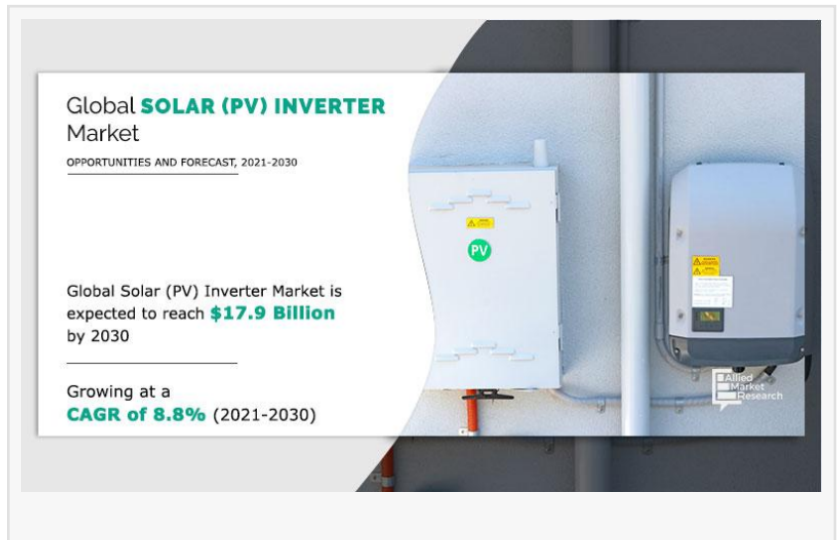


Solar (PV) Inverter Market to Hit \$17.9 Billion by 2030, Driven by Rising Solar Installations

Global Solar (PV) Inverter Market Grows at 8.8% CAGR as Demand for Renewable Power Surges

WILMINGTON, DE, UNITED STATES,
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According to a new report published by Allied Market Research, the global [solar \(PV\) inverter market](#) size was valued at \$7.7 billion in 2020 and is projected to reach \$17.9 billion by 2030, growing at a CAGR of 8.8% from 2021 to 2030.



A solar (PV) inverter is an essential device that converts direct current (DC) generated from solar panels into alternating current (AC) for use in homes, industries, and commercial buildings. By optimizing energy conversion, solar inverters enhance the overall performance and efficiency of solar power systems, enabling sustainable power generation.

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Global solar (PV) inverter market to hit \$17.9 billion by 2030, driven by renewable expansion, on-grid installations, and industrial growth.”

Allied Market Research

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These inverters not only help reduce electricity costs but also minimize carbon emissions, offering a high-efficiency

alternative to diesel generators.

□ Key Takeaways

Central inverter segment accounted for over 50% of the market in 2020.

On-grid solar inverters dominated with a 65.5% market share.

Single-phase systems are expected to grow fastest at 9.2% CAGR.

Asia-Pacific led the global market with over 61% revenue share.

□□ Market Drivers: Renewable Growth and Industrial Expansion

The rapid industrial expansion across sectors such as oil & gas, telecom, mining, pharmaceuticals, and healthcare has significantly boosted demand for [off-grid solar](#) installations, driving growth in the solar (PV) inverter market.

In addition, developing economies like India, China, and Japan are leading the adoption of solar energy technologies, creating lucrative opportunities for inverter manufacturers.

Key growth factors include:

Rising adoption of [renewable energy systems](#) to reduce fossil fuel dependency.

Government incentives and subsidies for solar infrastructure development.

Increasing need for energy-efficient, low-emission solutions in industrial sectors.

Expansion of utility-scale solar projects worldwide.

However, challenges such as high heat generation from large inverters and installation issues related to panel direction and orientation may slightly hinder market growth.

□ Segment Insights

By Product Type:

The central inverter segment accounted for the largest share—50.9% in 2020—and is projected to maintain its dominance through 2030. This growth is attributed to their high capacity and efficiency in utility-scale solar plants. The increasing development of renewable infrastructure in China, India, and Japan is further fueling demand for central inverters.

By Connection Type:

The on-grid segment led the market with 65.5% share in 2020 and is expected to continue its dominance. On-grid systems allow direct electricity supply to the grid, eliminating the need for storage batteries. Their easy installation, cost-efficiency, and capability to manage high power demand make them a preferred choice globally.

By Phase:

The three-phase segment dominated the market in 2020 due to its vital role in power generation, transmission, and distribution. The trend toward 1,500-volt solar arrays has increased the size of PV power plants, enhancing demand for three-phase solar inverters. Meanwhile, the single-phase segment is the fastest-growing, with an expected CAGR of 9.2%, driven by residential and small-scale installations.

By End User:

The utilities segment holds the largest share and is projected to grow at a CAGR of 8.3% during the forecast period. This is due to the expansion of solar power plants, solar parks, and decentralized energy systems. Growing construction of rooftop solar systems and rural electrification projects also supports market expansion.

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□ Regional Analysis

Regionally, the market is categorized into North America, Europe, Asia-Pacific, and LAMEA.

The Asia-Pacific region dominated the solar (PV) inverter market in 2020, accounting for over 61% of total revenue, and is expected to maintain this lead through 2030.

Key factors include:

Presence of major industry players like Huawei, Sungrow, and Delta Electronics.

Large-scale government investment in renewable power infrastructure.

Rapid industrialization and urban energy demand across emerging markets.

In contrast, Europe and North America are witnessing steady growth, driven by the expansion of distributed generation systems and supportive clean energy policies.

□ Competitive Landscape

The global solar (PV) inverter market is highly competitive, with major players focusing on technological innovation, strategic partnerships, and sustainable production.

Key industry players include:

Delta Electronics, Inc.

Fimer S.p.A.

Fronius International GmbH

Ginlong Technologies

Huawei Technologies Co., Ltd.

Shenzhen Growatt New Energy Co., Ltd.

Siemens AG

SMA Solar Technology AG

SolarEdge Technologies, Inc.

Sungrow Power Supply Co., Ltd.

Other key participants in the value chain include Goodwe, Canadian Solar, SunPower Corporation, Sineng Electric, and Omron Corporation.

These companies are actively focusing on R&D for high-efficiency inverter designs, smart grid compatibility, and AI-enabled energy management systems.

□ COVID-19 Impact on the Solar (PV) Inverter Market

The COVID-19 pandemic temporarily slowed the solar inverter market in 2020 due to global supply chain disruptions, reduced industrial operations, and a decline in construction activity.

Lockdowns across major economies, including Germany, France, and Italy, affected the manufacturing and installation of solar power systems. However, as the world recovered, governments prioritized renewable energy investments, accelerating market revival.

Post-pandemic, the focus on energy security and sustainability has further fueled the adoption of solar inverter systems across both developed and developing regions.

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□ Conclusion

The solar (PV) inverter market is set for substantial growth through 2030, driven by rapid

renewable energy adoption, expanding utility-scale solar projects, and government-backed clean energy initiatives.

As nations push for carbon neutrality and energy efficiency, solar inverters will play a pivotal role in powering the global transition to sustainable electricity systems.

With continued innovation and strong policy support, the future of the solar (PV) inverter industry looks bright, offering greener, smarter, and more resilient power solutions for generations to come. ☐☐☐

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