

# Memorandum



**To:** Environmental Action Committee

**From:** Dianne Zimmerman, Manager, Environment

**Date:** January 26, 2021

**Subject:** Interim GHG Cap and Phase-Out of Gas-Fired Electricity Power Generation

## **Memo Highlights**

- According to the Independent Electricity System Operator's Annual Planning Outlook (Jan 2020), greenhouse gas (GHG) emissions from Ontario's electricity grid are expected to rise in the coming years as the Province increasingly relies on gas-fired power plants to help meet electricity demand.
- Increased reliance on gas-fired power plants to generate electricity will increase GHG emissions by more than 300% by 2025 and by more than 400% by 2040.
- This will decrease the benefits achieved from the phase-out of coal-fired power plants. For example, in 2017, GHG emissions from Ontario's electricity sector totalled 2.5 megatonnes (MT), a decrease of 93% since 2005.
- In June 2019, Council declared a climate emergency in Mississauga.
- In December 2019, Council approved the City's first comprehensive Climate Change Action Plan (CCAP). That plan sets out ambitious goals, including reducing GHG emissions 80% (compared to 1990 levels) by 2050 with the long-term goal of becoming a net-zero community.
- To ensure that municipalities, including the City of Mississauga, are able to meet their GHG reduction targets, Ontario's electricity grid must remain low carbon. This can only be achieved if the Province finds alternatives to using natural gas (e.g., solar, wind, and hydro).

## **A. Background**

Ontario's demand for electricity is increasing. According to the Independent Electricity System Operator (IESO), demand for electricity in Ontario is projected to increase 1% per year for the next 20 years. To meet this demand, the Province purchased three gas-fired power plants<sup>1</sup> and is planning to re-build ten of Ontario's aging nuclear reactors. The projected costs for these initiatives is almost \$30 billion.<sup>2</sup>

<sup>1</sup> <https://finance.yahoo.com/news/tc-energy-completes-sale-ontario-203010266.html?guccounter=1>

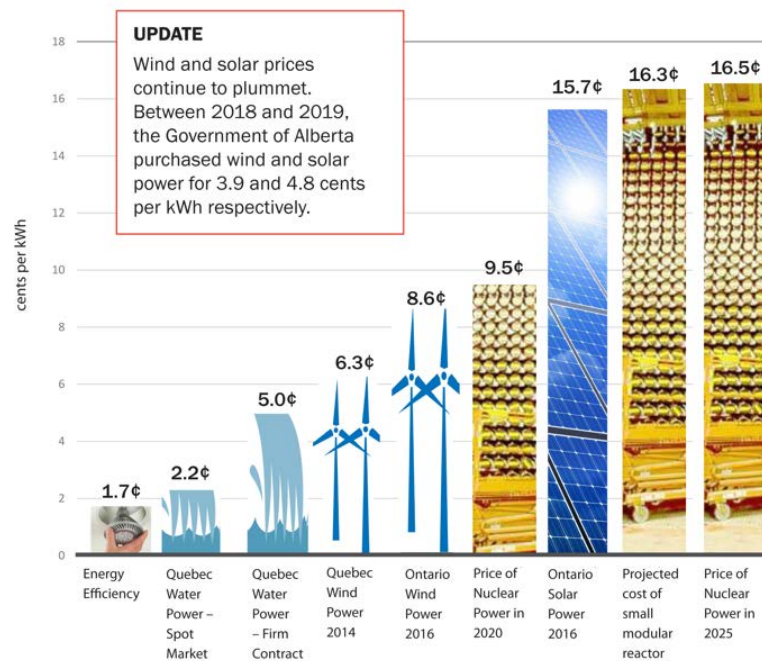
<sup>2</sup> IESO, Annual Planning Outlook, (January 2020). The three gas power plants cost \$2.8 billion and the forecasted cost of re-building the ten aging nuclear reactors is \$25.8 billion.

The Province's approach to meeting electricity demand will result in increased GHG emissions. According to the Ontario Clean Air Alliance, GHG emissions from Ontario's electricity grid fell by 93% from 2005 to 2017 due to the phase-out of Ontario's coal-fired power plants. The Province's plan to increase the use of gas-fired power plants for electricity generation is expected to increase GHG emissions by more than 300% by 2025 and by more than 400% by 2040. This will reverse more than one third of the GHG emission reductions that were achieved by phasing out Ontario's coal plants.<sup>3</sup>

On December 8, 2020, Jack Gibbons from the Ontario Clean Air Alliance presented to the Environmental Action Committee. In his presentation, Mr. Gibbons provided background information about the significant increases in GHG emissions that are expected from electricity generation in the coming years. He identified three ways that gas-fired power plants could be phased-out in Ontario:

- Focus on energy efficiency activities;
- Increase the amount of clean hydroelectric power from Quebec; and
- Increase wind and solar energy.

Mr. Gibbons also provided the following graphic, which shows the costs of various options to generate electricity (note that, according to Mr. Gibbons, the cost of natural gas is about 3¢ per kWh):



At the end of Mr. Gibbon's presentation, EAC directed staff to further investigate the Ontario Clean Air Alliance's request to phase-out all gas-fired electricity generation, to benchmark with other municipalities on endorsement, and to report back to EAC prior to General Committee.

<sup>3</sup> Ontario Clean Air Alliance, Phasing-Out Ontario's Gas-Fired Power Plants – A Road Map (April 2020).

## **B. Comments**

### **Mississauga's Climate Commitments**

The City of Mississauga has set ambitious GHG reduction targets. After declaring a climate emergency in June 2019, the City approved its first comprehensive Climate Change Action Plan (CCAP) in December 2019. The CCAP provides a path forward for climate action in the City over the next ten years. It also sets a target of reducing GHGs 80% by 2050, with the long-term goal of becoming a net zero community.

The expected increase in GHG emissions from electricity generation will limit the City's ability to meet its GHG targets under the CCAP. In particular, the Province's increased reliance on natural gas will undermine any of the actions that the City takes to decrease GHGs through electrification (e.g., deep building retrofits, installing electric vehicle chargers).

It is important to note that the increased emissions from electricity generation will also impact the City's ability to meet its targets under the latest Five Year Energy Conservation Plan (2019-2023). Under that plan, the City has targeted a 1% reduction per year in energy use and GHG emissions in its facilities, over the next five years. It will be increasingly difficult to meet these annual targets as Ontario's electricity grid becomes more carbon intensive. To ensure that the City is able to meet its GHG reduction targets under this plan and the CCAP, Ontario's electricity grid must remain low carbon.

### **Provincial and Federal Climate Commitments**

The provincial and federal governments have also made climate change commitments. In 2018, under the Made-in-Ontario Environment Plan, the Province committed to reducing GHG emissions 30% below 2005 levels by 2030, a target that aligns with the federal government's goal and the Paris Accord. Further, the federal government has announced its intention to develop a plan to achieve "a prosperous net-zero emissions future by 2050."

Increasing GHG emissions from the electricity sector will significantly restrict the ability of the provincial and federal governments to meet these commitments.

### **Previous Role of Municipalities in Phasing-out Coal-Fired Power Plants in Ontario**

It should be noted that the City of Mississauga played a pivotal role in another energy transition: the phase-out of coal-fired power plants. As noted in the Ontario Clean Air Alliance's FAQs on Phasing Out Ontario's Gas-Fired Power Plants by 2030 Campaign, Mississauga played an important role in the phase-out of coal: "In March 2000, Mayor Hazel McCallion held a press conference outside the Lakeview Coal-Fired Power Plant in Mississauga and asked the then Premier of Ontario, Mike Harris, to shut it down. Thanks to Mayor McCallion's leadership, Lakeview was shut down." The Ontario Clean Air Alliance also notes that municipal councils played an important role in the coal

phase-out, stating that “eleven municipal councils called for a coal phase out to improve local air quality and reduce climate pollution.”

Council can play a similarly important role in calling for the Province to phase-out gas-fired power plants. In fact, a number of Ontario municipal councils have already made the following motions:

Municipality	Motion and Date
City of Kitchener	October 26, 2020 <a href="#"><u>Kitchener City Council unanimously called on the Government of Ontario to phase-out Ontario's gas-fired power plants by 2030 to ensure that the province can meet its 2030 climate target.</u></a>
Town of Halton Hills	October 26, 2020 <a href="#"><u>Halton Hills Town Council unanimously requested the province "to reverse its plan for increased power production at its gas-fired power plants" and instead invest in energy efficiency, wind and solar energy and to "begin negotiations with the Province of Quebec to purchase clean hydro electricity" to replace power from the Pickering Nuclear Station, which is scheduled to close in 2024.</u></a>
City of Hamilton	November 11, 2020 <a href="#"><u>The City of Hamilton unanimously passed a resolution calling on the Government of Ontario to phase-out the province's gas-fired power plants by 2030</u></a>
City of Burlington	November 23, 2020 <a href="#"><u>City of Burlington council unanimously supported a resolution regarding phasing out natural gas for electricity generation.</u></a>
City of St. Catharines	December 2, 2020 <a href="#"><u>City of St. Catharines calls for gas plant phase-out by 2030</u></a>
City of Guelph	December 14, 2020 <a href="#"><u>City of Guelph passed a motion that Ontario establish an interim cap of 2.5 Megatonnes per year on our gas plant's greenhouse gas pollution and develop a plan to phase out all gas-fired electricity generation by 2030 to ensure Ontario meets its climate targets</u></a>
City of Kingston	January 20, 2021 <a href="#"><u>City of Kingston calls for the phase-out of Ontario's natural gas-fired power plants</u></a>
City of Waterloo	January 18, 2021 <a href="#"><u>City of Waterloo requests the Government of Ontario to place a cap on greenhouse gas pollution from gas plants</u></a>

## Staff Recommendations

With respect to Jack Gibbons' request to put a GHG emissions cap on the electricity sector of 2.5 megatonnes (MT) and to phase out gas-fired electricity generation in Ontario by 2030, staff are providing the following recommendations:

- In 2017, Ontario reached its lowest GHG emission levels from the electricity sector – emitting just 2.5 MT. The Ontario Clean Air Alliance is calling on the Province to place an interim GHG emissions cap of 2.5 MT per year from Ontario's electricity grid, which we know is achievable.<sup>4</sup>
- Mississauga established a precedent by calling on the Province to phase-out coal in 2000.
- It is reasonable to expect the Province to develop and implement a plan to phase-out gas-powered electricity generation by 2030 to ensure that Ontario meets its 2030 climate targets.

## Draft EAC Recommendation

That the Environmental Action Committee support in principal Phasing-Out Ontario's Gas-Fired Electricity Power Generation and recommends that Jack Gibbons, Chair, Ontario Clean Air Alliance present this initiative for further discussion at an upcoming General Committee meeting.

If you have any questions, please contact me at 5736.

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Dianne Zimmerman, Manager, Environment

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<sup>4</sup> Ontario Clean Air Alliance, Phasing-Out Ontario's Gas-Fired Power Plants – A Road Map, (April 2020).