

IESO Engagement

From: Kent Elson
Sent: May 25, 2021 3:46 PM
To: IESO Engagement
Subject: Gas Phase-Out Impact Assessment

Good Afternoon,

I am writing regarding the above consultation process.

Could you please provide the following information as soon as possible.

1. How much could Ontario reduce its peak electricity demand (MW) and annual electricity consumption (MWh) by 2030 by investing in all cost-effective Conservation and Demand Management ("CDM")? Please make and state any assumptions necessary to provide a response. Please provide the answer in comparison to the current status quo. Please provide an answer based on the latest CDM potential study.
2. How much could Ontario reduce its peak electricity demand (MW) by 2030 by investing in cost-effective projects to increase storage and time shifting capabilities to Ontario's hydroelectric fleet?
3. How much could Ontario reduce its peak electricity demand (MW) and annual electricity consumption (MWh) by 2030 by incentivizing vehicle-to-grid or vehicle-to-home/business technology? Please assume that the million-mile batteries have resolved the current charge/discharge limitations.
4. How much would it cost to incentivize vehicle-to-grid/home/business installations with a combined capacity by 2030 of (a) 5,500 MW or (b) 11,000 MW?
5. What is the forecast annual output of gas plants to 2030 if the IESO put them last in the dispatch order whenever technically feasible? Please make and state any assumptions necessary to provide a response.
6. What is the forecast annual output of gas plants to 2030 if Ontario entered into an import agreement with Quebec for as much cost-effective firm capacity and variable supply as could be imported via the interties?

This information is required to provide meaningful input into the IESO's process. If possible, please provide this prior to the upcoming webinar.

In addition, when the IESO's conducts its final analysis, please prepare a decarbonization cost curve for 2025 and 2030 showing the incremental system costs (if any) of decarbonization as the volume of greenhouse gas emissions are reduced (i.e. incremental system costs on the Y-axis and CO₂e on the X-axis, running from the status quo CO₂e to zero).

In addition, when the IESO conducts its final analysis, please consider a suite of the most cost-effective measures for eliminating GHGs in Ontario's electricity system. Please do not exclude potentially cost-effective options simply because they are more complicated. For example, please ensure the IESO considers options including, but not limited to:

1. Conservation (considered at its *net* cost);
2. Demand response;
3. Quebec import/swap agreements;
4. Smart-grid technologies (e.g. variable voltage control, which can reduce system losses and thus reduce the reserve requirement);
5. Other transmission and distribution system loss reduction investments;

6. Wind;
7. Solar;
8. Battery storage;
9. Water power (including greater storage and time-shifting capacity); and
10. Vehicle-to-grid/home/business.

With respect to vehicle-to-grid/home/business technology, there are 8.7 million cars in Ontario. Current technology could obtain 22 kW from each. But even if most chargers were only capable of 10 kW, that amounts to 87,000 MW. Households and businesses could use the cars parked in driveways and parking lots to save money through time-shifting. Limits on discharge/recharge are a current obstacle that is likely to disappear with the next phase of "million mile" batteries. The technology can be completely behind-the-meter and autonomous, which reduces costs, if it simply offsets electricity demand from the building in question in response to price signals. This is but one of the alternatives worth considering.

Finally, could you please register me for the upcoming webinar?

Thank you,

Kent Elson

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