

Ontario Power Disaster and What to Do About It

“To hell with your deal. To hell with our lives. Someone has to start telling the truth.”

Ulana Khomyuk, HBO Chernobyl 2019 Series

Grant Church
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Cayuga, Ontario
N0A 1E0
Standing Committee on Finance and Economic Affairs
Pre-Budget Hearings
January 10, 2022

Mr. Chairman, Members of the Committee, Ladies and Gentlemen,

“They would not listen; they did not know how. Perhaps they’ll listen now.” So sang Don McLean in his song Vincent.

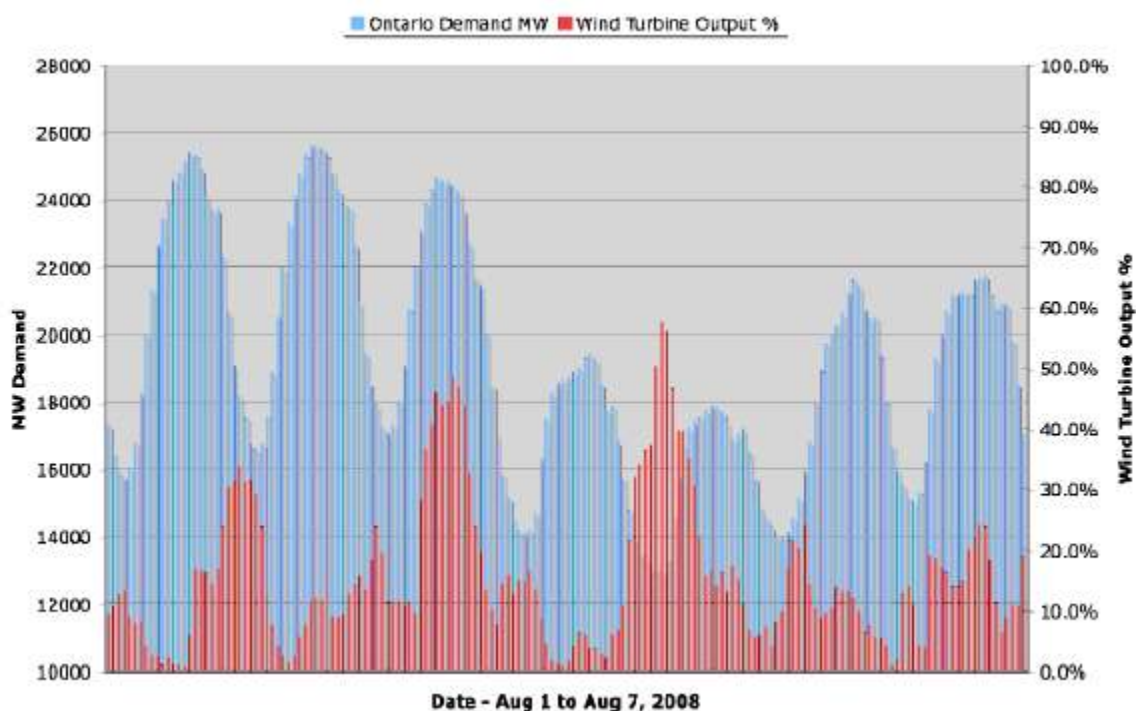
On January 24, 2009, three delegates from Wind Concerns Ontario met with then minister of energy George Smitherman. He said to them, “I will listen to you, but I’m not changing my mind.”

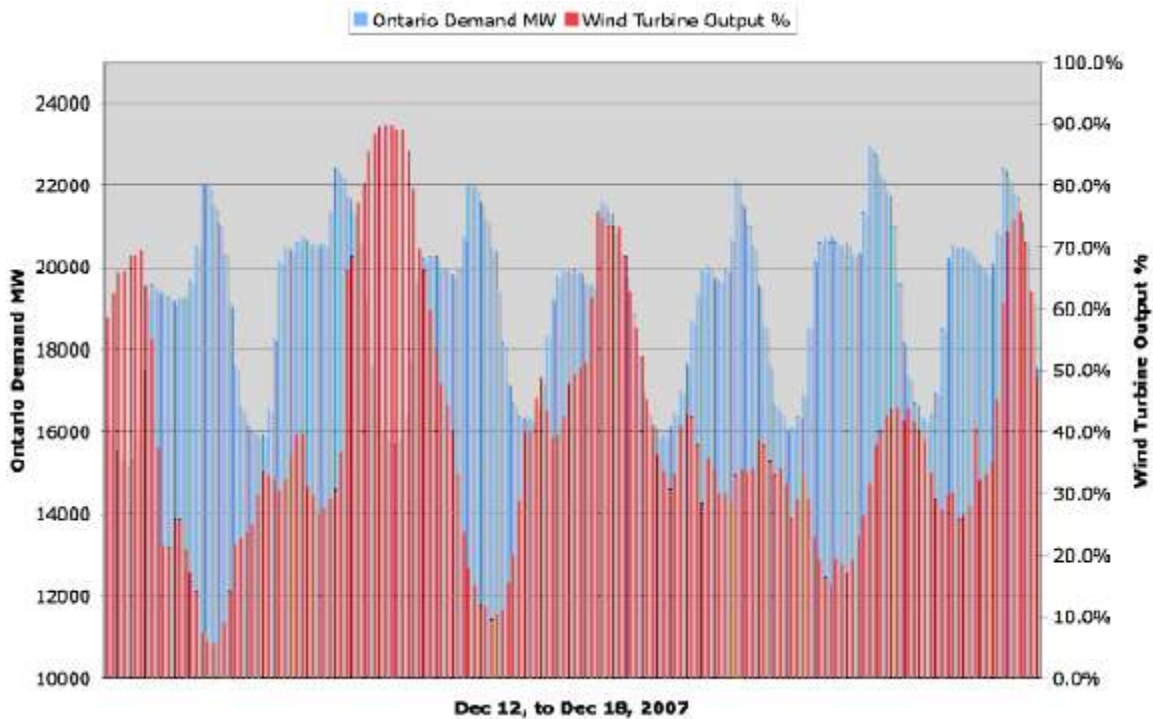
Premier McGuinty said in a London press conference, “Nimbyism will no longer prevail when it comes to putting up wind turbines.”

The Liberal Government later that year went on to pass the Green Energy and Economy Act, which suspended municipal planning rights when it came to green energy projects.

In the Smitherman meeting the delegates explained to the minister that wind power was largely out-of-sync with demand, often producing power when not needed and not producing when needed.

Ontario Demand and Wind Output





The government went on to contract for over 4,000 MW of wind power until they decided to stop in September 2016.

By August of 2016, the government was very much listening because of the outcry over skyrocketing power rates. I met with then minister of energy Glenn Thibeault in Sudbury on August 6. I told him, "We spill water at the hydro dams to make way for wind power to give to the Americans. If you would stop contracting out any more wind or solar projects, you could at least levelize the price of power." He said, "I want to get the price of power down." In September to everyone's surprise, he pulled the plug to anymore green energy contracts, saving the province \$2.3 billion.

Ontario Power Generation (OPG) did not use to spill water at their hydro dams, not until the mass deployment of wind turbines.

Water Spilled

Homes Equivalent

2012	None	
2013	1.7 TWh	188,888 Homes/Month/Entire Year
2014	3.2 TWh	355,555 Homes/Month/Entire Year
2015	3.2 TWh	355,555 Homes/Month/Entire Year
2016	4.7 TWh	522,222 Homes/Month/Entire Year
2017	5.2 TWh	577,777 Homes/Month/Entire Year
2018	3.2 TWh	355,555 Homes/Month/Entire Year
2019	3.3 TWh	366,666 Homes/Month/Entire Year
2020	4.3 TWh	477,777 Homes/Month/Entire Year

IESO Policy

“Reducing hydroelectric production, which often results in spilling of water, is the first measure used by the IESO (Independent Electricity System Operator) to manage SBG (Surplus Baseload Generation) conditions.” OPG 2016 Annual Report.

IESO allowed more wind power to run than hydroelectric power for 21 hours straight on December 1 to 2, 2021. In a 2016 long term energy plan meeting, ministry of energy officials told me this kind of thing was unacceptable.

We are paying around a billion dollars/year to have gas-fired plants sit idle, plants built to back up wind power.

The Global Adjustment (GA) is set monthly to reflect the difference between the wholesale market price for power, (known as Hourly Ontario Energy Price (HOEP)), and contracted prices for power, amongst other things. The Global Adjustment has surged as the capacity of wind power increased.

The Global Adjustment is not charged on exports, causing us to lose billions of dollars. When wind power surges and demand is low, the price often drops to 0.00 cents/kWh. Often all wind power is in the net export category.

Year	HOEP	GA
2008	5.17	.61
2009	3.16	3.06
2010	3.79	2.72
2011	3.15	4.02
2012	2.41	4.92
2013	2.65	5.92
2014	3.60	5.46
2015	2.36	7.78
2016	1.66	9.66
2017	1.58	9.97
2018	2.43	9.07
2019	1.83	10.8
2020	1.39	11.82

Net Exports	Homes Equivalent	Global Adjustment Loss
2008 10.9 TWh	1,211,111 Homes/Month/Entire Year	\$66,490,000
2009 10.3 TWh	1,114,444 Homes/Month/Entire Year	\$315,180,000
2010 8.8 TWh	977,777 Homes/Month/Entire Year	\$239,360,000
2011 9.0 TWh	1,000,000 Homes/Month/Entire Year	\$361,800,000
2012 9.9 TWh	1,100,000 Homes/Month/Entire Year	\$487,080,000
2013 13.4 TWh	1,488,888 Homes/Month/Entire Year	\$793,280,000
2014 14.2 TWh	1,577,777 Homes/Month/Entire Year	\$775,320,000
2015 16.8 TWh	1,866,666 Homes/Month/Entire Year	\$1,307,040,000
2016 13.9 TWh	1,544,444 Homes/Month/Entire Year	\$1,342,740,000
2017 12.5 TWh	1,388,888 Homes/Month/Entire Year	\$1,246,250,000
2018 10.2 TWh	1,133,333 Homes/Month/Entire Year	\$925,140,000
2019 13.2 TWh	1,466,666 Homes/Month/Entire Year	\$1,425,600,000
2020 15.2 TWh	1,688,888 Homes/Month/Entire Year	\$1,796,640,000

Wind power has first right to the grid. This forces the hand of the IESO to deal with it. They either have to accept it or pay it not to produce. Now we are in a position where both wind power is being curtailed and water spilled at the hydro dams at the same time.

In 2019, 2.3 TWh of wind power was paid 12 cents/kWh to sit idle, costing us \$276,000,000. We pay 13.5 cents/kWh if we take it. It was enough to supply 255,555 Homes/Month for an entire year. In June 2019, 45% of forecast wind power was paid to sit idle.

In hour 16 of January 6, 2020, we purchased, curtailed, and then exported the wind power we bought when the price was zero. Including the uncharged Global Adjustment we lost \$791,333. The wind power created the low price and the necessity to export.

On the 2019 Thanksgiving Day Weekend, with huge wind power production we lost over \$51,000,000 buying, curtailing, and dumping surplus wind power on the export market, power that could have supplied 240,000 homes for a month.

Why are we importing power while paying generators to sit idle?

The green energy plan has led to giving us amongst the highest rates in North America. It has led to the injury and loss of industries and energy poverty. It is being artificially covered up by borrowing billions to subsidize the price of power. For years we paid the debt retirement charge to reduce the hydro debt, and it worked. Now we are reversing those gains to leave for the next generation to pay.

We need fast action to prevent further losses.

The government has taken some good steps by cancelling many contracts, but more is needed. Quebec and Manitoba make billions exporting power. We can do it, too.

Recommendations

- 1) Wind Power is expensive, intermittent, and out-of-sync with demand. Don't contract anymore of it and demolish them at the end of their contracts.
- 2) Charge the Global Adjustment on export orders.
- 3) Replace the Industrial Conservation Initiative (ICI) with a no strings attached industrial power rate competitive with US rates. The ICI hamstring industry and some can't make it work, as it requires them to cut power consumption on the five peak days of the year.
- 4) Stop importing power when we have generating capacity available.
- 5) Give small businesses the option of having a flat power rate, as they have no way of shifting their load to off peak hours.
- 6) Don't go for any mass battery storage units for wind power or any other kind of power.
- 7) Maximize hydroelectric production and pay wind power to sit idle when there is a surplus of power.

Addendum

IESO can double hydroelectric production if they want, as you can see in these two documents.

IESO Runs More Wind Than Hydro_January 5, 2022

IESO Runs More Hydro Than Wind_January 6, 2022

Price of Power at zero and wind exceeding hydro.

IESO Snapshot_4.00 pm, Friday, March 12, 2021

In 1940 Ontario Hydro charged less with the more you used.

Hydro Add_Globe and Mail_May 13, 1940

Water flow in the Niagara River has been above average for two years, providing the water needed to maximize hydro production.

Weekly Water Update_April 1, 2020

Weekly Water Updates_January 5, 2022

Connecting Today. Powering Tomorrow.

The Independent Electricity System Operator (IESO) works at the heart of Ontario's power system. The IESO delivers key services across the electricity sector including: managing the power system in real-time, planning for the province's future energy needs, enabling conservation and designing a more efficient electricity marketplace to support sector evolution.

Ontario's power system is operating reliably through the COVID-19 pandemic. Please check this site for updates.

Wednesday, January 05, 2022

Demand

Hourly Ontario Demand
at 4:00 a.m. EST

13,752 MW

Projected Demand
at 5:00 a.m. EST

14,070 MW

Today's Projected Peak
at 6:00 p.m. EST

19,346 MW

See Ontario's changing demand conditions on the power data graphs.

Follow the IESO's [Peak Tracker](#) to monitor forecasted Ontario demand for the next 24 hours.

Supply

Hourly Output by Fuel Type (Transmission-Connected)
at 3:00 a.m. EST

Nuclear	10,020 MW
Wind	2,922 MW
Hydro	2,643 MW
Solar	0 MW
Gas	126 MW
Biofuel	17 MW
Hourly Imports	130 MW
Hourly Exports	1,681 MW

Generator Availability at Peak
at 6:00 p.m. EST

29,935 MW

Price

Hourly Ontario Price
at 4:00 a.m. EST

0.00 ¢/kWh

Average Weighted Price (January) month-to-date	2.84 ¢/kWh
Global Adjustment 1st Estimate (January)	4.83 ¢/kWh

Stay Connected

IESO



Ontario's IESO

@IESO_Tweets

Happy holidays from the IESO ❄️



Ontario's IESO

@IESO_Tweets

Giving the gift of energy-efficiency tech helps friends and family reduce their electricity costs and supports the reliability of the electricity grid. Check out the [@SaveonEnergyOnt](#) holiday gift giving guide for energy-efficient gift ideas! 💡 ow.ly/mQeA50HetHa

Save on Energy



Save on Energy

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Replying to @SaveonEnergyOnt

The answer is "all of the above!" From increasing the comfort of your home to making your life more convenient, smart thermostats can do a lot. Learn more about the benefits of smart thermostats. [saveonenergy.ca/For-Your-Home/...](https://saveonenergy.ca/For-Your-Home/)



Save on Energy

@SaveonEnergyOnt

Here's another question from our [#WorldTriviaDay](#) quiz: 🏆 Smart thermostats are a great way to help you save energy at home. What are some cool features?

[More from IESO](#) >

[More from Save on Energy](#) >



2021 APO

The IESO's [Annual Planning Outlook \(APO\)](#) assesses Ontario's electricity system over the long term, examining future needs and the factors that influence them. This year's 20-year forecast discusses how evolving sources of demand and the changing supply mix affect plans for future reliability.

[Learn more about the key findings](#)

[Read the report](#)

**Warmest season's
greetings to you
and yours**



Happy Holidays

Warmest season's greetings to your and yours. Working together to build a brighter future for all Ontarians.



Stakeholder Engagement Meetings

The [agenda](#) for the December 15-16 stakeholder engagement meetings is now available, and [registration](#) is open.

Meeting materials and recorded presentations for the [November stakeholder engagement meetings](#) are also posted.

News and Updates:

[A Roadmap to Integrate Distributed Energy Resources](#)

December 23, 2021

[Q4 Reliability Outlook Now Available](#)

December 23, 2021

[More News](#) >

Upcoming Events:

[Technical Panel meeting](#)

January 18, 2022

[Stakeholder Engagement Meetings:](#)

[January 25-27](#)

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Thursday, January 06, 2022

Demand

Hourly Ontario Demand
at 6:00 p.m. EST

20,257 MW

Projected Demand
at 7:00 p.m. EST

19,769 MW

Today's Projected Peak
at 6:00 p.m. EST

20,140 MW

See Ontario's changing demand conditions on the power data graphs.

Follow the IESO's [Peak Tracker](#) to monitor forecasted Ontario demand for the next 24 hours.

Supply

Hourly Output by Fuel Type (Transmission-Connected)
at 5:00 p.m. EST

Nuclear	9,968 MW
Wind	1,141 MW
Hydro	5,962 MW
Solar	5 MW
Gas	3,687 MW
Biofuel	80 MW
Hourly Imports	1,093 MW
Hourly Exports	2,708 MW

Generator Availability at Peak
at 6:00 p.m. EST

26,792 MW

Price

Hourly Ontario Price
at 6:00 p.m. EST

5.44 ¢/kWh

Average Weighted Price (January) month-to-date	2.76 ¢/kWh
Global Adjustment 1st Estimate (January)	4.83 ¢/kWh

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Save on Energy



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Use smart power bars to help optimize your energy use and make your home more energy efficient.

🔌 [saveonenergy.ca/For-Your-Home/...](https://saveonenergy.ca/For-Your-Home/)



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[Learn more about the key findings](#)

[Read the report](#)



Consumers Trends

Ontario electricity users are starting to see the benefits of investing in technologies that can help manage their consumption – and their costs. New research shows that already a third of all Ontario electricity consumers are using some form of technology that enables them to control their energy use in ways that can save money and help meet system needs. Learn more about the [research findings](#).



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GO ELECTRICAL

...For *Thrifter Living!



Electrical cooking is thrifty! Just 1½¢ per person is the low cost of cooking a big meal with the modern Electric Range.



It's nice to have hot water "on tap"—all you want, without waiting. And Electric Hot Water service is economical.



Imagine!—it costs only 1¢ to operate the average Electric Refrigerator for 12 hours. Electricity is cheap to use.



You can banish dirt and dust in big time with an Electric Cleaner. 1¢ pays the cost of a whole day's cleaning!



The modern Electric Washer is fast, work-saving and gentle on clothes. And 2¢ does a whole week's washing!



You sit down and take your ease with the Electric Ironer. And all it costs is 1¢ an hour for electric current.



Better light means better sight . . . and it beautifies your home. Just a few cents a week pays for electric lighting.



For quick breakfasts, tasty supper snacks, electric table appliances are just the thing . . . and thrifty to operate!

HYDRO POWER IS YOUR BIGGEST BARGAIN

YES, electric service for the home is the biggest bargain that ever figured in a family budget! Because the cost of Hydro service has come down, down, down. Today, the average cost per unit in Ontario is only 1¼ cents as compared with an average in 1914 of 5 cents.

Think what that means! It means that nearly every Ontario family can afford to use the modern Electric Servants they've always wanted. It means that for just a few cents a day you can enjoy delicious meals cooked electrically—plenty of hot water "on tap"—a modern electric laundry—and so many up-to-date, work-saving electrical appliances. Make yours a modern electric home—for better and thrifter living!

HD-46

THE MORE HYDRO POWER YOU USE... THE LOWER YOUR UNIT COST

Kilowatt Hours Used (Monthly)	50	100	150	200	300
Your Monthly Hydro Bill*	\$1.08	\$1.58	\$1.94	\$2.30	\$3.02
Rate You Pay, in Cents, Per Kilowatt-Hour	2.02c	1.58c	1.29c	1.15c	1c

HOW YOU GET MORE POWER FOR YOUR MONEY: Thanks to Hydro low "step-down" rates, you can increase your use of electricity twice, three times, five times—and more—without increasing your Hydro bill in anything like the same proportion. As shown above, you can actually use five or six times the minimum amount of power for little more than twice the cost!

*Based on domestic rate in use in many Hydro Systems.

Hydro

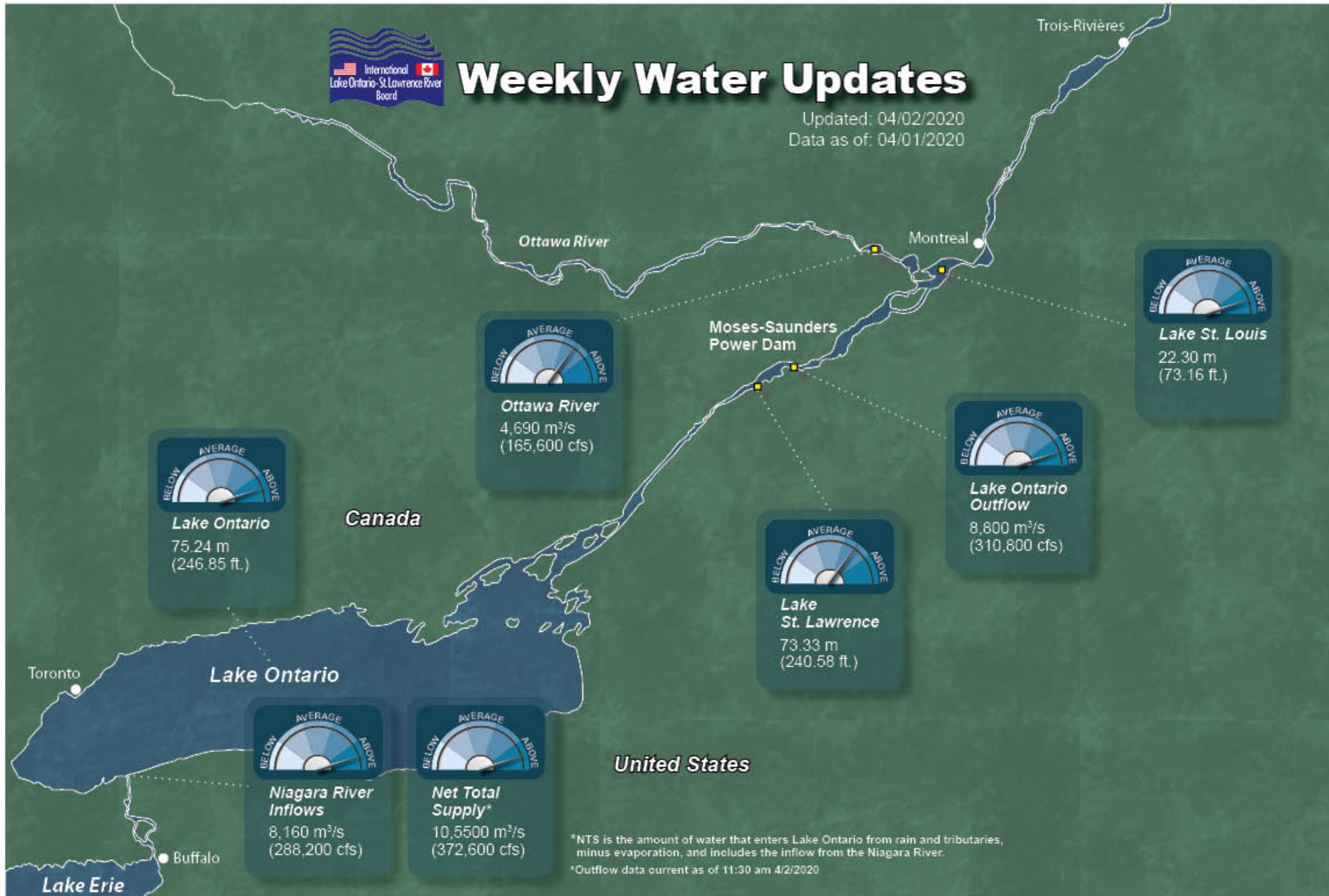
BRINGS YOU
BETTER LIVING... at lower living cost!

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO



Weekly Water Updates

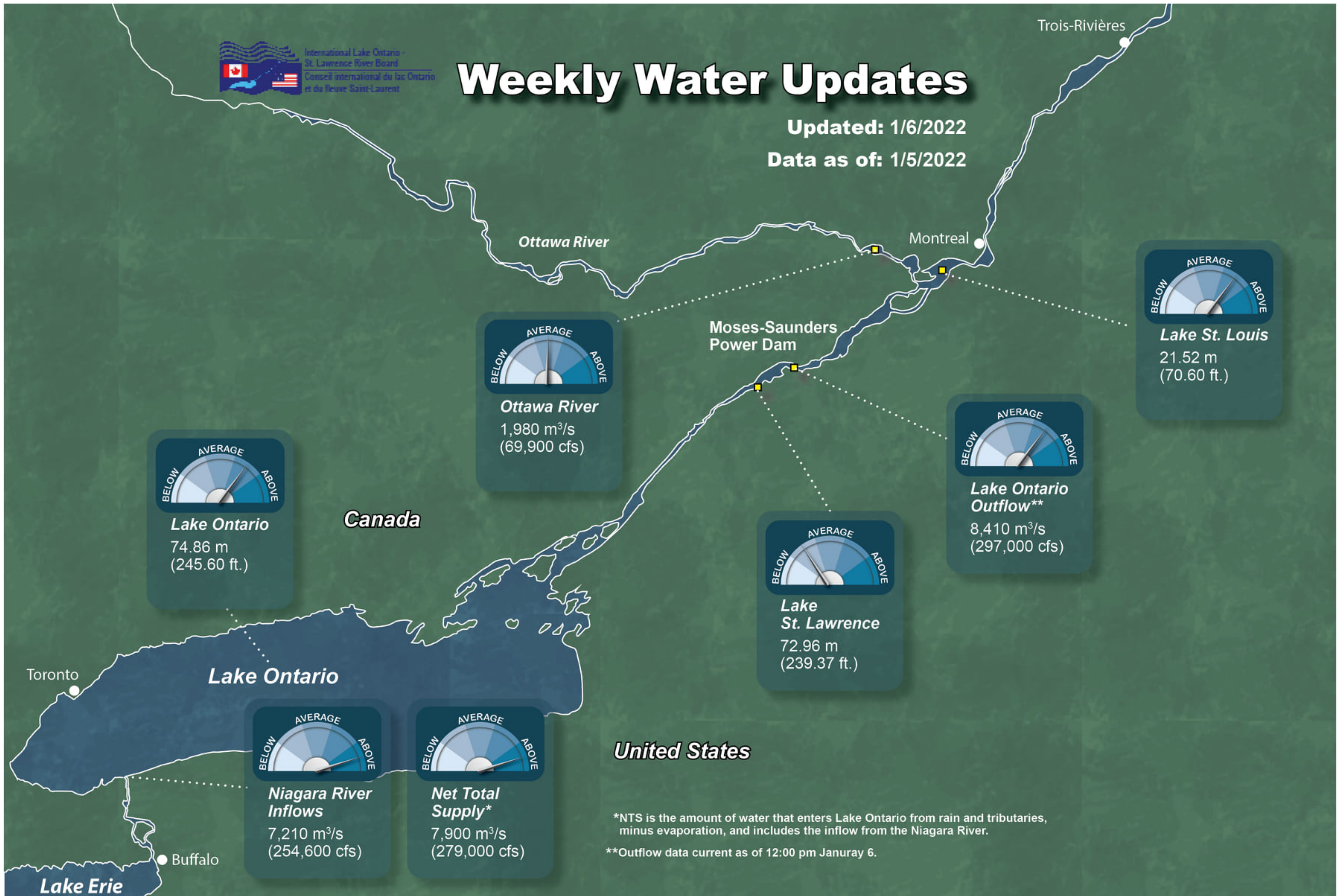
Updated: 04/02/2020
Data as of: 04/01/2020



Weekly Water Updates

Updated: 1/6/2022

Data as of: 1/5/2022



United States

*NTS is the amount of water that enters Lake Ontario from rain and tributaries, minus evaporation, and includes the inflow from the Niagara River.

**Outflow data current as of 12:00 pm January 6.

Demand

Hourly Ontario Demand
at 4:00 p.m. EST

14,513 MW

Projected Demand
at 5:00 p.m. EST

15,812 MW

Today's Projected Peak
at 8:00 p.m. EST

16,834 MW

See Ontario's changing demand conditions on the power data graphs.



Follow the IESO's [Peak Tracker](#) to monitor forecasted Ontario demand for the next 24 hours.

Supply

Hourly Output by Fuel Type (Transmission-Connected)
at 4:00 p.m. EST

Nuclear **8,375 MW**

Hydro **3,598 MW**

Gas **207 MW**

Wind **3,779 MW**

Solar **174 MW**

Biofuel **31 MW**

Hourly Imports

448 MW

Hourly Exports

2,101 MW

Generator Availability at
Peak
at 8:00 p.m. EST

26,863 MW



Price

Hourly Ontario Price
at 4:00 p.m. EST

0.00 ¢/kWh

Average Weighted Price (March)
month-to-date

1.57 ¢/kWh

Global Adjustment 1st Estimate (March)

7.94 ¢/kWh

