

ContainerPower Energy Solutions

The future of solar power generation and energy storage in Canada



Overview

How many wind and solar energy resources are there in Canada?

Canada has only begun to scratch the surface of its vast and untapped wind and solar energy resources. At the end of 2024, we had 24 GW of wind energy, solar energy and energy storage installed capacity across Canada. For more information on the current state of the industry, growth and forecasts, see CanREA's most recent annual data release:.

How many solar energy projects are there in Canada?

Canada has 217 major solar energy projects producing power across the country. Canada has 341 wind energy projects producing power across the country. Canada ranks 24th in the world for installed solar energy capacity. Canada ranks 9th in the world for installed wind energy capacity.

How much solar energy does Canada need?

Overall, Canada met 6.5% of its energy demand with wind and solar. CanREA states that Canada has a goal of commissioning 1,000 MW of new solar energy for 2022 with 18 new projects, 16 anticipated to be in Alberta.

Where is solar power generating in Canada?

Most of the solar power generating potential in Canada is located in the south in Alberta, Saskatchewan, and Ontario. Canada has an overall maximum capacity factor of 6%, compared to 15% in the US. The Canada Energy Regulator (CER) anticipates that solar will form 3% of the country's overall generation by 2040.

Is energy storage the future of energy storage?

The energy storage market is expected to grow 15-fold by 2030, with the IEA projecting that energy storage could meet up to 40% of short-term electricity flexibility up to 2050. This rapid growth in the low-carbon economy presents significant opportunities for those ready to take part in its development.

How many energy storage projects are there in Alberta?

While there are nearly 50 energy storage projects currently listed within the Alberta Electric System Operator (AESO)'s projects list, the development of a 600MW portfolio of five solar-plus-storage projects by Westbridge Renewable Energy Corp. is underway.

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