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Solar panel production expansion time

Overview

Between 2025 and 2029, global solar photovoltaic capacity additions are projected to increase yearly and range from some 655 gigawatts in 2025 to 930 gigawatts in 2029.How will China's solar expansion affect global solar supply chains?

After investing over US$130 billion into the solar industry in 2023, China will hold more than 80% of the world’s polysilicon, wafer, cell, and module manufacturing capacity from 2023 to 2026, according to a recent report by Wood Mackenzie titled “How will China’s expansion affect global solar module supply chains?

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How has global solar PV manufacturing capacity changed over the last decade?

Global solar PV manufacturing capacity has increasingly moved from Europe, Japan and the United States to China over the last decade. China has invested over USD 50 billion in new PV supply capacity – ten times more than Europe − and created more than 300 000 manufacturing jobs across the solar PV value chain since 2011.

What drives China's solar manufacturing expansion?

“China’s solar manufacturing expansion has been driven by high margins for polysilicon, technology upgrades and policy support,” said Huaiyan Sun, senior consultant at Wood Mackenzie, and author of the report.

How can the solar PV industry support growing demand?

Annual investment levels need to double throughout the supply chain. Critical sectors such as polysilicon, ingots and wafers would attract the majority of investment to support growing demand. The solar PV industry could create 1 300 manufacturing jobs for each gigawatt of production capacity.

How fast will the solar market grow by 2030?

However, meeting the Global Solar Council’s aspirational target of 8 TW by 2030 will require a significantly accelerated pace of deployment – roughly 1 TW of new installations per year on average. A key issue is the uneven distribution of solar market growth.

Will the global solar PV market grow in 2025?

Despite these headwinds, the global solar PV market is still expected to grow by 10% in 2025, reaching 655 GW under the Medium Scenario (see Fig. 4). This would mark a continuation of the deceleration trend following the extraordinary 85% growth in 2023 and the more moderate 33% in 2024.

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