

Why are energy storage prices so high in Alberta?

Industry watchers say there are other reasons for optimism about the future of energy storage in Alberta. Part of the reason electricity prices have been so high in Alberta lately is that a small number of companies control a large chunk of the generation, allowing them to raise their offer prices during periods of high demand.

What is energy storage?

Energy storage is a relatively new concept when it comes to Alberta's electricity grid, but it's something we're all familiar in our day-to-day lives. Whether it's cellphones, laptops, or electric cars, we routinely charge up our devices when we're not using them so the electricity can be deployed when we want, later on.

How can energy be stored in Calgary?

And one other method of storing energy is also being considered in the province: compressed air. Calgary-based Federation Engineering has proposed a 320-MW facility near Cold Lake that would store energy by compressing air in underground salt caverns, then release that energy by letting the air decompress through turbines to produce electricity.

Why is energy storage important?

Energy storage also offers some technical advantages, especially as more and more renewable energy has come online. One reason the Alberta government cited for its renewable-energy pause was the intermittent nature of wind and solar power, which has created concerns over grid reliability.

What type of energy storage is used by Enfinite?

Batteries like those used by Enfinite are a common type of energy storage, but not the only one. Pumped hydro is another commonly used method to defer the deployment of electricity to more favourable times. In essence, this technology uses power during low-demand periods to pump water from a lower reservoir to a higher-altitude reservoir.

Is energy storage becoming more popular?

Enfinite CEO Jason White speaks to CBC News in an interview. (Google Meet/Screenshot) "Energy storage as a whole is becoming increasingly popular," said Jason White, Enfinite's chief executive officer.



Energy storage projects selected in Emissions Reduction Alberta competition. Energy storage-related projects to receive grants through the competition are as follows: Atlas Power Technologies will get CA\$6.5 million ??? the single largest sum of funding disbursed in the round ??? for its supercapacitor energy storage system to be deployed at an



Alberta Energy and Minerals. manages and develops policy for the development of province's energy and mineral resources; Carbon Capture Utilization and Storage (CCUS) Companies are beginning to explore how to develop environmentally safe carbon storage hubs to ???



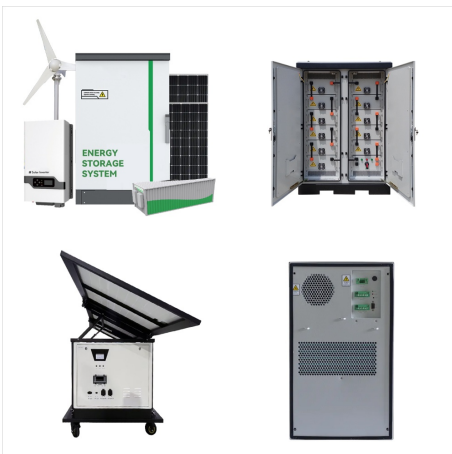
Three solar power plant projects are in development in Alberta, Canada, which will add nearly 300MW of battery storage to the province's grid. Alberta's first grid-scale battery project, Windcharger, a 10MW/20MWh battery energy storage system (BESS) at a wind farm, was only brought online in late 2020 by developer TransAlta Renewables.



Alberta's power system is undergoing the biggest transformation in its 100-plus year history. 9,100 MW of wind and 5,556 MW of energy storage are either under construction, have received approval by the Alberta Utilities Commission (AUC) or been announced by project proponents.



Providing energy storage solutions for Alberta. Evolve is a leader in energy storage solutions. We understand that because of the energy transition, Albertans will only have access to stable, reliable, and affordable electricity if companies like ours create ways to store power. When the wind isn't blowing and the sun isn't shining, we will



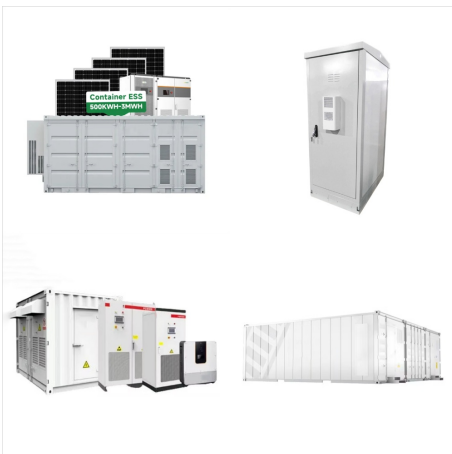
Alberta's energy storage, by contrast, is miniscule. But it, too, has been growing rapidly. "Imagine what we can accomplish" Three new battery-storage facilities have been connected to Alberta's



Energy Storage Canada 2, a non-profit organization that promotes energy storage, reports that energy storage projects are operating in each of Ontario, Alberta, Saskatchewan, and PEI, with additional projects under development in these provinces as well as in New Brunswick and Nova Scotia 3. The leading market developments, however, have been



Background: Energy Storage in Alberta The first battery energy storage system (BESS) in Alberta, the TransAlta WindCharger project, came online in late 2020 and is a 10MW battery storage system. 1 Quickly following, TD Greystone Infrastructure Fund's Enfinite brought nine additional 20MW projects online (a total of 180MW).2



Carbon capture, utilization and storage (CCUS) Alberta is uniquely suited for CCUS. We have an established regulatory process and are one of only a few jurisdictions that have the geology to store enough CO2 to reach carbon neutrality by 2050. The Alberta Energy Regulator will evaluate recommendations to improve efficiency of its directives

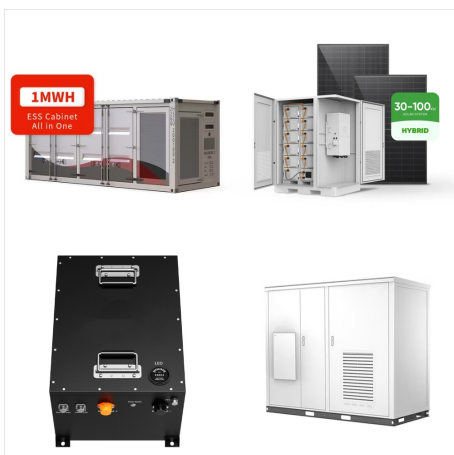




CCUS is internationally recognized as a necessary pathway to reduce emissions from existing energy systems, and will help Alberta transition to a low-carbon future. Alberta has one of the best and abundant geological formations to safely store emissions. Over a decade ago, the province established one of the first legislative and regulatory



may make energy storage particularly important in the Alberta context.<sup>7</sup> Energy storage could thus disrupt Alberta's electricity market by, among other things, enabling the more widespread adoption of renewable energy to replace Alberta's current carbon-intensive generation methods. Because energy storage technologies were neither as



By this fall, Alberta will know what its overhauled electricity system will look like, and how energy storage, a vital component of energy security, will be factored into future-proofing the grid.



Power generation and energy storage includes generating electricity using hydrogen turbines and fuel cell generators and producing hydrogen via electrolysis from intermittent renewables as an energy storage medium. liquefaction, and storage. Alberta will need to have an established export supply chain in place to benefit from the



The proposed Barlow Battery Energy Storage System (BESS) project will be located on approximately 0.5 hectares (ha) of land within the Barlow Solar Park site, in the City of Calgary at 11111 Barlow Trail SE (SE 16-23-29 W4M). The project will consist of approximately 22 modular battery energy storage units installed on the east side of the Barlow Solar Park site on ???



Some are hailing the nascent technology as game-changing for the renewable energy sector, offering intermittent wind and solar power a consistent low-carbon backup. However, the impact of storage



CALGARY, Alberta, Feb. 23, 2023 (GLOBE NEWSWIRE) -- Enfinite, a North American leader in energy storage, is pleased to announce, through its eReserve battery storage program, it has financed and developed two more energy storage projects that are now operational and supporting Alberta's electricity grid. Enfinite's eReserve3 and eReserve5 projects are providing ???



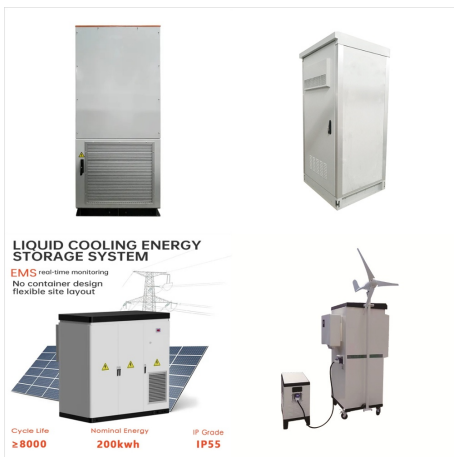
The first energy storage in Alberta came online in late 2020 with 10MW of capacity, followed quickly by nine additional 20MW projects online for a total of 190MW of capacity today. Looking forward, there are three standalone storage projects and four solar hybrid projects under construction that will add approximately 170MW by 2026, increasing



The AER does not forecast natural gas storage volumes in projections of long-term gas production. Several pools in Alberta are used for commercial natural gas storage to balance the supply against fluctuating market demand. Storage, injections, and withdrawals in 2023 were as follows: Storage: Levels were about 33% above the five-year average.



Energy storage could thus disrupt Alberta's electricity market by, among other things, enabling the more widespread adoption of renewable energy to replace Alberta's current carbon-intensive 24116-X0159, "Module One ??? Energy Storage Canada Submission" para 25 citing "Commissioner Richard Glick Statement



Alberta Innovates funding enables a more competitive, modern, and sustainable minerals and materials industry. Energy Storage Technologies. Energy storage is an affordable and sustainable way to integrate intermittent renewable energy sources and support a reliable, resilient electricity grid.



Alberta Energy Storage Projects Artist's rendering of the TERIC eReserve1 Battery Project ??? April 2021 ??? Alberta Electric System Operator (AESO) listed 8 of 13 projects as hybrid solar and storage projects ??? Largest project is a ~140 MW CAES facility planned at a new





Increasing Alberta's energy storage would help the province meet peak demand, potentially avoiding the need for future emergency alerts. Storage can also provide far more than just reliability???it is also a boon for affordability. Storage takes low-cost electricity, charging when demand is low or when renewables are plentiful, and discharges



The Alberta Energy Company (AEC, now EnCana) starts reporting daily natural gas spot prices at its gas storage facility at AECO-C near Suffield, Alberta. The Cowley Ridge wind plant, near Pincher Creek, Alberta is completed, becoming the first commercial wind farm in Canada.



The demand for carbon capture, utilization and storage (CCUS) technology from industry is increasing as it will help diversify the energy sector, including developing clean hydrogen and supporting the shift towards a net-zero electricity grid. To help manage the growth of this technology, Alberta is



Energy storage technologies can provide a variety of benefits to Alberta's energy system, including: helping to manage the variability of some renewable energy technologies; improving grid efficiency by storing excess energy; providing reliable backup power solutions; serving as a possible non-wires solutions for the transmission and



Energy storage developer and operator Enfinite has put the final three BESS projects, totalling 60MW, of a nine-project portfolio into operation in Alberta, Canada. The Alberta-headquartered company announced the commercial operation of the eReserve7, eReserve8, and eReserve9 battery energy storage system (BESS) projects today (6 February).



Enfinite is currently developing five more energy storage facilities within Alberta and are anticipated to be operational by the end of Q4, 2023. About Enfinite. Enfinite is a North American leader in energy storage and the largest battery operator in Canada. Enfinite creates energy systems that make carbon neutral electricity affordable and



Majority of all utility scale battery projects in operation in Alberta today were originated and developed by TERIC. TERIC originated the first portfolio of battery energy storage projects in Canada. TERIC has an extensive understanding of how BESS applications are best optimized. 270MW+ funnel of distribution, behind the meter, & transmission



Alberta's legislation addresses the regulation of hydrogen production, storage, and transportation by pipeline within the province. (AEPA) as outlined in Alberta Energy and Minerals Information Bulletin 2022 - 01 and shown in the figure below. Combined with the Responsible Energy Development Act,