

Photovoltaic Market Outlook 2025-2034: Market Share, and Growth Analysis By Component (Modules, Inverters, Balance Of Systems (BOS)), By Cell Type (Full-Cell PV Modules, Half-Cell PV Modules), By Installation Type, By Technology, By Application

<https://marketpublishers.com/r/P50ECE2C815CEN.html>

Date: October 2025

Pages: 160

Price: US\$ 3,950.00 (Single User License)

ID: P50ECE2C815CEN

Abstracts

The Photovoltaic Market is valued at USD 96.6 billion in 2025 and is projected to grow at a CAGR of 8.8% to reach USD 206.7 billion by 2034. The Photovoltaic (PV) Market is undergoing a transformative expansion, driven by increasing global efforts to transition toward renewable energy sources. Photovoltaic technology, which converts sunlight into electricity using solar cells, has gained immense traction due to its sustainability, declining costs, and efficiency improvements. Governments worldwide are implementing aggressive clean energy targets, while corporations are investing heavily in solar energy to reduce carbon footprints. With advancements in panel efficiency, energy storage, and grid integration, solar power is becoming a mainstream energy source for residential, commercial, and industrial applications. In addition, the push for net-zero emissions and the increasing affordability of solar modules are making photovoltaics one of the fastest-growing energy segments. However, challenges such as supply chain disruptions, material shortages, and intermittency concerns persist. Despite these hurdles, the global photovoltaic market is poised for exponential growth, supported by innovations in solar cell materials, bifacial modules, and energy storage solutions. In 2024, the photovoltaic market is witnessing rapid capacity expansion, especially in response to government incentives, corporate renewable energy commitments, and technological advancements. The U.S. Inflation Reduction Act and Europe's Green Deal are significantly boosting investments in solar infrastructure, while China continues to dominate global PV manufacturing. Additionally, the development of perovskite-silicon tandem solar cells is enhancing energy conversion efficiencies beyond 30%, making solar energy even more competitive with fossil fuels. Floating

solar farms, particularly in land-constrained regions like Japan and the Netherlands, are gaining momentum, offering an innovative way to increase solar capacity. Supply chain improvements, including recycling of silicon and rare materials, are helping reduce dependencies on limited raw materials. Meanwhile, energy storage integration with photovoltaics is improving grid reliability, addressing one of the key limitations of solar power. The industry is also seeing increased investments in agrivoltaics, where solar panels are combined with agricultural activities, optimizing land use efficiency. The photovoltaic market is expected to experience an even greater expansion, driven by breakthroughs in solar panel efficiency, battery storage technology, and smart grid integration. The commercialization of quantum dot solar cells and thin-film solar panels will allow for flexible and lightweight solar applications, expanding adoption across urban infrastructure, vehicles, and wearables. Decentralized solar energy systems will gain traction, particularly in developing nations, as microgrids and off-grid solar solutions become more affordable and accessible. The push for energy independence and reduced reliance on fossil fuels will drive major investments in ultra-large solar farms, with many countries setting ambitious renewable energy targets. Hydrogen production through solar-powered electrolysis will also see significant advancements, positioning photovoltaics as a key enabler in the green hydrogen economy. As policies, financing models, and technological breakthroughs align, the photovoltaic market is set to become a cornerstone of global energy transformation.

Key Insights Photovoltaic Market

Perovskite-Silicon Tandem Cells: These high-efficiency solar cells are surpassing traditional silicon-based panels, offering improved performance and lower production costs, making solar energy even more competitive.

Floating Solar Farms: Countries with limited land availability are investing in floating solar installations on reservoirs and lakes, optimizing space while reducing water evaporation and algae growth.

Solar-Storage Integration: The rising adoption of battery storage solutions, such as lithium-ion and solid-state batteries, is addressing solar intermittency issues, enabling 24/7 renewable energy supply.

Agri-voltaics Expansion: The combination of solar energy and agriculture is optimizing land use, allowing farmers to generate electricity while maintaining crop production.

Decentralized Solar Solutions: The adoption of off-grid solar solutions is expanding, particularly in Africa, India, and Southeast Asia, providing electricity access to remote and underserved areas.

Government Policies and Incentives: Policies such as tax credits, feed-in tariffs, and net metering schemes are accelerating photovoltaic adoption in both developed and emerging economies.

Declining Solar Panel Costs: Technological advancements and economies of scale are driving cost reductions in photovoltaic manufacturing, making solar energy more accessible and cost-effective.

Rising Corporate Renewable Energy Commitments: Companies are increasingly investing in solar power to achieve sustainability goals and reduce energy costs, boosting demand for commercial and industrial solar installations.

Energy Transition & Climate Goals: The global push toward net-zero emissions and reducing dependency on fossil fuels is driving record-high investments in solar energy projects.

Supply Chain Constraints and Material Shortages: The dependence on key raw materials like polysilicon, silver, and rare earth elements poses challenges for manufacturers, leading to price fluctuations and potential supply disruptions.

Photovoltaic Market Segmentation

By Component

Modules

Inverters

Balance Of Systems (BOS)

By Cell Type

Full-Cell PV Modules

Half-Cell PV Modules

By Installation Type

Ground-Mounted

Building-Integrated Photovoltaics (BIPV)

Floating PV

By Technology

Thin Film

Mono-Si

Multi-Si

By Application

Residential

Commercial And Industrial

Utilities

Key Companies Analysed

JinkoSolar Holding Co. Ltd.

JA Solar Technology Co. Ltd.

Trina Solar Co. Ltd.

LONGi Green Energy Technology Co. Ltd.

Canadian Solar Inc.

First Solar Inc.

Hanwha Qcells

Wuxi Suntech Power Co. Ltd.

Sharp Corporation

Mitsubishi Electric Corporation

GCL System Integration Technology Co. Ltd.

Risen Energy Co. Ltd.

Shunfeng International Clean Energy Ltd.

Acciona S.A.

SunPower Corporation

Waaree Energies Ltd.

Suntech Power Holding Co. Ltd.

QCELLS Co. Ltd.

NextEra Energy Inc.

Sunrun Inc.

Maxeon Solar Technologies Ltd.

SolarEdge Technologies Inc.

Emmvee Photovoltaic Power Private Limited

ABB Ltd.

SL Power Electronics Corp.

Fimer SpA

Sunnova Energy International Inc.

Yingli Green Energy Holding Company Limited

LG Corp.

REC Solar Holdings AS

Photovoltaic Market Analytics

The report employs rigorous tools, including Porter's Five Forces, value chain mapping, and scenario-based modeling, to assess supply–demand dynamics. Cross-sector influences from parent, derived, and substitute markets are evaluated to identify risks and opportunities. Trade and pricing analytics provide an up-to-date view of international flows, including leading exporters, importers, and regional price trends.

Macroeconomic indicators, policy frameworks such as carbon pricing and energy security strategies, and evolving consumer behavior are considered in forecasting scenarios. Recent deal flows, partnerships, and technology innovations are incorporated to assess their impact on future market performance.

Photovoltaic Market Competitive Intelligence

The competitive landscape is mapped through OG Analysis' proprietary frameworks, profiling leading companies with details on business models, product portfolios, financial performance, and strategic initiatives. Key developments such as mergers & acquisitions, technology collaborations, investment inflows, and regional expansions are analyzed for their competitive impact. The report also identifies emerging players and innovative startups contributing to market disruption.

Regional insights highlight the most promising investment destinations, regulatory

landscapes, and evolving partnerships across energy and industrial corridors.

Countries Covered

North America — Photovoltaic market data and outlook to 2034

United States

Canada

Mexico

Europe — Photovoltaic market data and outlook to 2034

Germany

United Kingdom

France

Italy

Spain

BeNeLux

Russia

Sweden

Asia-Pacific — Photovoltaic market data and outlook to 2034

China

Japan

India

South Korea

Australia

Indonesia

Malaysia

Vietnam

Middle East and Africa — Photovoltaic market data and outlook to 2034

Saudi Arabia

South Africa

Iran

UAE

Egypt

South and Central America — Photovoltaic market data and outlook to 2034

Brazil

Argentina

Chile

Peru

** We can include data and analysis of additional countries on demand.*

Research Methodology

This study combines primary inputs from industry experts across the Photovoltaic value chain with secondary data from associations, government publications, trade databases, and company disclosures. Proprietary modeling techniques, including data

Photovoltaic Market Outlook 2025-2034: Market Share, and Growth Analysis By Component (Modules, Inverters, Bal...

triangulation, statistical correlation, and scenario planning, are applied to deliver reliable market sizing and forecasting.

Key Questions Addressed

What is the current and forecast market size of the Photovoltaic industry at global, regional, and country levels?

Which types, applications, and technologies present the highest growth potential?

How are supply chains adapting to geopolitical and economic shocks?

What role do policy frameworks, trade flows, and sustainability targets play in shaping demand?

Who are the leading players, and how are their strategies evolving in the face of global uncertainty?

Which regional “hotspots” and customer segments will outpace the market, and what go-to-market and partnership models best support entry and expansion?

Where are the most investable opportunities—across technology roadmaps, sustainability-linked innovation, and M&A—and what is the best segment to invest over the next 3–5 years?

Your Key Takeaways from the Photovoltaic Market Report

Global Photovoltaic market size and growth projections (CAGR), 2024-2034

Impact of Russia-Ukraine, Israel-Palestine, and Hamas conflicts on Photovoltaic trade, costs, and supply chains

Photovoltaic market size, share, and outlook across 5 regions and 27 countries, 2023-2034

Photovoltaic market size, CAGR, and market share of key products, applications, and end-user verticals, 2023-2034

Short- and long-term Photovoltaic market trends, drivers, restraints, and opportunities

Porter's Five Forces analysis, technological developments, and Photovoltaic supply chain analysis

Photovoltaic trade analysis, Photovoltaic market price analysis, and Photovoltaic supply/demand dynamics

Profiles of 5 leading companies—overview, key strategies, financials, and products

Latest Photovoltaic market news and developments

Additional Support

With the purchase of this report, you will receive

An updated PDF report and an MS Excel data workbook containing all market tables and figures for easy analysis.

7-day post-sale analyst support for clarifications and in-scope supplementary data, ensuring the deliverable aligns precisely with your requirements.

Complimentary report update to incorporate the latest available data and the impact of recent market developments.

** The updated report will be delivered within 3 working days*

Contents

1. TABLE OF CONTENTS

- 1.1 List of Tables
- 1.2 List of Figures

2. GLOBAL PHOTOVOLTAIC MARKET SUMMARY, 2025

- 2.1 Photovoltaic Industry Overview
 - 2.1.1 Global Photovoltaic Market Revenues (In US\$ billion)
- 2.2 Photovoltaic Market Scope
- 2.3 Research Methodology

3. PHOTOVOLTAIC MARKET INSIGHTS, 2024-2034

- 3.1 Photovoltaic Market Drivers
- 3.2 Photovoltaic Market Restraints
- 3.3 Photovoltaic Market Opportunities
- 3.4 Photovoltaic Market Challenges
- 3.5 Tariff Impact on Global Photovoltaic Supply Chain Patterns

4. PHOTOVOLTAIC MARKET ANALYTICS

- 4.1 Photovoltaic Market Size and Share, Key Products, 2025 Vs 2034
- 4.2 Photovoltaic Market Size and Share, Dominant Applications, 2025 Vs 2034
- 4.3 Photovoltaic Market Size and Share, Leading End Uses, 2025 Vs 2034
- 4.4 Photovoltaic Market Size and Share, High Growth Countries, 2025 Vs 2034
- 4.5 Five Forces Analysis for Global Photovoltaic Market
 - 4.5.1 Photovoltaic Industry Attractiveness Index, 2025
 - 4.5.2 Photovoltaic Supplier Intelligence
 - 4.5.3 Photovoltaic Buyer Intelligence
 - 4.5.4 Photovoltaic Competition Intelligence
 - 4.5.5 Photovoltaic Product Alternatives and Substitutes Intelligence
 - 4.5.6 Photovoltaic Market Entry Intelligence

5. GLOBAL PHOTOVOLTAIC MARKET STATISTICS – INDUSTRY REVENUE, MARKET SHARE, GROWTH TRENDS AND FORECAST BY SEGMENTS, TO 2034

5.1 World Photovoltaic Market Size, Potential and Growth Outlook, 2024- 2034 (\$ billion)

5.1 Global Photovoltaic Sales Outlook and CAGR Growth By Component, 2024- 2034 (\$ billion)

5.2 Global Photovoltaic Sales Outlook and CAGR Growth By Cell Type, 2024- 2034 (\$ billion)

5.3 Global Photovoltaic Sales Outlook and CAGR Growth By Installation Type, 2024- 2034 (\$ billion)

5.4 Global Photovoltaic Sales Outlook and CAGR Growth By Technology, 2024- 2034 (\$ billion)

5.5 Global Photovoltaic Sales Outlook and CAGR Growth By Application, 2024- 2034 (\$ billion)

5.6 Global Photovoltaic Market Sales Outlook and Growth by Region, 2024- 2034 (\$ billion)

6. ASIA PACIFIC PHOTOVOLTAIC INDUSTRY STATISTICS – MARKET SIZE, SHARE, COMPETITION AND OUTLOOK

6.1 Asia Pacific Photovoltaic Market Insights, 2025

6.2 Asia Pacific Photovoltaic Market Revenue Forecast By Component, 2024- 2034 (USD billion)

6.3 Asia Pacific Photovoltaic Market Revenue Forecast By Cell Type, 2024- 2034 (USD billion)

6.4 Asia Pacific Photovoltaic Market Revenue Forecast By Installation Type, 2024- 2034 (USD billion)

6.5 Asia Pacific Photovoltaic Market Revenue Forecast By Technology, 2024- 2034 (USD billion)

6.6 Asia Pacific Photovoltaic Market Revenue Forecast By Application, 2024- 2034 (USD billion)

6.7 Asia Pacific Photovoltaic Market Revenue Forecast by Country, 2024- 2034 (USD billion)

6.7.1 China Photovoltaic Market Size, Opportunities, Growth 2024- 2034

6.7.2 India Photovoltaic Market Size, Opportunities, Growth 2024- 2034

6.7.3 Japan Photovoltaic Market Size, Opportunities, Growth 2024- 2034

6.7.4 Australia Photovoltaic Market Size, Opportunities, Growth 2024- 2034

7. EUROPE PHOTOVOLTAIC MARKET DATA, PENETRATION, AND BUSINESS PROSPECTS TO 2034

- 7.1 Europe Photovoltaic Market Key Findings, 2025
- 7.2 Europe Photovoltaic Market Size and Percentage Breakdown By Component, 2024-2034 (USD billion)
- 7.3 Europe Photovoltaic Market Size and Percentage Breakdown By Cell Type, 2024-2034 (USD billion)
- 7.4 Europe Photovoltaic Market Size and Percentage Breakdown By Installation Type, 2024- 2034 (USD billion)
- 7.5 Europe Photovoltaic Market Size and Percentage Breakdown By Technology, 2024-2034 (USD billion)
- 7.6 Europe Photovoltaic Market Size and Percentage Breakdown By Application, 2024-2034 (USD billion)
- 7.7 Europe Photovoltaic Market Size and Percentage Breakdown by Country, 2024-2034 (USD billion)
 - 7.7.1 Germany Photovoltaic Market Size, Trends, Growth Outlook to 2034
 - 7.7.2 United Kingdom Photovoltaic Market Size, Trends, Growth Outlook to 2034
 - 7.7.2 France Photovoltaic Market Size, Trends, Growth Outlook to 2034
 - 7.7.2 Italy Photovoltaic Market Size, Trends, Growth Outlook to 2034
 - 7.7.2 Spain Photovoltaic Market Size, Trends, Growth Outlook to 2034

8. NORTH AMERICA PHOTOVOLTAIC MARKET SIZE, GROWTH TRENDS, AND FUTURE PROSPECTS TO 2034

- 8.1 North America Snapshot, 2025
- 8.2 North America Photovoltaic Market Analysis and Outlook By Component, 2024-2034 (\$ billion)
- 8.3 North America Photovoltaic Market Analysis and Outlook By Cell Type, 2024- 2034 (\$ billion)
- 8.4 North America Photovoltaic Market Analysis and Outlook By Installation Type, 2024-2034 (\$ billion)
- 8.5 North America Photovoltaic Market Analysis and Outlook By Technology, 2024-2034 (\$ billion)
- 8.6 North America Photovoltaic Market Analysis and Outlook By Application, 2024-2034 (\$ billion)
- 8.7 North America Photovoltaic Market Analysis and Outlook by Country, 2024- 2034 (\$ billion)
 - 8.7.1 United States Photovoltaic Market Size, Share, Growth Trends and Forecast, 2024- 2034
 - 8.7.1 Canada Photovoltaic Market Size, Share, Growth Trends and Forecast, 2024-2034

8.7.1 Mexico Photovoltaic Market Size, Share, Growth Trends and Forecast, 2024-2034

9. SOUTH AND CENTRAL AMERICA PHOTOVOLTAIC MARKET DRIVERS, CHALLENGES, AND FUTURE PROSPECTS

9.1 Latin America Photovoltaic Market Data, 2025

9.2 Latin America Photovoltaic Market Future By Component, 2024- 2034 (\$ billion)

9.3 Latin America Photovoltaic Market Future By Cell Type, 2024- 2034 (\$ billion)

9.4 Latin America Photovoltaic Market Future By Installation Type, 2024- 2034 (\$ billion)

9.5 Latin America Photovoltaic Market Future By Technology, 2024- 2034 (\$ billion)

9.6 Latin America Photovoltaic Market Future By Application, 2024- 2034 (\$ billion)

9.7 Latin America Photovoltaic Market Future by Country, 2024- 2034 (\$ billion)

9.7.1 Brazil Photovoltaic Market Size, Share and Opportunities to 2034

9.7.2 Argentina Photovoltaic Market Size, Share and Opportunities to 2034

10. MIDDLE EAST AFRICA PHOTOVOLTAIC MARKET OUTLOOK AND GROWTH PROSPECTS

10.1 Middle East Africa Overview, 2025

10.2 Middle East Africa Photovoltaic Market Statistics By Component, 2024- 2034 (USD billion)

10.3 Middle East Africa Photovoltaic Market Statistics By Cell Type, 2024- 2034 (USD billion)

10.4 Middle East Africa Photovoltaic Market Statistics By Installation Type, 2024- 2034 (USD billion)

10.5 Middle East Africa Photovoltaic Market Statistics By Technology, 2024- 2034 (USD billion)

10.6 Middle East Africa Photovoltaic Market Statistics By Application, 2024- 2034 (USD billion)

10.7 Middle East Africa Photovoltaic Market Statistics by Country, 2024- 2034 (USD billion)

10.7.1 Middle East Photovoltaic Market Value, Trends, Growth Forecasts to 2034

10.7.2 Africa Photovoltaic Market Value, Trends, Growth Forecasts to 2034

11. PHOTOVOLTAIC MARKET STRUCTURE AND COMPETITIVE LANDSCAPE

11.1 Key Companies in Photovoltaic Industry

11.2 Photovoltaic Business Overview

11.3 Photovoltaic Product Portfolio Analysis

11.4 Financial Analysis

11.5 SWOT Analysis

12 APPENDIX

12.1 Global Photovoltaic Market Volume (Tons)

12.1 Global Photovoltaic Trade and Price Analysis

12.2 Photovoltaic Parent Market and Other Relevant Analysis

12.3 Publisher Expertise

12.2 Photovoltaic Industry Report Sources and Methodology

I would like to order

Product name: Photovoltaic Market Outlook 2025-2034: Market Share, and Growth Analysis By Component (Modules, Inverters, Balance Of Systems (BOS)), By Cell Type (Full-Cell PV Modules, Half-Cell PV Modules), By Installation Type, By Technology, By Application

Product link: <https://marketpublishers.com/r/P50ECE2C815CEN.html>

Price: US\$ 3,950.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/P50ECE2C815CEN.html>