

Global Building Integrated Photovoltaics (BIPV) Market Size Study, by End-User (Commercial, Residential, Industrial), by Panel Type (Crystalline Panel, Thin-Film Panel), and Regional Forecasts 2022-2032

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Abstracts

Global Building Integrated Photovoltaics (BIPV) Market is valued at approximately USD 26.63 Billion in 2023 and is anticipated to grow with a healthy growth rate of more than 21.25% over the forecast period 2024-2032. Building Integrated Photovoltaics (BIPV) are solar cells that are incorporated directly into a building's structure, serving dual functions as building materials and power generators. They can be integrated into roofs, walls, or windows, offering an aesthetically pleasing and sustainable solution to electricity generation. This innovative approach not only reduces reliance on traditional power sources but also significantly enhances a building's energy efficiency and environmental footprint. The market growth is propelled by rising energy costs in commercial buildings, increasing electricity prices, and a reduction in the cost of solar PV.

The market dynamics of the Building Integrated Photovoltaics (BIPV) sector are characterized by a strong demand to reduce energy costs, prompting increased adoption of integrated roof systems and BIPV in both residential and commercial buildings. A notable trend in this market is the reduction in solar PV costs, facilitated by advancements in photovoltaic materials and the development of thin film BIPV modules. However, the industry faces challenges due to the intermittent nature of solar power, necessitating innovative solutions to address issues such as heat generation and wireless connectivity in BIPV systems. With a focus on leveraging alternate sources of energy and reducing carbon footprint, BIPV solutions offer ecological benefits while contributing to the construction of energy-efficient buildings.

The key drivers of market growth include the rising demand to reduce energy costs in

buildings. Commercial buildings, healthcare facilities, and manufacturing plants are some of the most energy-intensive end-users, as they need to function round-the-clock and use various equipment for their operations. By implementing energy management practices, a building can save 10%-20% of its energy consumption and extend it above 30% with a comprehensive energy plan.

Significant market trends include the reduction in solar PV costs. Renewable penetration refers to the amount of renewable energy that can be added to the system output. For example, in March 2021, the United States Department of Energy (DOE) announced an ambitious goal to reduce the cost of solar energy by 60% over the next ten years. A decline in solar PV prices has resulted in market growth. Globally, there has been more than a 40% decline in price in the past decade. However, the market faces challenges due to the intermittent nature of solar power. Power output from solar PV depends on factors such as the efficiency of the panel, solar irradiation, and the degree of shading, which varies according to the time of day and cloud cover. The intermittent nature of solar power can pose challenges for grid operators in managing fluctuations in power supply.

The key regions considered for the global Building Integrated Photovoltaics (BIPV) Market study include Asia Pacific, North America, Europe, Latin America, and Rest of the World. Europe is a dominating region in the Building Integrated Photovoltaics (BIPV) Market in terms of revenue. The market growth in the region is being attributed to factors including high demand for installations from power utilities and the residential sector. Advances in building integrated technology further attract market players to this region. To stimulate additional commercial development, governments are offering support policies and R&D funding, while project developers are discovering various finance tactics to help accelerate the investment payback systems. The presence of demand for renewable energy in this region and government initiatives and investment to develop infrastructure related to smart cities in this region have led to the significant importance of the BIPV market. Whereas, the market in Asia Pacific is anticipated to grow at the fastest rate over the forecast period fueled by rapid urbanization, increasing energy demand, and supportive government policies promoting renewable energy adoption. Additionally, the region's focus on sustainable development and the growing awareness of climate change are driving the integration of solar energy into building designs, propelling the BIPV market growth.

Major market players included in this report are:

First Solar Inc.

Hanergy Thin Film Power EME BV

Harsha Abakus-Solar Pvt. Ltd.

Heliatek GmbH
Kyocera Corp.
Meyer Burger Technology AG
Onyx Solar Group LLC
PowerFilm Solar Inc.
Reliance Industries Ltd.
SCHOTT AG
Sharp Corp.
Solaria Corp.
BELECTRIC-Solar and Battery GmbH
Canadian Solar Inc.
ertex-solar

The detailed segments and sub-segment of the market are explained below:

By End-User:

- Commercial
- Residential
- Industrial

By Panel Type:

- Crystalline Panel
- Thin-Film Panel

By Region:

- North America
 - o U.S.
 - o Canada
- Europe
 - o UK
 - o Germany
 - o France
 - o Spain
 - o Italy
 - o ROE
- Asia-Pacific
 - o China
 - o India
 - o Japan
 - o Australia
 - o South Korea
 - o RoAPAC

- Latin America
 - o Brazil
 - o Mexico
 - o RoLA
- Middle East & Africa
 - o Saudi Arabia
 - o South Africa
 - o RoMEA

Years considered for the study are as follows:

- Historical year – 2022
- Base year – 2023
- Forecast period – 2024 to 2032

Key Takeaways:

- Market Estimates & Forecast for 10 years from 2022 to 2032.
- Annualized revenues and regional level analysis for each market segment.
- Detailed analysis of geographical landscape with Country level analysis of major regions.
- Competitive landscape with information on major players in the market.
- Analysis of key business strategies and recommendations on future market approach.
- Analysis of competitive structure of the market.
- Demand side and supply side analysis of the market.

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