

Solar PV Module Market to Hit \$260.2 Billion by 2030 | Driven by Demand for Clean Energy

□ *Solar PV Module Industry Poised for Strong Growth | Crystalline Silicon & Monocrystalline Panels Lead*

WILMINGTON, DE, UNITED STATES, July 30, 2025 /EINPresswire.com/ -- The global [solar PV module market](#) has entered an exciting phase of expansion, reflecting the world's accelerating shift toward clean and sustainable energy. According to a new report published by Allied Market Research, the market was valued at \$127.9 billion in 2020, and is projected to reach \$260.2 billion by 2030, growing at a CAGR of 7.4% during the forecast period from 2021 to 2030. □



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Solar PV Module Market to hit \$260.2B by 2030, fueled by renewable energy demand, tech innovation & strong utility-scale deployment. □□

Allied Market Research

What is a Solar PV Module?

A solar photovoltaic (PV) module is a packaged, connected assembly of photovoltaic solar cells, mounted in a framework for installation. These panels use sunlight to generate direct current (DC) electricity, forming the backbone of [solar power systems](#) for residential, commercial, and utility-scale applications.

Arrays of PV modules can supply significant solar electricity to homes, offices, industries, and even remote areas without grid connectivity.

Key Drivers of Growth □

The expansion of the solar PV module market is supported by a surge in renewable energy development across Asia-Pacific and LAMEA, largely driven by increasing electricity demand and

favorable government policies. Some of the primary market drivers include:

Supportive policies like domestic content laws and investment tax credits (ITC)

Decreasing cost of solar PV technology, making it viable for mass adoption

Rising fossil fuel prices, creating a compelling case for renewable alternatives

Utility-led solar deployments to meet peak energy demand in regions like the U.S.

Rapid urbanization and industrialization, especially in emerging economies

However, challenges such as grid connection issues, interconnection delays, and insufficient grid capacity can hinder growth.

COVID-19 Impact and Recovery Path □□□

The COVID-19 pandemic temporarily disrupted the solar PV module supply chain, especially due to factory shutdowns in China, which dominates global module manufacturing. For instance, India—dependent on China for 80% of its solar equipment—faced substantial delays during the early months of the pandemic.

Despite these setbacks, the market has shown resilience and is poised for full recovery, with demand expected to normalize post-2021 and strong growth projected through 2030.

Market Segmentation Insights □

□ By Technology:

Crystalline Silicon emerged as the dominant segment in 2020, accounting for 78% of revenue share, and is forecast to maintain its leadership due to superior efficiency and durability.

Thin Film technologies are also gaining traction for their lightweight and flexible properties in specific applications.

□ By Product:

Monocrystalline panels led the market with a 49% share, offering higher energy output and longevity. They are expected to grow at the highest CAGR of 7.8%.

Other products include polycrystalline, amorphous silicon, cadmium telluride, and copper indium gallium diselenide (CIGS).

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□ By Connectivity:

On-Grid systems dominate the market with nearly 88% share, driven by net metering incentives and government-backed feed-in tariff schemes.

Off-Grid systems remain vital for rural electrification and are growing steadily in remote regions.

□□ By Mounting:

Ground Mounted systems hold the majority share (60%), mainly due to large-scale solar farm.

Rooftop systems are anticipated to grow at a CAGR of 7.8%, particularly in urban residential and commercial settings.

□□ By End-Use:

The utility segment is the market leader, contributing 57.6% of total revenue, thanks to widespread adoption of [solar farms](#) and grid-scale projects.

Residential applications are projected to grow the fastest (CAGR of 7.9%) due to rising consumer awareness and rooftop initiatives.

Regional Outlook □

Asia-Pacific emerged as the global leader in 2020, commanding 57.5% of the total market revenue. The region benefits from favorable policy frameworks, high solar irradiance, and rapid electrification.

Europe and North America follow closely with robust government support and increasing installation of solar PV modules for commercial and residential use.

LAMEA (Latin America, Middle East, and Africa) is experiencing growing momentum, especially in Brazil and South Africa, where solar is becoming a viable alternative to traditional fuels.

Leading Players in the Industry □

Several prominent companies are shaping the future of the global solar PV module market, including:

BASF SE

Exxon Mobil Corporation

Asian Paints Ltd.

Nan Ya Plastics Corporation

Koppers Inc.

Polynt Spa

Stepan Company

Thirumalai Chemicals Ltd.

Mitsubishi Gas Chemicals Co. Ltd.

UPC Technology Corporation

These players are actively involved in R&D, innovation, and capacity expansion to meet the growing global demand.

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Final Thoughts □

The solar PV module market represents a crucial piece of the global renewable energy puzzle. With increasing government incentives, technological innovation, and rising energy needs, solar PV modules are well-positioned to play a central role in the clean energy transition. From utility-scale projects to rooftop installations, solar technology is no longer just an option—it's becoming the norm. □□

As costs continue to decline and awareness grows, expect the solar PV module market to remain a hotspot of investment and innovation through 2030 and beyond.

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