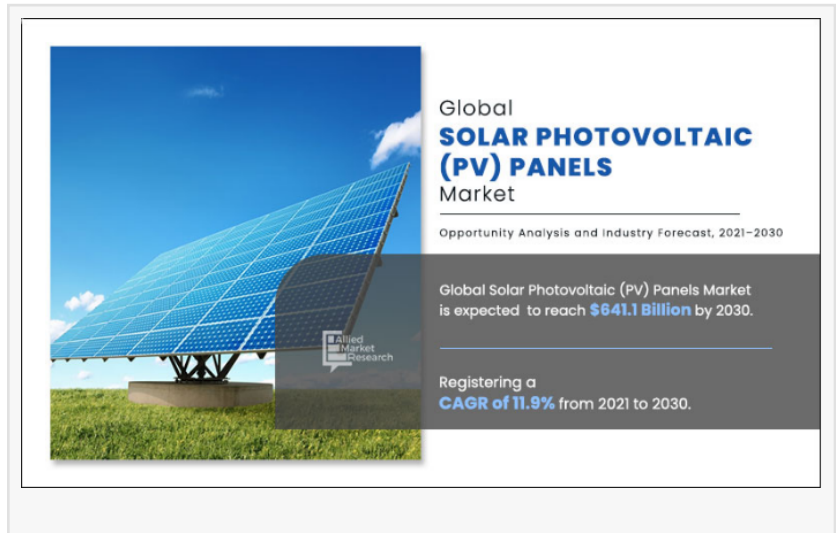


Solar Photovoltaic (PV) Panel Market to Hit \$641.1 Billion by 2030, Driven by Clean Energy Push

□ *Solar Photovoltaic (PV) Panel Market to Reach \$641.1 Billion by 2030 Amid Global Shift Toward Renewable Energy*

WILMINGTON, DE, UNITED STATES, July 25, 2025 /EINPresswire.com/ -- The [solar photovoltaic \(PV\) panel market](#) is witnessing rapid expansion, fueled by the growing adoption of clean energy solutions and robust investments across the globe. According to a recent report published by Allied Market Research, the market size was valued at \$180.4 billion in 2020 and is projected to reach \$641.1 billion by 2030, registering an impressive CAGR of 11.9% from 2021 to 2030.



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The solar photovoltaic (PV) panel market is set to reach \$641.1B by 2030, driven by rising installations & tech innovations □□

Allied Market Research

As nations intensify efforts to transition toward sustainable energy sources, solar panels have emerged as a central player. These devices convert sunlight into electricity using semiconductor materials and are composed of multiple interconnected solar cells. Key types dominating the global market include crystalline silicon and thin-film technologies, deployed across remote power systems, telecommunications, and residential and commercial

infrastructures.

□ Key Market Drivers: Sustainability, Policy, and Efficiency

The primary force behind the booming solar photovoltaic (PV) panel market is the rapid growth of the [solar energy industry](#) itself. There's been a marked surge in solar panel installations in

diverse applications—from power generation to transportation and water heating—boosting demand worldwide.

Governments are also playing a pivotal role. For instance, in 2019, the U.S. introduced a solar tax credit, allowing a 30% reduction in the cost of solar energy system installation. Such incentives have proven instrumental in accelerating adoption rates.

Additionally, the market is benefiting from:

- Decreasing costs of solar panel equipment
- Continuous improvements in energy conversion efficiency
- Technological advancements in solar manufacturing

These factors combined are making solar power more affordable and accessible across residential, commercial, and industrial sectors.

□ Crystalline Silicon Dominates by Technology

In 2020, the crystalline silicon segment accounted for a commanding 86.8% of the global solar PV panel market. Its popularity is due to high efficiency rates, longevity, and better suitability for commercial applications when compared to thin-film alternatives.

As energy needs increase and sustainability becomes a core corporate and governmental focus, demand for crystalline silicon panels—especially for residential, commercial, and industrial use—is set to remain high.

□ On-Grid Systems Lead in Grid Type Segment

By grid type, the on-grid segment emerged as the largest revenue contributor, accounting for 92.5% of the market in 2020. On-grid solar systems feed energy directly into the electricity grid, eliminating the need for storage batteries.

Key advantages driving this segment include:

- Simplified energy supply integration
- Cost efficiency
- Ease of installation
- Effective handling of high electricity demand

These benefits make on-grid systems the go-to choice for urban and industrial applications, especially where grid access is stable.

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□ Utilities Dominate End Use, But Commercial & Industrial Rise Fast

The utilities segment led the [solar PV panels market](#) by end use in 2020, capturing about 42.8% of the global market share. This dominance is attributed to rising investments in large-scale solar farms, solar parks, and floating solar plants.

Moreover, new developments like:

Decentralized solar projects

Rooftop installations on commercial buildings

Rural electrification initiatives

are boosting the demand in the utilities sector. Simultaneously, the commercial and industrial segment is expected to register the fastest growth with a CAGR of 12.1% during 2021–2030, thanks to corporate ESG goals and high energy savings potential.

□ Asia-Pacific Holds the Powerhouse Position

Geographically, Asia-Pacific was the dominant region in 2020, contributing to over 52.5% of the total revenue in the solar photovoltaic (PV) panel market. This growth is driven by a strong presence of key manufacturers and a massive consumer base.

Countries like China, India, Japan, Vietnam, and South Korea have seen a significant rise in solar installations—especially in the residential and utility sectors. These economies are rapidly scaling up renewable energy projects to reduce dependence on fossil fuels and meet climate goals.

Meanwhile, Europe is expected to grow at the fastest pace, with a CAGR of 12.2%. Government mandates for clean energy, smart grid infrastructure, and cross-border solar projects are propelling the region's solar revolution.

□ COVID-19 Impact: Temporary Disruptions, Long-Term Resilience

The COVID-19 pandemic temporarily slowed down the solar photovoltaic (PV) panel market in 2020. Lockdowns and supply chain disruptions hindered panel production and installation

activities. Countries like Germany, France, and Italy enforced strict measures, causing delays in key solar projects.

However, the post-pandemic recovery is swift, as governments and private sectors double down on renewable energy targets to counter future crises and meet net-zero emissions goals.

□ Key Market Players

Leading the global solar PV panel market are companies such as:

JA Solar

Jinko Solar

Aiko Solar

First Solar

Hanwha Solutions

Tongwei Group

Trina Solar

Yingli Solar

Waaree Energies

Other notable players include Risen Energy, GCL-SI, Talesun, SunPower Corporation, and ReneSola—contributing to innovation, capacity expansion, and strategic partnerships globally.

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□ Outlook: Bright Future for Solar PV Panels

With increasing environmental awareness, falling technology costs, and supportive policy frameworks, the solar photovoltaic (PV) panel market is poised for sustained long-term growth. As nations continue their transition to net-zero, solar power will remain a core pillar of the global energy mix.

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Pawan Kumar, the CEO of Allied Market Research, is leading the organization toward providing high-quality data and insights. We are in professional corporate relations with various companies and this helps us in digging out market data that helps us generate accurate research data tables and confirms utmost accuracy in our market forecasting. Each and every data presented in the reports published by us is extracted through primary interviews with top officials from leading companies of domain concerned. Our secondary data procurement methodology includes deep online and offline research and discussion with knowledgeable professionals and analysts in the industry.

David Correa

Allied Market Research

+ 1 800-792-5285

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