

Expected ROI of battery storage container project in Canada 2025





Overview

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The installed capacity of energy storage larger than 1 MW—and connected to the grid—in Canada may increase from 552 MW at the end of 2024 to 1,149 MW in 2030, based solely on 12 projects currently under construction¹. There are an additional 27 projects with regulatory approval proposed to come.

Developer Boralex and its partner Six Nations of the Grand River Development Corporation (SNGRDC) have closed the CA\$538 (US\$372.82) million financing of a 300MW/1,200MWh BESS park. The Hagersville Battery Energy Storage park, located in Haldimand County, Ontario, Canada, will be the largest.

The Canadian energy storage market is estimated to reach approximately US\$1.674 billion in 2025, driven by the increasing adoption of renewable energy, supportive government policies, and advancements in battery technology. Lithium-ion batteries dominate due to their high energy density.

Bloomberg New Energy Finance predicts that non-hydro energy storage installations worldwide will reach a cumulative 411GW/1,194GWh by the end of 2030. That is 15 times the 27GW/56GWh of storage at the end of 2021. In addition to 2022's 30% Clean Technology Investment Tax Credit, the 2023 Federal.

The Canada Battery Energy Storage Systems Market is projected to grow from USD 3.1 billion in 2025 to USD 9.8 billion by 2031, at a CAGR of 21.5% during the forecast period. The growth is driven by decarbonization targets, surging renewable power installations, and rising electricity demand.



Oneida Energy Storage facility is a 250 MW/1,000 MWh lithium-ion battery energy storage facility, representing the largest grid-scale battery energy storage facility in Canada and within the top five clean energy storage projects in the world. It delivers critical capacity and improved efficiency. Will battery storage capacity rise to support Canada's climate goals?

At the same time, battery storage capacity will likely need to rise even further to support Canada's climate goals. Our recent analysis with Navius Research shows that battery storage capacity needs to rise above 12,000 megawatts by the end of this decade and to around 50,000 megawatts by mid-century to align with Canada's climate targets.

Are battery storage projects gaining traction in Canada?

Battery storage projects are gaining traction across Canada, driven by federal incentives and increasing provincial investments. For instance, Alberta's recent 60 MW battery facility and Saskatchewan's utility-scale battery storage installation signal a strong nationwide commitment to supporting renewable energy sources like wind and solar.

How can Canada get more battery storage projects off the ground?

Global market forces are moving battery storage from margin to mainstream, and federal and provincial governments in Canada are making moves to get more battery storage projects off the ground here at home. To date, the main source of federal support has come through the Canada Infrastructure Bank (CIB).

How many battery storage facilities will Ontario have by 2027?

In addition, Ontario's Independent Electric System Operator is in the process of procuring an initial round of 2,500 megawatts of storage capacity by 2027, with seven battery storage facilities, totaling 739 megawatts, to be in operation by 2026.

Which provinces need less battery storage?

Provinces with abundant hydropower like Quebec, Manitoba, and British Columbia will likely need less battery storage than provinces with fewer flexibility options. This is because hydropower reduces the need for wind and solar deployment and acts as an energy storage solution in itself.

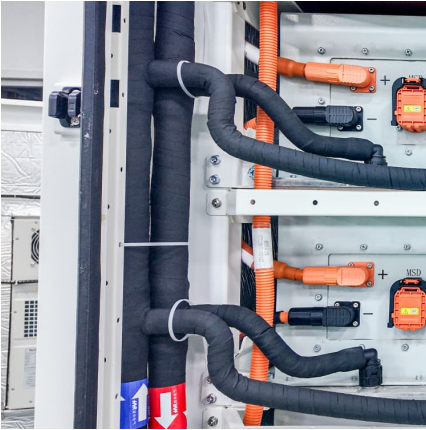
What is Alberta's largest battery storage project?



In Alberta, Enfinite's battery storage facility in Northern Alberta added 60 megawatts onto the grid last month, and Alberta Electric System Operator has several battery storage projects in the pipeline. Of these, two battery projects being proposed have storage capacities of 465 megawatts each, the largest single unit size allowed in Alberta.



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[Key Trends Shaping Battery Energy Storage in 2025](#)

Demand for energy storage continues to escalate, the global battery energy storage (BESS) landscape is poised for significant installation growth and technological advancements. A report by global research and ...

[Battery Storage Containers for Sustainable Energy](#)

What Are Battery Storage Containers? Battery storage containers are specialized units--often based on repurposed or custom-built shipping containers--designed ...



[Canada's Largest Battery Project Powers Clean Future](#)

Ontario's latest move saw the province finalize Canada's largest battery storage procurement, with the Oneida Energy Storage project as its centerpiece. Set to begin ...

Energy Storage Canada

Energy Storage Canada is the only national voice for energy storage in Canada today. We focus exclusively on energy storage and speak for the entire industry because we represent the full



value chain range of energy storage ...



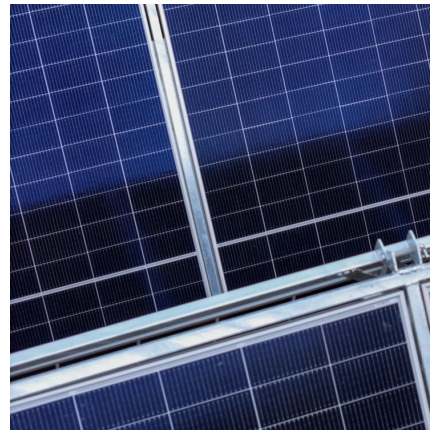
Battery Innovation

Battery innovation is needed to help meet global demand for battery electric vehicles, which exceeded 10 million in 2022, representing 14% of passenger vehicles sold worldwide. In the same year, global stationary storage capacity ...



What is battery storage and why does it matter?

Several battery energy storage system projects are currently underway in the province, including a 120 megawatt (MW) plant in York region and an 80 MW facility in the municipality of Lakeshore. And by summer 2025, ...



Let's Talk About BESS (Battery Energy Storage ...

It's important for the public to be confident in the projects being built in their communities, to know that each project has been properly considered, and that the industry understands how high the stakes are. Energy ...



Supercharging battery storage for a bigger, cleaner, ...

Of these, two battery projects being proposed have storage capacities of 465 megawatts each, the largest single unit size allowed in Alberta. Nova Scotia has also announced plans to build three 50-megawatt battery ...



[Boralex closes financing for Canada's largest BESS](#)

The Hagersville Battery Energy Storage park, located in Haldimand County, Ontario, Canada, will be the largest battery energy storage system (BESS) project to date in ...

Battery Energy Storage Roadmap

This Battery Energy Storage Roadmap revises the gaps to reflect evolving technological, regulatory, market, and societal considerations that introduce new or expanded challenges that must be addressed to accelerate ...



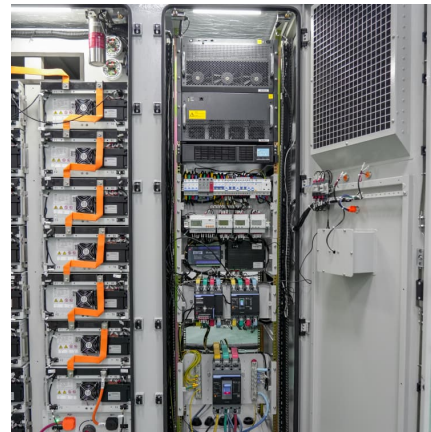
Market Snapshot: Energy storage in Canada may multiply by 2030

BESS is the fastest growing energy storage technology in Canada and is also the dominant storage technology in terms of capacity and number of sites. All but four projects ...



[Canada Energy Storage Lithium Battery Market in 2025](#)

In this article, we'll explore the state of Canada's energy storage lithium battery market in 2025, focusing on three key segments: residential, commercial & industrial (C& I), ...



[BESS in North America_Whitepaper_Final Draft](#)

Introduction Battery energy storage presents a USD 24 billion investment opportunity in the United States and Canada through 2025. More than half of US states have adopted renewable energy ...

Solar, battery storage to lead new U.S. generating capacity ...

We expect 63 gigawatts (GW) of new utility-scale electric-generating capacity to be added to the U.S. power grid in 2025 in our latest Preliminary Monthly Electric Generator ...





[Ontario Completes Largest Battery Storage ...](#)

TORONTO - The Ontario government has concluded the largest battery storage procurement in Canada's history and secured the necessary electricity generation to support the province's growing population and ...

US deployed 11.9GW of storage in 2024, 18.2GW coming in 2025

PV arrays at Gemini Solar + Storage. CATL provided the BESS containers and IHI Terrasun served as system integrator. The project was one of the largest to come online in ...



Governments of Canada and Ontario Working Together to Build ...

The governments of Canada and Ontario are working together to build the largest battery storage project in the country. The 250-megawatt (MW) Oneida Energy storage ...

[Return on Investment: Typical Expectations for ...](#)

At its core, Return on Investment (ROI) for renewable technologies like solar PV, battery storage, voltage optimisation, and solar farms depends on how well businesses integrate them into their operations.



[Enabling renewable energy with battery energy](#)

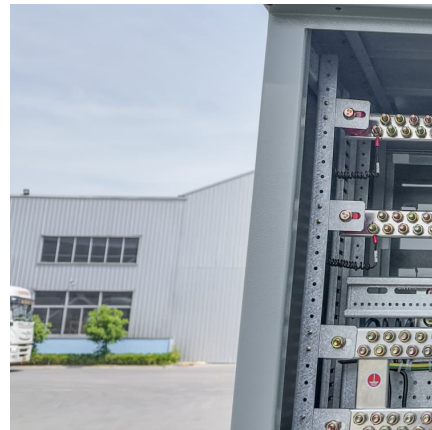
...

These developments are propelling the market for battery energy storage systems (BESS). Battery storage is an essential enabler of renewable-energy generation, helping alternatives make a steady contribution to the ...



[Canada's Largest Battery Project Powers Clean Future](#)

Canada is charging forward with energy storage innovations, positioning battery technology as a critical asset in its shift to a low-carbon economy. Ontario's latest move saw ...



[The major Battery Storage projects from around the...](#)

We provide a detailed report on all the major Battery Storage construction projects around the world with key focus on the largest projects in Europe, Africa, USA and Asia





Oneida Energy Storage

Oneida is expected to reduce emissions by between 1.2 to 4.1 million tonnes, the equivalent to taking up to 40,000 cars off the road and support grid reliability across Ontario.



Canada Plastic Battery Storage Containers Market Growth Path ...

What factors support the growth of the market in Canada? - Growing solar energy installations and cold-climate EV adoption spur demand for reliable battery storage solutions.

CAISO: The state of grid-scale battery energy storage in 2024

Which major battery projects are currently in testing and expected to reach commercial operation in 2025. How CAISO's Resource Adequacy market is shaping battery investment and financing ...



[Energy Storage in Canada: Recent Developments in a ...](#)

While regulatory frameworks can be expected to become more and more supportive of new storage initiatives, including both projects and research, efforts to establish more storage infrastructure that brings together ...



[Key Trends Shaping Battery Energy Storage in 2025](#)

Demand for energy storage continues to escalate, the global battery energy storage (BESS) landscape is poised for significant installation growth and technological ...



[Ontario contracts Canada's largest BESS in record ...](#)

Ontario's Independent Electricity System Operator (IESO) has contracted out a 390-megawatt battery energy storage system (BESS), which it says is Canada's biggest to date. The deal is one of 10 ...

[Batteries in 2025: Trends, Innovation and Challenges](#)

The battery market is growing steadily; in fact, the global battery market is expected to reach \$423.9 billion by 2030. This is due to several key factors that will make this industry thrive, such as the growth of electric ...





[Residential Battery Storage , Electricity , 2024 , ATB](#)

The battery storage technologies do not calculate levelized cost of energy (LCOE) or levelized cost of storage (LCOS) and so do not use financial assumptions. Therefore, all parameters are the same for the research and development ...

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