Canada Solar Energy - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

Market Report | 2025-04-28 | 95 pages | Mordor Intelligence

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Report description:

The Canada Solar Energy Market is expected to register a CAGR of greater than 11% during the forecast period.

The country was significantly impacted due to the COVID-19 outbreak but has reached pre-pandemic levels.

Key Highlights
- Over the medium term, factors such as upcoming solar projects and supportive government policies to reduce reliance on fossil fuels are anticipated to boost the Canadian solar energy market.
- On the other hand, widespread usage of alternative energy sources, such as hydro and wind power generation in the country, is expected to restrain the market's growth.
- Nevertheless, Canada plans to achieve net-zero emissions by 2050 and is expected to replace the share of fossil fuel in the energy mix with renewables. Hence, such an ambitious target is expected to provide an opportunity for the solar market in the coming years.

Canada Solar Energy Market Trends

Solar Photovoltaic (PV) Segment is Expected to Dominate the Market

- Canada has substantial solar energy resources due to its vast area. In Canada, solar power generation has registered significant growth since 2011, with total installed capacity increasing from 0.6 GW in 2011 to 3.6 GW at the end of 2021. Canada's most

valuable resources for solar generation are Alberta, Manitoba, Ontario, and Saskatchewan.
- As per BP statistics, solar energy generation registered a growth of about 20% from the previous year and stood at 5.2 TWh and accounted for 10% of overall renewable energy generation in 2021 in Canada. The country is expected to install 35 GW of total solar installed capacity by 2050, which would significantly increase its share in renewable energy generation.
- In 2022, TC Energy Corporation announced its investment of USD 146 million for a solar project in Alberta with a capacity of 81 MW. Similarly, the Joffre Solar Power Project of 47 MW is in the pipeline that would be developed by PACE in Alberta and is expected to witness commercial operation in 2024. Hence, the upcoming solar projects in Canada will likely drive the solar energy market.
- Further, as per Canadian Renewable Energy Association, there are more than 43,000 solar (PV) energy installations on residential, commercial, and industrial rooftops, providing power directly to those homes and businesses, consolidating a robust solar energy adaptation n the rooftop segment.
- Considering upcoming projects and current status of solar energy capacity & generation, Canada's solar energy market is expected to witness significant growth in future.

Clean Energy Programmes likely to Accelerate Solar Energy Market

- Canada aims to achieve affordable, reliable, sustainable, and clean energy for all by 2030. With this view, the country aims to generate 90% of electricity from renewable and non-emitting resources by 2030. The electricity generation from renewable energy sources in 2021 was 50 TWh, an increase of 2% from the previous year and a two-fold increase from 2011. The transition towards renewable energy through solar would significantly increase the solar energy market.
- As per the 2015 Paris Agreement, Canada pledges to reduce greenhouse gas (GHG) emissions by 40-45% from 2005 levels by 2030 and a commitment to reach net zero emissions by 2050. This would undertake to utilize clean energy resources like solar to witness the impact. Hence, the solar energy market would be essential in achieving the greenhouse gas emission reduction target.
- Various government-led programs are there to increase the scalability of solar energy in Canada. It includes Solar Electricity for Community Buildings Program, SolarHomes Program, Solar Electric Rebate Program, Alberta Municipal Solar Program (AMSP), and net-metering mechanisms. Canada has a conducive environment that helps to establish a vibrant solar energy market.
- According to Canada Energy Regulator, over 82% of Canada's GHG emissions come from energy production and consumption. To achieve net-zero emissions by 2050, transformational changes are required to how Canadians produce and consume energy. Using solar power would help reduce GHG emissions in the country.
- Hence, with clean energy ambitions, targets, and schemes, the country is expected to witness increased demand for solar energy during the forecast period.

Canada Solar Energy Industry Overview

The Canadian solar energy market is moderately fragmented. Some of the key players include (in no particular order) Canadian Solar Inc., Greengate Power Corporation, AMP Solar Group Inc., Quadra Power Inc., and BluEarth Renewables Inc.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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