

Overview of Hydro-Québec's Energy Resources

Highlights of the
Electricity Supply Plan 2027-2041

November 2026

Hydro Québec

Background

In a world marked by geopolitical tensions, accelerating technological change and competition for strategic resources, it is more essential than ever for Québec to be able to count on a reliable electricity supply from renewable sources to ensure its prosperity.

Electricity is not just an essential service; it is a valuable strategic asset and a driver of development. However, in Québec as elsewhere, growing demand is putting significant pressure on the balance between supply and demand.

Supply planning must aim for optimal use of available energy, particularly through energy efficiency, as well as increasing generation and accelerating the implementation of projects.



An exceptional legacy

The visionary choices of previous generations have given Québec an enviable energy advantage.

In a world where electricity is a strategic asset, this advantage must now be renewed.



Acting now

Hydro-Québec is taking action and accelerating the roll-out of solutions to encourage customers to make better use of energy, generate more power through a diversified energy mix and modernize the energy system.



A shared ambition

Québec's energy security must be a society-wide project.

This is an opportunity to set ourselves apart and build Québec's energy future together.

The *Electricity Supply Plan 2027–2041* outlines the evolution of Québec's energy and capacity needs over a 15-year period. Developed in accordance with the guidelines of the *Integrated Energy Resource Management Plan*, it enables Hydro-Québec to determine whether current supplies are sufficient to meet its customers' needs and, if not, to identify the measures needed to meet those needs reliably and safely.

It specifies the strategy to be implemented to maximize the use of existing and planned resources and to meet the need for additional supply.

This Plan clearly lays out the needs and the strategy proposed to ensure a balance between supply and demand over the 2027–2041 period.

Québec electricity demand forecast

Growth of electricity demand in Québec by 2041

≈60 TWh[1]

Total of 240 TWh in 2041
(energy)

≈12,000 MW[2]

Total of 52,000 MW in 2041
(capacity)

Transportation electrification[3]



+22 TWh
+ 6,600 MW

Industrial sector[4]



+31 TWh
+ 4,700 MW

Buildings[5]



+5 TWh
+ 1,000 MW

1. TWh: terawatthour, or one billion kilowatthours.
2. MW: megawatt, or one thousand kilowatts.
3. Light-duty vehicles, trucks, buses, public transportation, heavy transport.
4. Decarbonization of industrial processes, industrial growth, data centres, greenhouses, the battery industry.
5. Residential, commercial and institutional sectors, decarbonization of buildings.

Electricity demand will continue to grow at a steady pace through 2041. Part of this growth stems from existing commitments, to which new needs will be added in the coming years. The forecast also incorporates the expected effects of energy efficiency efforts as well as those of photovoltaic solar power. Without these efforts, requirements would be even higher. The effects of these measures are presented in greater detail on page 7 of this document.

Balancing supply and demand

Hydro-Québec must ensure that it has sufficient generation (supply) to meet the electricity needs of Québec customers (demand) at all times. It must also maintain a margin of flexibility to deal with unforeseen events, such as extreme winter temperatures, stronger-than-expected economic growth or prolonged low runoff, such as that observed since 2023.

The *Electricity Supply Plan* presents the balance between the projected supply and demand in Québec for two measures of electricity: **power** and **energy**.



What is power?

Power is the rate at which electricity is generated (capacity) or consumed (demand) at a given point in time. It is measured in watts (W) or megawatts (MW) in this document. Peak demand is the highest amount of power required by customers at a given time.

Example: Québec customers' peak demand reached nearly 43,000 MW on February 3, 2023.

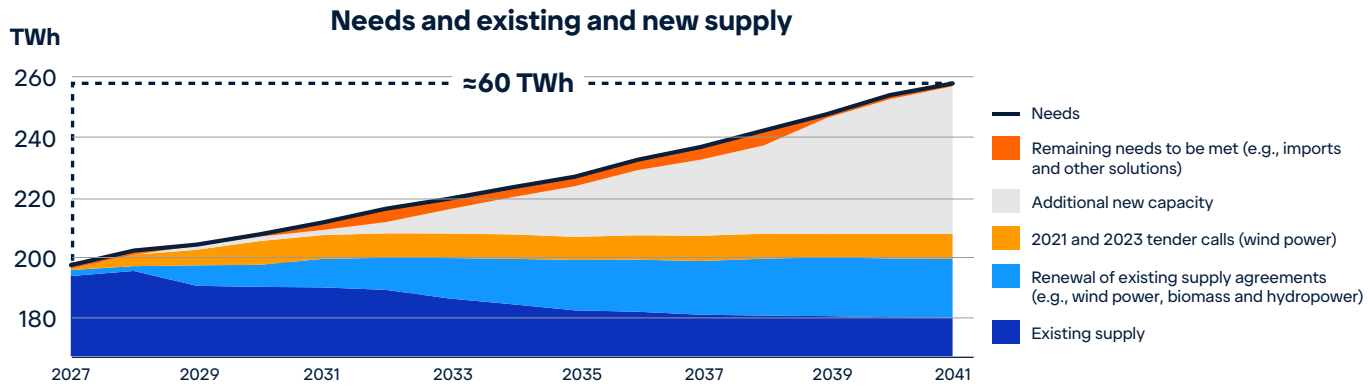


What is energy?

Energy is power multiplied by the time, measured in watthours (Wh or TWh in this document). Therefore, consuming 1 W for 3 hours equals 3 Wh.

Energy balance

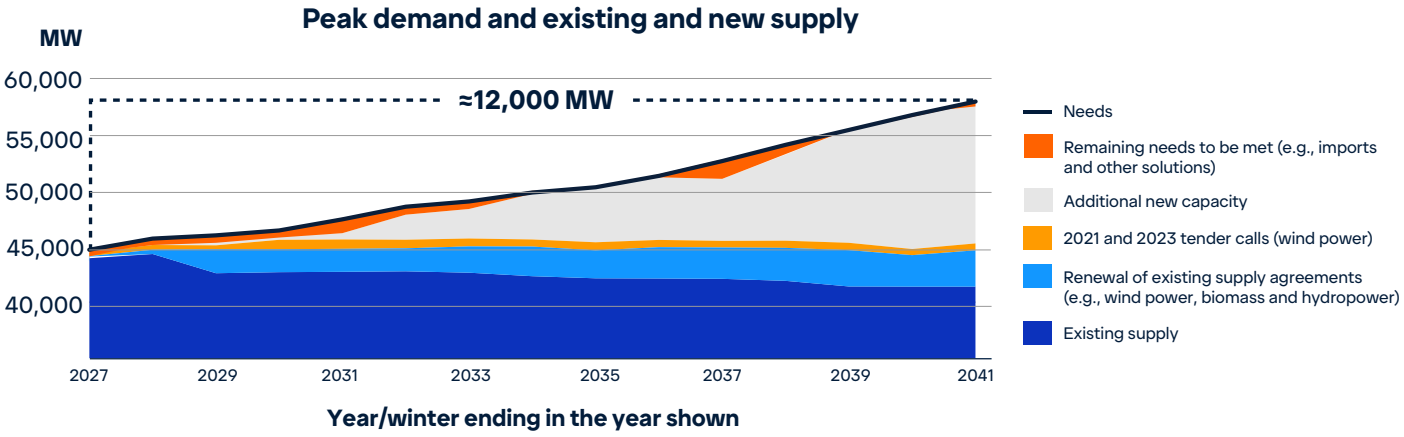
The energy balance compares the resources available to Hydro-Québec to meet Québec's annual energy needs. It shows that the projected growth in demand—approximately 60 TWh—along with the end of certain existing supply agreements, is creating a gap between needs and available resources.



Note: Energy needs correspond to customer demand (240 TWh) plus transmission and distribution losses.

Capacity balance

The capacity balance compares electricity generation capacity with projected needs[1] at the annual peak—the hour when electricity consumption is the highest in Québec. Needs are projected to increase by 12,000 MW by 2041.



The gaps between supply and demand for energy and capacity will need to be bridged by new sources of supply starting in 2029, and new infrastructure will be needed in the coming years.

1. Projected needs for 2041 are estimated at 52,000 MW, to which is added a planning reserve that will provide the necessary margin to meet all needs when required.

Making better use of energy

Energy efficiency and peak demand management are two strategic priorities for Hydro-Québec:

- Energy efficiency directly reduces demand.
- Peak load management, or demand response, makes it possible to reduce or shift consumption to specific times in order to reduce demand during the hours in the winter period when consumption is at its highest for the year.

An ambitious goal

Hydro-Québec is aiming for an energy savings target of **21 TWh**, which it intends to achieve through energy efficiency measures and a reduction in power demand of **3,500 MW** by 2035. To achieve this, it is building on its *Energy Efficiency Pathway*, which calls for investments of $10 billion over the same period. Achieving these objectives represents a major societal endeavour that will require strong customer buy-in as well as the involvement of market partners and public authorities. To date, 20% of the 21 TWh target has been met.

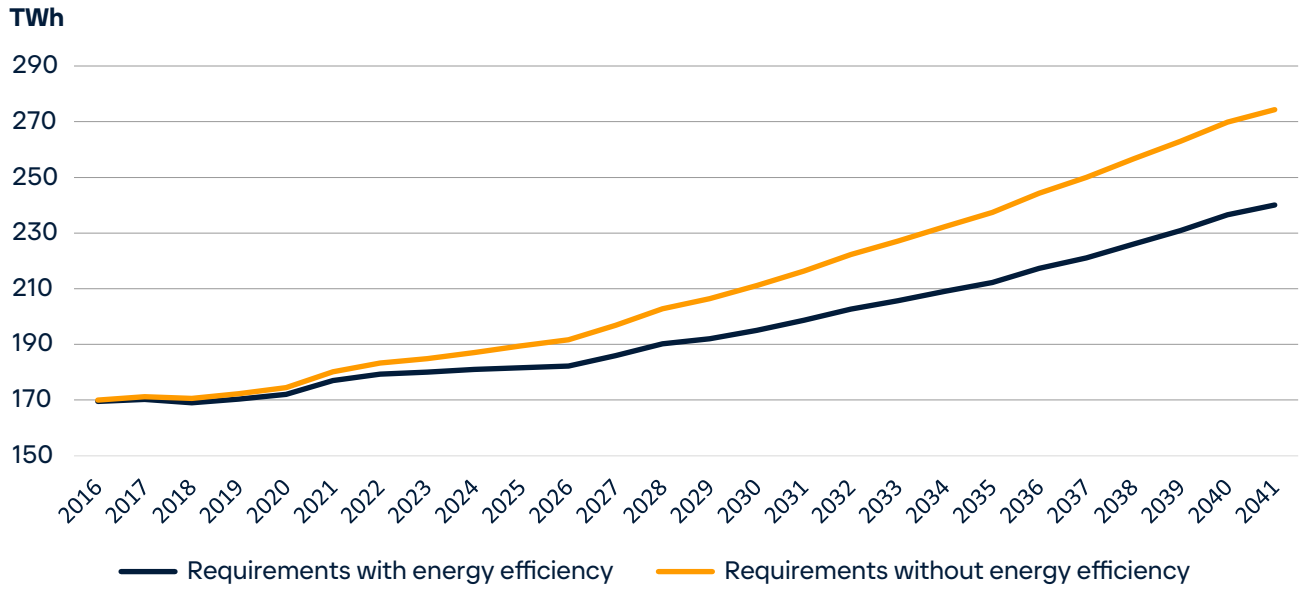
A collective mobilization

We must continue to develop and promote programs and tools designed to accelerate the adoption of energy-efficiency and demand-response solutions.

- Approximately 4% of Québec's population received a grant to purchase a heat pump in 2025. This is double the figure from 2024.
- In 2025, a financial assistance program was launched for the purchase and installation of solar panels, offering $1,000 per kW installed, up to a maximum of 40% of eligible costs. The objective is to reduce the payback period of the investment from 25 or 30 years to about 10 or 12 years.

The projected growth in energy requirements through 2041 takes into account the effects of energy efficiency and self-generation, which help reduce the demand that Hydro-Québec must meet. Without these factors, demand would be much higher, as illustrated in the graph below.

Increase in energy requirements for Québec customers through 2041 and the impact of energy efficiency



Note: This customer demand does not include transmission or distribution losses.

To strengthen the resilience of Hydro-Québec's energy system, energy efficiency and demand response are essential strategies. However, these measures alone cannot meet the growing needs of Québec's customers. Additional strategies must be implemented now to ensure an adequate supply when Québec needs it.

Meeting the needs of Québec customers

Hydro-Québec is taking action to meet Québec's growing needs. In response to this growth, it is accelerating the roll-out of solutions to encourage customers to consume more efficiently, to generate more with a diversified energy mix and to modernize the energy system.

This response is structured around three main priorities:

Preserving what exists

Power purchase agreements that are set to expire will need to be extended or renewed, whether they involve biomass cogeneration contracts, small hydroelectric generating stations or wind power.

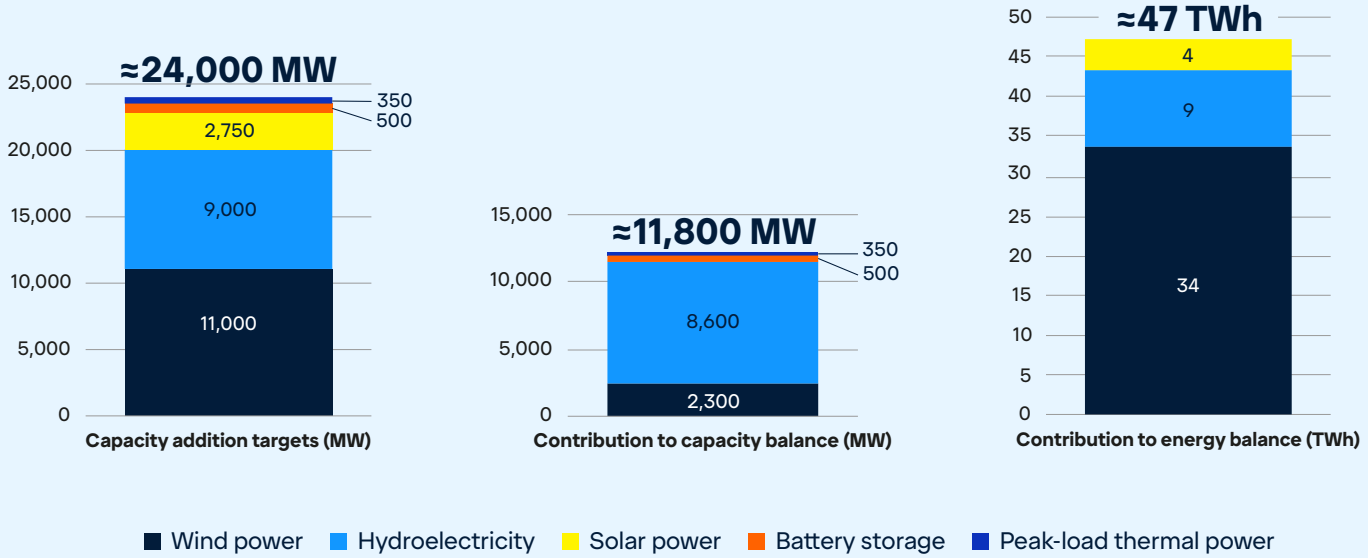
The first wind power contracts, signed in the early 2000s, will expire in the coming years. Since the majority of wind farms are still in very good condition, the goal will be to maximize the service life of existing equipment from a sustainability perspective, and then to evaluate the possibilities for retrofitting.

The renewal of these agreements and the potential retrofitting of wind farms are therefore key strategies to consider to meet future energy needs while optimizing costs and limiting the deployment of new infrastructure.

Adding new capacity

Although hydroelectricity remains the cornerstone of Québec's energy system, diversified and complementary energy sources are needed. Given the variable nature of some of these sources, we must plan for greater generation capacity in order to meet all needs when they arise—during periods of peak demand, for example.

Horizon 2041



Ensure the balance between energy supply and demand



- **Wind power**
  Develop new wind power capacity, in particular by commissioning wind farms selected through competitive tender calls as well as large-scale projects led by Hydro-Québec. See details in the *Wind Power Development Strategy*.

Ensure the reliability of the energy system



- **Large hydropower**
  Increase the capacity of certain hydroelectric generating stations so they can supply more electricity during periods of high demand or develop a pumped storage station. It should also be noted that the Definitive Cooperation and Implementation Agreement between Hydro-Québec and Newfoundland and Labrador Hydro will strengthen Hydro-Québec's energy portfolio for the next 50 years and provide Québec with access to a significant amount of reliable and affordable energy.

Round out the energy mix



- **Solar power**
  Promote the development of solar farms and encourage residential and commercial customers to install solar panels through grants and by raising the maximum self-generation capacity to 1 MW.



- **Battery storage**
  Plan to add approximately 500 MW of battery storage capacity by 2035.



- **Peak-load thermal power**
  Upgrade the TCE plant at Bécancour to make it a peaker plant, ensuring sufficient power is available during peak periods.

Maintaining the necessary flexibility

In a context where costs, technologies and project implementation conditions are changing rapidly, Hydro-Québec will adjust its trajectory as needed.

Electricity is at the heart of Québec's strategic advantage

After being able to rely on electricity surpluses for a long time, Québec must now cope with rapidly growing demand that is straining its energy balance.

In a world where electricity has become a strategic asset, preserving and renewing Québec's energy advantage is a true society-wide project essential to sustainably supporting the province's economic, environmental and social ambitions.

Hydro-Québec is already working to encourage customers to make better use of energy, to increase the supply of electricity from renewable sources and to modernize the energy system. However, the scale of the challenge requires intensifying efforts to strengthen Québec's energy security.

A shared vision and the involvement of all stakeholders will help accelerate the implementation of major projects—in collaboration with host communities—and generate benefits for Québec society as a whole.



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