



ONTARIO
CLEAN AIR
ALLIANCE

Memo to: Monique Chugh, IESO; cc. Julia McNally, IESO
From: Jack Gibbons, Ontario Clean Air Alliance
Re: Your March 24, 2022 PPT presentation: “Pathways to Decarbonization – Operability Assessment”
Date: March 23, 2022

Introduction

Since I will not be able to attend the IESO’s March 24, 2022 webinar about “Pathways to Decarbonization – Operability Assessment”, I am sending you this memo to provide you with the Ontario Clean Air Alliance’s questions and concerns with respect to your PPT presentation.

Slide #3: Purpose of Engagement

Your PPT does not state the IESO’s decarbonization goals or timelines. Ontario’s municipalities have asked the Government of Ontario to:

1. Return the gas plants’ GHG pollution to their 2017 level ASAP; and
2. Completely phase-out gas-fired electricity by 2030.

We hope that the IESO’s operability assessment will address both above-noted scenarios assuming that Ontario’s existing gas-fired generation capacity is used to provide Ontario’s reserve margin until 2040. That is, keep sufficient gas-fired generation capacity on standby reserve to provide emergency back-up to our electricity grid during extreme events.

Slide #8: The Fundamentals of Reliability #1

According to your PPT, “electricity cannot easily be stored”. We disagree for two reasons.

1. Ontario is very lucky to be located right next-door Hydro Quebec’s reservoirs. According to a MIT study, [Two-Way Trade in Green Electrons](#), Hydro Quebec’s existing reservoirs are the best storage (load balancing) option for wind and solar energy.
2. Ontario’s electric vehicles can store surplus wind and solar power and provide power back to the grid during peak demand periods. Specifically, [in 2030, the capacity of our EVs’ batteries will be more than double the capacity of our gas-fired power plants.](#)

Slide #8: The Fundamentals of Reliability #2

According to your PPT: “As Ontario’s electricity system evolves and becomes more complex, the challenges of maintaining a reliable system increase.”

We believe that your assertion is problematic.

For example, if Ontario reduces its dependence on large-scale and inflexible nuclear generating stations by investing in energy efficiency, wind, solar and storage and by increasing its transmission links with Quebec, it may become easier to maintain a reliable and decarbonized electricity system.

The following facts are worth considering.

- In 1998 Ontario Hydro unexpectedly shut down seven of its nuclear reactors for safety reasons. All these reactors were shut down for more than five years. Two of the reactors are still shut down. As a result, Ontario had to increase the output of its dirty coal plants by 120% to keep our lights on.
- As a result of Ontario’s heavy dependency on CANDU nuclear reactors, it took Ontario more than 8 days to fully recover from the August 2003 blackout versus less than two days for New York State.ⁱ
- During the 2003 blackout the lights stayed on in the City of Cornwall which obtains 100% of its electricity from Hydro Quebec.

Slide #9: Elements of a Reliable Electricity System

This slide lists five elements of a reliable electricity system, namely, capacity, energy, transmission infrastructure, operability and ancillary services.

1. Why does your list not include storage and demand response (i.e., providing financial incentives to consumers to shift their consumption to off-peak periods)?
2. [The IESO has identified how we can upgrade our transmission links with Quebec by 7,500 megawatts \(MW\)](#). Specifically, Chats Falls (2,000 MW), Ottawa (2,000 MW), Beauharnois (2,000 MW) and Cornwall (1,500 MW). Will the IESO assess the ability of these upgrades to increase the operability and reliability of Ontario’s electricity system?

¹ The August 2003 blackout began on August 14th at 4:11 p.m. Power was fully restored to New York customers by August 15th at 10:45 p.m. Ontario’s power emergency did not end until 8 p.m. on August 22nd. See: New York Independent Electricity System Operator, *Fulfilling Our Mission: 2003 Annual Report*, page 3; Independent Electricity System Operator, *Participant News*, “IMO Says Ontario Residents Deserve Special Thanks”, (August 22, 2003); and Ontario Ministry of Energy, *August 14 2003 Outage Report*.

Slide #17: Example

This slide shows six resource options, namely, gas, peaking hydro, wind, solar, run-of-river hydro and nuclear.

1. Why does it not include storage and demand response?
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