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Frequently Asked Questions about Phasing-Out Ontario's Gas-Fired Power Plants

For more info see: [Phasing-Out Ontario's Gas-Fired Power Plants: A Road Map](#)

Demand for electricity

1. Ontario already has one of the world's most low-carbon electricity systems. Why do we need to phase-out our gas-fired power plants?

- A. It is true that Ontario had a low-carbon electricity system in 2017 when fossil gas was only responsible for 4% of our electricity supply. Unfortunately, the Ford Government is planning to meet virtually all of our need for new electricity supply during the next 20 years by ramping up the output of our gas-fired power plants. If this happens, fossil gas will be responsible for 18 to 20% of Ontario's electricity production in 2030 and 23-24% in 2040. This will mean losing approximately 40% of the pollution reduction benefits we realized by phasing out coal.

To protect our climate, Ontario needs to reduce, not increase, its dependency on fossil gas. Phasing-out our gas-fired power plants is our easiest and lowest cost option to meet Ontario's 2030 climate target.

2. Is it feasible to phase out gas so quickly, by 2030?

- A. Yes. We can quickly return our gas-fired electricity generation to its 2017 level by buying more Quebec power (we can triple our imports with our existing transmission lines); ending gas-fired electricity exports to the U.S. (in 2019, 35% of our gas power was exported); ramping-up our energy efficiency programs (the Ford Government reduced the Independent Electricity System Operator's (IESO) energy efficiency budget by 60%) and using a competitive procurement process to obtain new wind and solar energy supply at the lowest possible prices.

To achieve a complete gas plant phase-out we must also expand our transmission links with Quebec so we can import enough power to eliminate the need for gas-fired

electricity on hot summer days when our air-conditioners are running full out (i.e., 6,845 megawatts). The good news is that the IESO has identified how we can increase our import capability by an additional 7,500 megawatts (MW) by upgrading our transmission links with Quebec at Chats Falls (2,000 MW), Ottawa (2,000 MW), Beauharnois (2,000 MW) and Cornwall (1,500 MW). Since all of these upgrades would use existing Hydro One transmission corridors, they can be completed by 2030.

We can also invest in Ontario storage systems to help phase-out the need to use gas plants on hot summer days (e.g., we should upgrade our municipal electricity distribution systems to harness our electric vehicles' batteries to help us meet our peak day demands).

In addition, we can invest in energy efficiency and load shifting measures (e.g., using electricity at night to produce ice for cooling during the day) to reduce our peak day demand for gas generation.

3. How will the energy shift to electric vehicles and electricity for home heating affect demand projections? Will the solutions you propose still be able to meet this demand?

- A. If all Ontario passenger vehicles become EVs, our total electricity demand would rise by 17%. The impact of switching gas heated homes to electricity can be mitigated by improving their thermal envelopes (e.g., more insulation, energy-efficient windows and doors) and by installing cold-weather heat pumps which can be three times more energy efficient than electric resistance heating.

We can meet this rise in demand by investing in energy efficiency, wind and solar energy and by purchasing Quebec power. For example, a study produced for the Government of Ontario identified 64 potential wind power sites in the Great Lakes that could produce the equivalent of 84% of our total electricity consumption in 2020.

Gas

4. Gas electricity is now ramped up and down quickly to supplement the base load power and respond to variations in demand for electricity. Would your proposal not make our electricity supply less reliable?

- A. No. Quebec waterpower can ramp up and down even more quickly than our gas-fired power plants.

The City of Cornwall has obtained 100% of its electricity from Hydro Quebec for 50 years. Cornwall has the lowest electricity rates in Ontario. Moreover, its lights stayed on during the 2003 blackout. In contrast, it took Province of Ontario more than 8 days to

return its electricity system to full power due to our dependency on inflexible nuclear reactors.

5. When Ontario shut down the coal plants they were replaced by gas plants. What would be the cost to shut down these relatively new plants? How many jobs will be lost by shutting down the gas plants?

- A. The IESO signed 20-year contracts with power producers for new gas-fired electricity supply. Approximately 80% of this contract capacity (MW) will expire by December 31, 2030. While the IESO will still be obliged to make capacity payments to some of the gas plant owners post-2030, the gas phase-out will avoid the IESO's need to pay a carbon tax of up to \$170 for each tonne of the gas plants' greenhouse gas pollution.

The gas plants have very few employees. For example, the 400 MW York Energy Centre gas plant has only nine permanent employees. Sending Ontario's energy dollars to western Canada and Pennsylvania to purchase fracked gas creates zero new jobs in Ontario. By investing in energy efficiency and wind and solar energy we can create new jobs in every community in Ontario.

6. A number of communities have local gas-fired cogeneration plants. How would this proposal affect those plants?

- A. Co-generation plants use gas to produce heat and electricity. These plants would still be able to use gas to provide heat for a building or a factory, but they would not longer be allowed to produce gas-fired electricity for export to the Ontario's electricity grid.

Quebec Hydro

7. Does Quebec have enough capacity to meet their needs and still supply Ontario? Would Quebec need to build new dams to supply Ontario as you propose?

- A. Quebec's demand for electricity peaks in the winter whereas Ontario's demand peaks in the summer. As a result, Quebec has huge excess capacity available for export on hot summer days.

Quebec's electricity consumption per person is the highest in the world. As a result, by investing in energy efficiency to reduce the demands of its domestic customers, Hydro Quebec can increase the amount of its existing hydro-electric capacity that is available for export.

Quebec has tapped out all of its low-cost hydro-electric sites and therefore it doesn't make sense for the province to build new dams (although it may be able to upgrade components, such as turbines, within existing stations to provide more power). As a

result, wind power is now Quebec's lowest cost source of new electricity supply. Hydro Quebec recently signed a contract to purchase additional wind power at a cost of 6 cents per kWh. To put this cost in context, Ontario Power Generation's (OPG) current price for its nuclear electricity is 9.6 cents per kWh and OPG is forecasting that the price of its nuclear electricity will rise to 13.7 cents per kWh by 2027.

8. How do you know that electricity from Quebec Hydro will be affordable? Will the interest from New York and Massachusetts in Hydro from Quebec prevent Ontario from being able to buy sufficient electricity from Hydro Quebec at a reasonable price?

A. In 2020 Hydro Quebec's average price of its electricity exports to the U.S., Ontario and New Brunswick was only 4.3 cents per kWh. In the future, Hydro Quebec's export prices will need to remain low to be competitive with new wind and solar projects, whose costs are forecast to continue to decline. By developing its wind power potential and increasing efficiency, Quebec can increase its exports to all its neighbours.

9. What new transmission links will be needed to access hydro from Quebec? What will they cost?

A. The IESO has identified transmission upgrades that could increase our import capability by 7,500 MW. Since Hydro One amortizes the costs of its transmission investments over 55 years, the transmission upgrades will raise the cost of our imports by less than a penny per kWh.

10. If Quebec is so ready to sell electricity to Ontario, why has this not happened yet?

A. In 2016 Kathleen Wynne negotiated a small-scale seven-year contract with Hydro Quebec for electricity supply and storage services. According to Ontario's Financial Accountability Office, this deal is reducing our electricity costs by \$38 million.

The purchase of Quebec waterpower is contrary to the financial self-interest of Ontario's largest electric and gas utilities, namely, Ontario Power Generation, Bruce Power, Enbridge Gas and TC Energy. TC Energy owns the TransCanada pipeline system which delivers fracked gas from western Canada to Ontario. The lobbying of these companies helps explain the perplexing resistance of Doug Ford to make additional deals with Hydro Quebec despite the fact that they could help him keep his election promise to reduce our electricity bills by 12%.

Solar and Wind

11. How would storage be provided if we shifted to much more intermittent solar and wind energy?

- A. When our wind or solar power production is above average, our surplus green energy can be exported to Quebec to keep the lights on in Montreal, and Hydro Quebec can store more water in its reservoirs. Conversely, when our wind and solar generation is below average, Hydro Quebec can use the extra water in its reservoirs to produce electricity for export back to Ontario. In short, by integrating our wind and solar generation with Hydro Quebec's reservoirs, we can convert intermittent wind and solar energy into a firm 24/7 source of baseload electricity for Ontario.

In addition, we can build energy storage facilities in Ontario. An Ontario company, Hydrostor, [just sold a 500 MW compressed air storage system to California](#). This technology was tested and developed in Lake Ontario (it uses water pressure to compress air) and Hydrostor already has a system in Goderich, Ontario.

12. Solar farms are sometimes installed on fertile land, and there has been a lot of opposition to wind farms in some communities. How would future solar and wind development avoid these problems?

- A. Solar farms cannot be built on prime farmland under existing provincial rules and are restricted to marginal lands. Local municipal approval – and benefit -- should be a prerequisite for all new wind power projects. While some municipalities might ban wind power facilities, many municipalities will be happy to host wind farms which will increase their tax base, pay local benefit charges and create additional jobs and economic activity. Concerns about noise, flicker and shadow have largely faded as people have experienced wind turbine operations for themselves and many farmers have found harnessing the wind or the sun is a good way to supplement farm income.

Nuclear

13. Nuclear generation does not produce greenhouse gases. Why is nuclear energy not part of your proposed solution?

- A. Nuclear power is our highest-cost option to reduce our greenhouse gas pollution and keep our lights on. It doesn't make sense to re-build our aging nuclear reactors or build a new nuclear reactor in the GTA when energy efficiency investments and renewables can keep our lights on at less than half the cost. Nuclear is also a poor way to cut pollution in the near term, with projects often taking decades to complete. We can't wait for nuclear to be ready. We need to reduce climate damaging pollution now.

Ontario's Carbon-Free Electricity Options: A Cost Comparison

