

# **Agri-Voltaics Market Forecasts to 2034 – Global Analysis By System Type (Fixed Solar Panels, Dynamic Solar Panels, Greenhouse Solar Systems, Shade Net Solar Systems and Other System Types), Component, Technology, Application, End User, and By Geography**

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## **Abstracts**

According to Statistics MRC, the Global Agri-Voltaics Market is accounted for \$2.6 billion in 2026 and is expected to reach \$14.8 billion by 2034 growing at a CAGR of 24.1% during the forecast period. Agri-voltaics, also known as agrivoltaics, refers to the simultaneous use of land for agricultural production and solar energy generation. In this system, solar panels are installed above or alongside crops, allowing farming and renewable energy production to occur on the same land area. Agri-voltaic systems can improve land-use efficiency, provide shade that reduces water evaporation, and create additional income streams for farmers through energy generation. These solutions support sustainability goals by combining clean energy production with food cultivation. Growing interest in renewable energy integration is driving investments in agri-voltaic farming systems worldwide.

Market Dynamics:

Driver:

Dual land-use efficiency benefits

Farmers are increasingly seeking solutions that improve land productivity and revenue generation simultaneously. Agri-voltaic systems help optimize land utilization without

completely displacing agricultural activities. Rising focus on renewable energy integration in agriculture is further supporting market growth. Governments and energy developers are promoting sustainable land-use practices across farming regions. Demand for energy-efficient agricultural systems is steadily increasing. These factors are driving strong market expansion.

Restraint:

#### Complex farm energy integration

Agri-voltaic systems require careful planning to balance crop cultivation and energy generation efficiency. Installation complexity increases operational and maintenance requirements for farmers. Additional investments in electrical infrastructure and grid connectivity further raise project costs. Farmers often face technical challenges in adapting traditional farming practices to solar-integrated systems. Lack of technical expertise also limits adoption in certain regions. These factors collectively restrain market growth.

Opportunity:

#### Government renewable subsidy programs

Government renewable energy subsidy programs are creating significant growth opportunities for the agri-voltaics market. Many countries are introducing financial incentives to support clean energy adoption in agricultural sectors. This is driving government renewable subsidy programs as policymakers increasingly implement tax benefits, feed-in tariffs, capital subsidies, and renewable energy grants to encourage farmers and energy developers to invest in integrated solar farming infrastructure and sustainable agricultural power generation systems. Public-private partnerships are also supporting project expansion.

Threat:

#### Land-use policy uncertainties

Policies regarding agricultural land conversion and solar infrastructure vary across regions. Regulatory ambiguity can delay project approvals and investment decisions. Farmers and developers often face difficulties in understanding compliance requirements. Frequent policy changes create uncertainty in long-term planning. Legal

disputes over land utilization rights may further impact project execution. These factors act as a significant market threat.

#### Covid-19 Impact:

The COVID-19 pandemic increased awareness regarding sustainable energy and resilient agricultural systems globally. Supply chain disruptions initially delayed solar equipment deployment and installation activities. However, interest in renewable energy integration within agriculture strengthened during the pandemic period. Governments introduced green recovery initiatives supporting renewable infrastructure investments. Farmers increasingly focused on energy cost optimization and operational sustainability. Investment in decentralized clean energy systems gained momentum. Overall, the pandemic supported long-term market development.

The fixed solar panels segment is expected to be the largest during the forecast period

The fixed solar panels segment is expected to account for the largest market share during the forecast period due to their reliable energy generation capabilities suitable for large-scale agricultural land integration projects globally. Fixed panel systems require lower maintenance compared to tracking solar technologies. Farmers prefer them due to their long operational lifespan and installation stability. Increasing adoption of renewable farming infrastructure further strengthens segment dominance. Government support for solar deployment is also contributing to growth. These factors ensure strong market leadership.

The greenhouse farming segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the greenhouse farming segment is predicted to witness the highest growth rate due to increasing demand for controlled-environment agriculture combined with sustainable renewable energy generation systems across commercial farming operations globally. Agri-voltaic integration in greenhouse structures improves energy efficiency while supporting optimized crop production. This is driving greenhouse farming segment growth as agricultural enterprises increasingly invest in solar-powered greenhouse facilities, advanced climate control systems, and integrated renewable infrastructure to reduce operational costs and enhance sustainable food production capabilities. Demand for high-efficiency farming systems is increasing steadily.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share owing to strong renewable energy adoption and increasing investments in sustainable agricultural infrastructure across countries such as the United States and Canada. The region benefits from advanced solar technology deployment and supportive policy frameworks. Farmers are increasingly adopting integrated energy farming systems to optimize land productivity. Government incentives for clean energy projects further support market expansion. Presence of major renewable energy developers strengthens industry growth.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR driven by increasing renewable energy investments in countries such as China, India, Japan, and South Korea. Governments are actively supporting solar integration within farming operations through subsidy programs and sustainability initiatives. Rapid rural electrification is accelerating adoption of decentralized renewable systems. Growing population levels are increasing pressure on efficient land utilization. Investments in smart agriculture infrastructure are also expanding rapidly. These factors drive the fastest regional growth.

Key players in the market

Some of the key players in Agri-Voltaics Market include BayWa r.e. AG, Enel Green Power S.p.A., Next2Sun GmbH, Sun'Agri, REM Tec S.r.l., JinkoSolar Holding Co., Ltd., First Solar, Inc., Canadian Solar Inc., Trina Solar Co., Ltd., Sharp Corporation, EDF Renewables, Engie SA, Tata Power Solar Systems Ltd., Waaree Energies Ltd. and TotalEnergies SE.

Key Developments:

In May 2026, Enel Green Power collaborated with the IRENA Coalition for Action to publish a comprehensive global framework for solar-powered agri-food systems. This strategic initiative showcases successful business models for Productive Use of Renewable Energy (PURE), providing smallholder farmers and agricultural cooperatives with the financial blueprints needed to run solar-powered cold storage units.

In March 2026, BayWa r.e. accelerated its global corporate restructuring to refocus its capital entirely on high-growth, decentralized energy systems across core European

markets. This collaborative initiative aligns its solar project pipeline with climate-resilient agriculture, prioritizing the development of dual-use agrivoltaics and rural microgrids to power decentralized crop cooling systems.

#### System Types Covered:

- Fixed Solar Panels
- Dynamic Solar Panels
- Greenhouse Solar Systems
- Shade Net Solar Systems
- Other System Types

#### Components Covered:

- Solar Panels
- Mounting Structures
- Inverters
- Monitoring Systems
- Other Components

#### Technologies Covered:

- Photovoltaic Systems
- Bifacial Solar Technology
- Smart Monitoring Technology
- Energy Storage Integration

## Other Technologies

### Applications Covered:

Crop Production

Greenhouse Farming

Livestock Farming

Rural Electrification

Other Applications

### End Users Covered:

Commercial Farms

Greenhouse Operators

Agricultural Cooperatives

Renewable Energy Developers

Other End Users

### Regions Covered:

North America

United States

Canada

Mexico

## Europe

United Kingdom

Germany

France

Italy

Spain

Netherlands

Belgium

Sweden

Switzerland

Poland

Rest of Europe

## Asia Pacific

China

Japan

India

South Korea

Australia

Indonesia

Thailand

Malaysia

Singapore

Vietnam

Rest of Asia Pacific

South America

Brazil

Argentina

Colombia

Chile

Peru

Rest of South America

Rest of the World (RoW)

Middle East

Saudi Arabia

United Arab Emirates

Qatar

Israel

Rest of Middle East

Africa

South Africa

Egypt

Morocco

Rest of Africa

What our report offers:

Market share assessments for the regional and country-level segments

Strategic recommendations for the new entrants

Covers Market data for the years 2023, 2024, 2025, 2026, 2027, 2028, 2030, 2032 and 2034

Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)

Strategic recommendations in key business segments based on the market estimations

Competitive landscaping mapping the key common trends

Company profiling with detailed strategies, financials, and recent developments

Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

#### Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

#### Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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