Ontario’s Electricity Options: A Cost Comparison

- Energy Efficiency: 1.6¢
- Quebec Water Power: Average Export Price 2021: 5.3¢
- Onshore Wind Power: Mid-point cost estimate: 6.75¢
- Solar Power: Mid-point cost estimate: 8.1¢
- Price of Nuclear Power in 2024: 10.5¢
- Price of Nuclear Power in 2027: 13.7¢
- Offshore Wind: Mid-point cost estimate: 14.3¢
- New Gas-fired Peaker Plant: Mid-point cost estimate: 22.7¢
- New Nuclear Reactor: Mid-point cost estimate: 24.4¢
Notes

Energy efficiency: In 2022 the Independent Electricity System Operator’s (IESO) average levelized unit energy cost (LUEC) of procuring a kWh of electricity savings was 1.6 cents. Email to Ontario Clean Air Alliance from Customer Relations, IESO, (December 7, 2023).


Onshore Wind: According to Lazard, the cost of onshore wind is 2.4 to 7.5 cents per kWh (US $). We have converted these costs to Canadian dollars by multiplying them by 1.35. Lazard, *Lazard’s Levelized Cost of Energy Analysis – Version 16.0*, (April 2023) page 2. In March 2023 Hydro Quebec accepted seven bids for wind power at an average price of 6.1 cents per kWh (2022 CDN $). Hydro Quebec, Press Release, “Hydro-Quebec accepts seven projects totalling nearly 1,150 MW of wind power,” (March 15, 2023).

Utility Scale Solar: According to Lazard, the cost of utility-scale solar PV is 2.4 to 9.6 cents per kWh (US $). We have converted these costs to Canadian dollars by multiplying them by 1.35. Lazard, *Lazard’s Levelized Cost of Energy Analysis – Version 16.0*, (April 2023) page 2.


Fuel & Carbon Tax Cost of Gas-Fired Power in 2030: The IESO’s 2022 Annual Planning Outlook is forecasting that the cost of gas at Dawn, Ontario will be $3.76 per mmbtu (2022 CDN $). This entails that the fuel cost of a combined-cycle gas power plant will be approximately 2.6 cents per kWh. In 2030 the federal carbon tax will be $170 per tonne. If 100% of the gas plants’ carbon pollution is subject to the carbon tax, their carbon tax will be 6.6 cents per kWh. https://www.ieso.ca/Sector-Participants/Planning-and-Forecasting/Annual-Planning-Outlook

Offshore Wind: According to Lazard, the cost of offshore wind is 7.2 to 14.0 cents per kWh (US $). We have converted these costs to Canadian dollars by multiplying them by 1.35. Lazard, *Lazard’s Levelized Cost of Energy Analysis – Version 16.0*, (April 2023) page 2.


Gas-Fired Peaker Plant: According to Lazard, the cost of a new gas-fired peaker plant is 11.5 to 22.1 cents per kWh (US $). We have converted these costs to Canadian dollars by multiplying them by 1.35. Lazard, *Lazard’s Levelized Cost of Energy Analysis – Version 16.0*, (April 2023) page 2.

New Nuclear Reactor: According to Lazard, the cost of a new nuclear reactor is 14.1 to 22.1 cents per kWh (US $). We have converted these costs to Canadian dollars by multiplying them by 1.35. Lazard, *Lazard’s Levelized Cost of Energy Analysis – Version 16.0*, (April 2023) page 2.

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