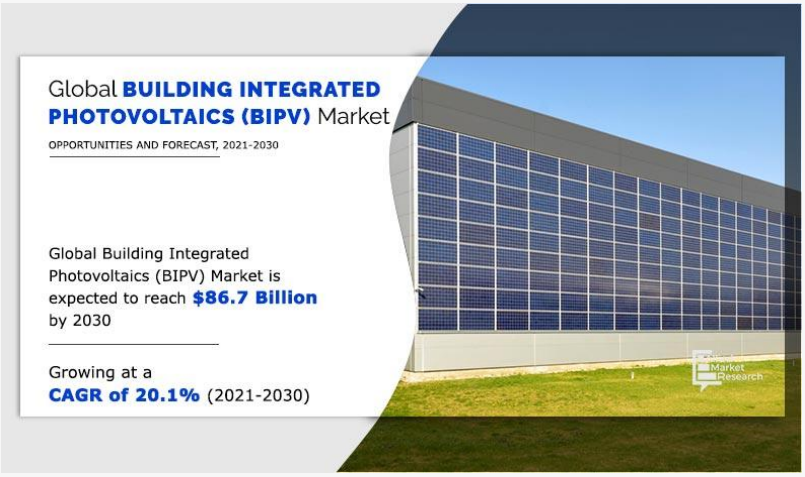
Building Integrated Photovoltaics Market to Reach $86.7 Billion by 2030 | CAGR of 20.1%

Building Integrated Photovoltaics (BIPV) Market Booms as Green Infrastructure Gains Global Momentum



WILMINGTON, DE, UNITED STATES, July 25, 2025 /EINPresswire.com/ -- The global building integrated photovoltaics market is witnessing unprecedented growth, driven by rising awareness of sustainable construction and strong government incentives. According to a recent report published by Allied Market Research, the global building integrated photovoltaics (BIPV) market was valued at $14.0 billion in 2020 and is projected to reach a staggering $86.7 billion by 2030. This represents a remarkable compound annual growth rate (CAGR) of 20.1% from 2021 to 2030.

> Building Integrated Photovoltaics Market to grow at 20.1% CAGR, reaching $86.7B by 2030, driven by green energy policies & demand for BIPV.”
>
> *Allied Market Research*

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What is Building Integrated Photovoltaics?

Building integrated photovoltaics (BIPV) are solar power-generating materials incorporated directly into the architecture of buildings—replacing traditional materials in roofs, walls, facades, and skylights. These systems not only serve as building envelopes but also generate clean, renewable electricity.

BIPV systems typically include photovoltaic modules, power storage, charge controllers, backup power systems, and other supporting equipment. Their integration enhances energy efficiency, architectural aesthetics, and environmental sustainability.

Key Growth Drivers: Clean Energy Demand & Green Building Regulations

One of the major driving forces for the building integrated photovoltaics market is the global push toward green infrastructure. National governments around the world are introducing incentives and financial subsidies to promote the adoption of solar power and reduce carbon footprints.

Increased awareness about energy-efficient buildings has amplified the demand for BIPV solutions. These systems reduce the need for conventional power sources, cut down on emissions, and eliminate the need for separate roofing or façade materials—reducing labor and material costs.

Moreover, rising investments in solar technology, paired with supportive government frameworks, are fueling large-scale deployment of BIPV systems in both residential and commercial settings.

High Installation Costs Pose a Challenge □

Despite the numerous benefits, the high initial cost of BIPV installation remains a major restraint. Cost includes not only the solar modules but also architectural integration, power storage systems, and skilled labor. However, these upfront expenses are gradually offset by long-term savings on electricity bills and building maintenance.

The heat generated from BIPV modules also opens new opportunities for energy reuse and system integration with HVAC systems—paving the way for further market growth.

Segment Analysis: Crystalline Silicon Leads the Charge □□

By technology, crystalline silicon dominated the building integrated photovoltaics market in 2020, accounting for over two-thirds of the global share. This dominance is attributed to its durability, efficiency, and weather-resistant properties.

The thin film segment is also gaining traction due to its lightweight and flexible nature—suitable for unconventional surfaces and modern architectural designs.

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Application Spotlight: Rooftop Installations Dominate □

Among the various applications, roof installations led the market with 38.7% share in 2020. Roofs offer the largest surface area for solar panel deployment, making them ideal for residential and commercial applications. Additionally, the roof segment benefits from easy access to sunlight and simple maintenance.

The glass segment is forecast to grow at the highest CAGR of 21.0%, driven by increasing demand for transparent solar panels in commercial and retail architecture.

End-use Industry: Commercial Sector Takes the Lead

In terms of end use, the commercial segment dominated the BIPV market in 2020, capturing 53.8% of the revenue share. The adoption of BIPV solutions in commercial buildings is fueled by the need to reduce operational energy costs, meet regulatory standards, and enhance brand image with sustainable practices.

The residential segment, however, is expected to grow at the fastest pace (CAGR of 20.7%) as more homeowners embrace energy independence and eco-conscious living.

Europe Leads, North America on the Rise

Regionally, Europe held the largest market share in 2020, thanks to EU policies promoting green buildings, renewable energy mandates, and solar subsidies. The European Commission's focus on zero-emission infrastructure has positioned the region as a global leader in BIPV adoption.

Meanwhile, North America is projected to witness the fastest growth, with a CAGR of 20.7%. Countries like the U.S. and Canada are rapidly transitioning toward renewable energy sources and investing heavily in smart cities and energy-efficient homes.

Impact of COVID-19: Short-Term Setback, Long-Term Opportunity

The COVID-19 pandemic caused temporary disruptions in the BIPV supply chain, particularly due to China's lockdowns affecting solar panel production. With most countries depending on imports for PV modules, the market faced significant delays and labor shortages in 2020.

However, as restrictions eased and recovery plans emphasized green energy, the building integrated photovoltaics market regained its momentum in 2021. The market is now on track for full recovery and accelerated growth through 2030.

Major Players in the BIPV Market

Key players driving innovation and market expansion include:

AGC Solar

Belectric

Heliatek GmbH

Hanergy Holding Group Limited

Canadian Solar Inc.

Tesla Inc.

Carmanah Technologies Corporation

Ertex Solartechnik GmbH

Solaria Corporation

Greatcell Solar Limited

These companies are focusing on R&D, strategic partnerships, and product diversification to capitalize on growing BIPV demand worldwide.

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Conclusion: BIPV Powers a Greener Future □□

The building integrated photovoltaics market is rapidly evolving from a niche innovation to a mainstream solution for sustainable infrastructure. With robust policy support, rising energy costs, and growing environmental awareness, BIPV is set to play a pivotal role in shaping the buildings of the future.

As the world transitions toward net-zero goals, BIPV stands at the forefront—turning everyday structures into powerhouses of clean energy.

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Pawan Kumar, the CEO of Allied Market Research, is leading the organization toward providing high-quality data and insights. We are in professional corporate relations with various companies and this helps us in digging out market data that helps us generate accurate research data tables and confirms utmost accuracy in our market forecasting. Each and every data presented in the reports published by us is extracted through primary interviews with top officials from leading companies of domain concerned. Our secondary data procurement methodology includes deep online and offline research and discussion with knowledgeable professionals and analysts in the industry.

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