Photovoltaic power module shipments



Overview

Now in its 16 th edition, the report takes an in-depth at technology trends across the supply chain for silicon PV products.

Key Takeaways

Global photovoltaic module shipments reached 703 GW in 2024, with China dominating production and n-type TOPCon modules leading the market.

Global Shipment Overview

In 2024, worldwide PV module shipments totaled 703 GW, marking a significant increase from previous years, driven by falling module prices and continued adoption of solar energy. Bloomberg estimated global PV installations at 592 GW in 2024, a 33% increase compared to 2023. The top ten manufacturers shipped around 502 GW, up 22% year-on-year, with the top four companies—Jinko, Longi, JA Solar, and Trina—accounting for 63% of the top ten's total volume.

Regional and Manufacturing Insights

China remains the dominant hub for PV manufacturing, controlling over 80% of global production across all stages, including polysilicon, wafers, cells, and modules. This concentration has enabled economies of scale, cost reductions, and technological innovation, although it also introduces geopolitical and supply chain risks. Other notable manufacturing regions include the United States and Malaysia, but their shares are significantly smaller.



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Technology Trends

Crystalline silicon PV technologies continue to dominate, representing 98% of the market, with n-type TOPCon modules accounting for nearly 70% of shipments.

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C modules make up about 22%, while back-contact (BC) products account for 3%. Advanced technologies such as silicon heterojunction (SHJ), back-contact (BC), TOPCon-based back-contact (TBC), and heterojunction-based back-contact (HBC) are expected to gain market share in the coming years. Module formats are increasingly standardized, with rectangular sizes dominating shipments.

Market Dynamics and Pricing

Average P

V module prices dropped by 33% in 2024 compared to the end of 2023, reflecting oversupply and competitive pressures. Manufacturers are focusing on product quality and efficiency improvements, including laser-enhanced contact optimization (LECO) and edge passivation techniques, to maintain competitiveness.

Outlook

Global P

V capacity additions are projected to grow from 655 GW in 2025 to 930 GW by 2029, indicating continued expansion of the solar market. While China will remain a key player, regions like India, North America, and Europe are expected to see increasing contributions to annual installations. In summary, photovoltaic module shipments are growing rapidly, led by China and advanced n-type TOPCon technologies, with global shipments surpassing 700 GW in 2024 and continued expansion expected in the coming years.

Article Content

ITRPV: Global solar module shipments reached 706 GW in 2025

Global shipments of photovoltaic modules slightly exceeded the previous year''s level in 2025. The latest edition of the International Technology Roadmap for Photovoltaics (ITRPV)

Global solar module shipments hit 703 GW in 2024

Now in its 16 th edition, the report takes an in-depth at technology trends across the supply chain for silicon PV products. VDMA calculates PV module shipments in 2024 at 703 GW,

InfoLink 2025 global module shipment ranking: Combined shipments

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Based on InfoLink''s market research, total shipments of ranked global module suppliers reached approximately 536 GW in 2025. As shipment volumes were particularly concentrated among

Top PV Module Suppliers in 2025 by Shipment

To help the industry chain fully understand the actual development of the industry, Solarbe & Solarbe Consulting, after two weeks of intensive research, verification, and analysis,

InfoLink''s 2024 global module shipment ranking: significant gap

According to InfoLink''s statistics for 2024, the top ten shipped around 502 GW of modules, up 22% YoY, showing that the annual growth rate has begun to narrow, as previously

Monthly Solar Photovoltaic Module Shipments Report

EIA - Energy Information Administration 04/30/2024 | News release | Distributed by Public on 04/30/2024 09:07 Monthly Solar Photovoltaic Module Shipments Report Beginning in January

2024 Monthly Solar Photovoltaic Module Shipments Report

The U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy (DOE), prepared this report. By law, our data, analyses, and forecasts are

PHOTOVOLTAIC MODULES AND INVERTERS

As per the International Energy Agency (IEA), new solar capacity added between now and 2030 will account for 80% of the growth in renewable power globally. In calendar year 2023, global

U.S. Energy Information Administration

U.S. photovoltaic module shipments by state or territory Individual data for most states are not published to protect the confidentiality of individual company data.

U.S. Energy Information Administration

Where possible, imports and exports are listed by country, and shipments to the United States are listed by state. Fewer companies now report on the EIA-63B survey because of company consolidation

Solar Panels Manufacturers in India & USA | Emmvee

Emmvee stands among the best solar panel manufacturers in india and USA, offering reliable solar energy products including top-rated PV modules and water heaters.

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PHOTOVOLTAIC MODULES AND INVERTERS

1.1 Overview The solar photovoltaic (PV) market has grown exceptionally in recent years. As per the International Energy Agency (IEA), new solar capacity added between now and 2030 will

2024 Monthly Solar Photovoltaic Module Shipments Report

Washington, DC 20585 U.S. Energy Information Administration | 2024 Monthly Solar Photovoltaic Module Shipments Report i The U.S. Energy Information Administration (EIA), the statistical and

2024 Global PV Module Shipments: The Rise of the

As the financial reporting season for 2024 concludes, the global solar photovoltaic (PV) industry has unveiled its latest shipment rankings. According to

Snapshot 2026

IEA PVPS Task 1 has published the Snapshot of Global PV Markets 2026 report. Based on official data from national authorities and industry experts estimations, the report provides a preliminary overview

Global PV Module Market Analysis and 2025 Outlook

PV modules are the central component of the solar industry. This analysis reviews market conditions that affect solar panel pricing and availability.

Global Module Shipments of 20+ Major Chinese Solar Module

PVTIME – The year 2024 is poised to be a transformative year for the global photovoltaic industry, characterised by substantial innovation and expansion China, prominent module

Outlook For The Top 10 Photovoltaic Module Shipments In 2024

Both companies have anchored 50GW module shipments for the whole year. To achieve the goal, Tongwei''s module shipments in the fourth quarter need to increase by 37% year-on-year,

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