

Quebec:

Clean Electricity Snapshot 2022-2024



Low-cost, clean hydropower generation is a superpower for Quebec's publicly owned-and operated grid and has helped Quebecers provide cheap electricity to its residents and attract major investments from around the world. Provincial and private investment in next generation clean hydrogen is creating new opportunities, and Quebec's array of new windfarms are spinning out power across the province.

Powering Canada's Future is the Government of Canada's strategy for clean electricity. It combines historic investments and balanced, fair regulations to lay out the path forward to build grids that will provide power that is reliable, affordable and clean and serve as the backbone of our economy.

Federal Investments

In October 2023, the Government of Canada announced an investment of \$2.5 million for Lac-Mégantic through the Smart Renewables and Electrification Pathways Program (SREPs).

In September 2023, the Government of Canada announced an investment of \$1.34 billion towards a new electric vehicle battery manufacturing facility to be built by [NorthVolt Batteries North America](#) in Quebec. The first phase of the project, valued at \$7 billion in total investment, is expected to create 3,000 jobs.

In August 2023, the [Government of Canada announced an investment of \\$644 million](#) for the construction of a new battery materials production in Bécancour. Valued at more than \$1.2 billion, this project will create more than 345 jobs.

In March 2023, the Government of Canada announced that it is committing [\\$277 million into the Varennes Carbon Recycling facility](#), which will convert 200,000 tonnes of waste into biofuels annually.

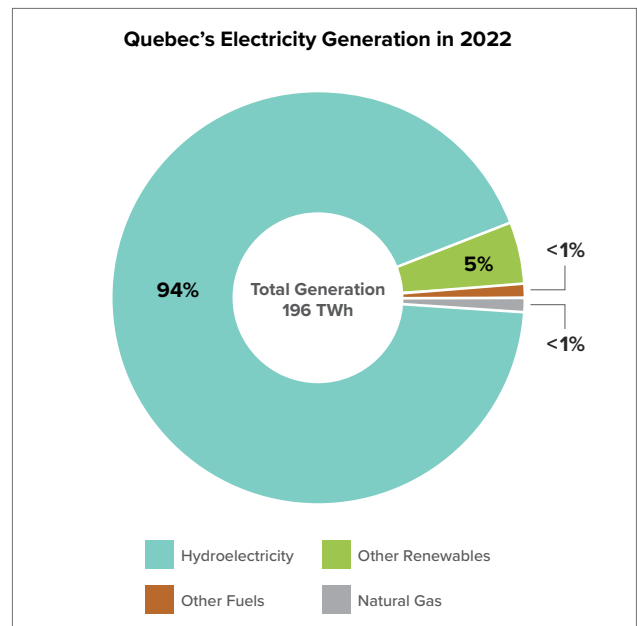
Emissions and Electricity Generation

According to the [National Inventory Report](#), in 2022, nearly 100% of Quebec's electricity was generated from renewable resources including hydro, wind and solar, while less than 1% was generated by natural gas and other fuels, such as diesel.

Hydro Power

Quebec has an extensive hydro power infrastructure which accounts for over 99% of [Hydro-Québec's output](#) and has made Quebec a clean energy superpower. Hydro-Québec plans to increase its hydropower capacity by 4 gigawatts (GW) by 2035, through upgrade of existing plants and a new large project.

The [Robert-Bourassa generating station](#) is North America's largest hydroelectric power plant, with a capacity of 5,616 megawatts (MW) of electricity.



In October 2023, Hydro-Québec officially inaugurated the [La Romaine hydropower complex](#), an investment of \$7.4 billion. With four plants, the complex has a capacity of 1,550 MW and can generate up to 8 terawatt hours (TWh) per year.

Solar Power

In 2021, [Hydro-Québec](#) installed two solar generating stations, Gabrielle-Bodis generating station in La Prairie and Robert-A-Boyd in Varennes. The stations have a combined installed capacity of 9.5 MW and will generate around 16 gigawatt hours (GWh) of solar power annually.

Wind Power

On March 2023, [Hydro-Québec announced](#) 1,303 MW of new wind capacity, to be delivered by December 1, 2026. On January 2024, Hydro-Québec announced an additional 1,555 MW of new wind capacity, to be delivered between December 1, 2027, and December 1, 2029.

[Hydro-Québec](#) announced in May 2024 that it will pursue the development of large wind farms, 1,000 MW and beyond, in collaboration with local communities. Its goal is to increase wind installed capacity by 10,000 MW by 2035. Since this announcement, three large-scale projects have been identified in remote areas near large hydro reservoirs, including the Saguenay windfarm project, which consists of 2,500 MW installed capacity.

Hydrogen

The [Government of Quebec](#) projects that clean hydrogen and bioenergy production projects could amount to \$10 billion of investments in the province's economy.

The [Hy2gen's](#) site in Montreal is expected to produce 237,000 megatonnes of green hydrogen annually by 2026, providing new economic opportunities in the hydrogen sector.

Economic Opportunities

In addition to cleaner air and lower greenhouse gas emissions, a clean electricity grid can stimulate investment in innovation, provide economic opportunities, and create good jobs.

New Jobs

In November 2023, Hydro-Québec published its 2035 Action plan, planning to invest between \$155 and \$185 billion, and create around 35,000 jobs (FTE-equivalent) per year over the period 2024-2035.

Electrification and the transition to cleaner forms of electricity generation is expected to create good jobs across Canada. For instance, independent experts from [Clean Energy Canada](#) forecast that there will be 366,600 clean energy jobs added in the Quebec region between 2025 and 2050.

In 2025, a battery plant by General Motors will begin to be constructed in Quebec and is expected to employ 200 people in its first phase.

A [new biofuels facility project](#) in Varennes, Quebec, is expected to create over 500 construction jobs and 100 permanent jobs, once operational.

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