ONTARIO SOCIETY OF PROFESSIONAL ENGINEERS

Ontario Wasted Enough Clean Electricity to Power 720,000 Homes in 2019: OSPE Data

Trend expected to continue into 2020 for the sixth consecutive year

TORONTO, September 3, 2020 – The Ontario Society of Professional Engineers (OSPE), the voice of Ontario's engineering community, has released updated data on curtailed (wasted) energy, following its 2019 Retail Electricity Price Reform Report, revealing that Ontario wasted a total of 6.5 terawatt-hours (TWh) of clean electricity in 2019 – an amount sufficient to power 720,000 average-sized homes[1] for one year.

These findings represent a 12 per cent increase in wasted electricity from 2018. This trend has remained consistent with data dating back to 2015 and is anticipated to continue this year, with the prolonged impacts of COVID-19 expected to significantly increase the amount of wasted clean electricity in 2020.The initial report, released by OSPE in April 2019, follows a detailed analysis of year-end data issued by the Independent Electricity System Operator (IESO) and Ontario Power Generation (OPG).

The Gap Between Production and Demand

The data indicates that Ontario's electricity pricing system is not structured to account for the low demand it has been experiencing.

"Over the last six years, Ontario has curtailed 38.5 TWh of clean electricity," said Sandro Perruzza, CEO of OSPE. "This system is too expensive and simply not sustainable, which is why we are calling upon the provincial government and Ontario Energy Board to explore reformed retail pricing plans for consumers to subscribe to on a voluntary basis."

"The province also continues to export even larger amounts of surplus clean electricity to neighbouring jurisdictions at a lower price than the total cost of production," said Paul Acchione, P.Eng., energy expert and former President and Chair of OSPE.

In addition to curtailment, surplus hydroelectric, wind, solar and nuclear generated electricity was also exported to adjoining power grids from 2014 to 2019 at prices much lower than the cost of production. This occurs because Ontario produces more clean electricity than Ontario consumers currently use, so the province is forced to sell off the surplus at the low wholesale market rate. Total exports in 2019 were 19.8 TWh, compared to 18.6 TWh in 2018. OSPE estimates that about half of those exports were surplus clean electricity, enough to power about 1.2 million homes for one year.

The Impact of COVID-19

Ontario's current electricity system is built to support businesses operating between the hours of 9:00 a.m. and 5:00 p.m. and a large percentage of homes left idle for a minimum of eight hours a day. Electricity consumption patterns have drastically changed over the last six months, primarily as a result of shifts in the business climate and workplace. These changes have led to an inevitable increase in wasted electricity.

[1] https://www.oeb.ca/oeb/_Documents/Documents/Report_Defining_Typical_Elec_Customer_20160414.pdf

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"The restrictions COVID-19 has imposed on economic activity are already having an impact on Ontario's electricity consumption," said Perruzza. "OPG reported that in the first quarter of 2020, hydroelectric curtailment increased by 130 per cent. This will continue for the duration of the pandemic, ultimately resulting in a significant increase in the amount of curtailment in 2020." Despite high Ontario system demand peaks such as those on some hours of the day in July 2020, there remains many, many hours during the year with surplus generation that is either curtailed or exported at low prices which is a wasted economic and environmental opportunity.

Proposed Solutions

OSPE has become recognized as a trusted advisor by the Ontario government and is regularly looked to by politicians to provide input on policy, planning and budget decisions. Rather than continuing to waste viable clean electricity, OSPE recommends the province leverage its excess electricity to:

- Displace fossil fuel consumption for consumer's heating needs
- Charge Ontario's growing fleet of electric vehicles
- Create clean hydrogen for Ontario's industrial sector and hydrogen powered vehicles

Emily Thorn Corthay, P.Eng.,OSPE's Energy Task Force Chair, emphasizes that "OSPE's proposed retail electricity pricing would incent people to fill the troughs in electricity demand through low pricing with no additional system costs which would overall lower total energy costs for those consumers who choose to opt in".

"Professional Engineers are key to discovering, leading and implementing data-driven, practical solutions to support the integration of green technologies for a long-term, sustainable and resilient future," said Réjeanne Aimey, P.Eng., President and Chair of OSPE. "Re-allocating surplus electricity by way of price reform is the next step in Ontario's advancement, and engineers are equipped with the innovation and scientific skills to accomplish this."

For more information, please refer to the full 2019 Retail Electricity Price Reform report.

About the Ontario Society of Professional Engineers (OSPE)

OSPE is the advocacy body and voice of the Ontario engineering profession, representing more than 85,000 Professional Engineers and 293,600 engineering students and graduates in Ontario. OSPE's Energy Task Force has provided strategic engineering input to Ontario's Ministry of Energy, Northern Development and Mines and the previous Ministry of Energy for more than ten years, with many of OSPE's recommendations saving consumers hundreds of millions of dollars per year.

As a member-driven professional association, OSPE welcomes the entire engineering community to contribute knowledge, skills and leadership to help create a better future for the profession and society. For more information about OSPE, please visit www.ospe.on.ca.

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