefa.org/ieefa-zero-to-60-in-14-years-south-australias-success-in-transitioning-to-renewables/>
- (16) <https://www.bbc.com/news/uk-scotland-56530424>
- (17) <https://ember-climate.org/project/eu-power-sector-2020/>