



April 11, 2022

Analysis of materials released by IESO in response to OCAA Freedom of Information Request

Summary

1. [Thirty-two Ontario municipalities](#), representing almost 60% of Ontario's population, have asked the Government of Ontario to phase-out gas-fired electricity generation.
2. According to Ontario's Independent Electricity System Operator's (IESO) October 7, 2021 report, [Decarbonization and Ontario's Electricity System](#), phasing-out gas power by 2030 would raise residential electricity bills by 60% [page 1].
3. In response to a Freedom of Information Request (FOI), the Ontario Clean Air Alliance (OCAA) has obtained pre-October 7, 2021 drafts of the IESO's report. These drafts reveal the following facts:
 - a) According to the IESO's analysis, a gas power phase-out by 2030 would raise Ontario's electricity costs by 17 to 20%, not 60%.
 - b) If 100% of the gas plants' greenhouse gas (GHG) pollution is subject to the federal carbon tax, their GHG pollution would fall by 75% by 2030 to 3 megatonnes per year. According to the IESO, this dramatic reduction in GHG pollution would raise Ontario's electricity costs by only 3% by 2030.
 - c) If Ontario meets its need for new capacity by investing in energy efficiency, energy storage and 5,500 megawatts (MW) of new wind generation, Ontario's electricity costs will **fall** by 8% by 2030 relative to the IESO's business as usual scenario. These investments in clean electricity supply would also reduce gas plant pollution.
4. [At the IESO's May 27, 2021 public engagement webinar, Chuck Farmer of the IESO said that its gas plant phase-out report would analyze the following three scenarios:](#)

Scenario 1: Complete phase out of gas by 2030 with a supply mix approach of new resources, in response to municipal council resolutions

Scenario 2: A market-based approach that examines the potential for higher gas prices to reduce the utilization of the gas fleet to reduce emissions by 2030 and to provide market signals to clean energy projects

Scenario 3: Reduce emissions by 2030 with a supply mix approach of new resources.

5. In fact, the IESO's October 7, 2021 report, *Decarbonization and Ontario's Electricity System*, only analyzed scenario 1.

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6. In response to our Freedom of Information request [we have obtained pre-October 7, 2021 drafts of the IESO's report](#). These draft reports analyzed all three scenarios as per Chuck Farmer's May 27th promise.
7. According to the draft reports, Scenario 1 would raise electricity system costs by 17% to 20% by 2030 [FOI, pages 245 & 298]. Interestingly, the IESO believes that the majority of the costs of Ontario's new clean electricity supply should be borne by residential consumers. As a result, it believes that a gas power phase-out should raise residential electricity bills by 60% [FOI, page 298].
8. According to the draft reports, Scenario 2 [subjecting 100% of the gas plants' pollution to the federal carbon tax] would reduce the gas plants' GHG pollution by 75% to 3 megatonnes per year in 2030 [FOI, pages 247 and 298] relative to the IESO's *2020 Annual Planning Outlook* (APO) business as usual scenario. According to the draft reports, this very large pollution reduction would raise electricity costs by only 3% [FOI, page 248]
Specifically, subjecting Ontario's gas plants to full carbon taxation would lead to a dramatic reduction in Ontario's gas-fired electricity exports to the U.S. and a dramatic increase in Ontario's import of Quebec waterpower [FOI, page 400]
At the present, only 5% of the gas plants' GHG pollution is subject to the federal carbon tax. [Getting Ontario to a Zero-Carbon Electricity Grid by 2030, page 6].
9. According to the draft report, Scenario 3 [investing in energy efficiency, energy storage, demand response and 5,500 MW of new wind power] would **reduce** electricity costs by 8% relative to the business-as-usual scenario [FOI, page 250].

Specifically, according to the draft report:

"The 2020 APO found that 3,600 MW of new capacity was needed to meet resource adequacy needs by 2030 if all existing resources remained in service. In Scenario 3, this need for new capacity is largely met through energy efficiency, energy storage, and additional DR [demand response]. Roughly, 5,500 MW of wind are also selected in the capacity expansion model, as this energy is required to displace natural gas from an energy perspective...

The partial use of gas as well as a diverse supply mix of renewables, energy storage, and DR would lead to less severe impacts to Ontario's markets. Gas resources would continue to set price as the marginal resource in Ontario but less frequently. Increased renewable energy

would displace some of the overall energy being supplied by the gas fleet. Since renewables tend to offer into the energy market at low to zero prices, these replacement resources would more frequently set energy price, and the result would be a general lowering of overall energy prices, along with increased volatility. At the same time, battery storage resources tend to offer in the ancillary services markets, and the large build-out of battery storage technologies in this scenario would tend to broadly decrease operating reserve prices in Ontario's markets." [FOI, page 249]

Furthermore, according to the draft report:

"The emissions forecast for Scenario 3 relative to the Base case is x." [FOI, page 249]

4. According to the draft report, in the near term, large-scale green hydrogen production costs are currently thought to be "prohibitive as a realistic natural gas replacement." [FOI, page 234]
5. According to the draft report, carbon capture utilization and storage is "currently unproven in Ontario. It is also currently costly, with relatively high capital and operating costs." [FOI, page 234]