Net-Zero Buildings Drive Expansion of the Building Integrated Photovoltaics Market

The global BIPV market is set to expand due to rising adoption of solar solutions, green building awareness, and advanced installation technologies.

WILMINGTON, DE, UNITED STATES, March 18, 2025 /EINPresswire.com/ -- The global building integrated photovoltaics market was valued at $14.0 billion in 2020, and is projected to reach $86.7 billion by 2030, growing at a CAGR of 20.1% from 2021 to 2030. Building-integrated photovoltaics (BIPVs) refer to solar power generating components that are used in constructing facades, roofs, and skylights in buildings. Generally, these components include integration of photovoltaic modules, backup power supply system, charge controller, power storage system, and other supporting hardware. BIPV materials offer several benefits over their traditional counterparts as they provide onsite power generation, zero emissions, high energy conservation, superior architectural integration, and optimal shading. In addition, BIPVs also help in reducing labor and installation costs by replacing high-end roof membranes, skylight glazing, and façade cladding.

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The global demand for building integrated photovoltaics market is primarily driven by increase in efforts by national governments for installation of solar energy panels. Rise in awareness regarding green infrastructure, including buildings with energy efficiency, is expected to boost demand for building-integrated photovoltaics (BIPV). BIPV provides a sustainable and effective solution for enhancing energy efficiency of a structure, retrofitting exterior of a structure, and providing significant savings in conventional power consumption. In addition, rise in implementation of supportive government regulations including financial benefits and incentives to promote green infrastructure and rise in investments in the solar industry across the globe are expected to increase solar energy integration in residential and commercial sectors during the forecast period. However, high initial costs of investments is expected to hamper the building integrated photovoltaics market growth during the forecast period. Furthermore, heat generation from BIPV modules is expected to provide growth opportunities for the global market during the forecast period.

Key Growth Drivers of the Building Integrated Photovoltaic (BIPV) Market □□□
The Building Integrated Photovoltaic (BIPV) market is experiencing rapid growth, driven by advancements in solar technology, sustainability initiatives, and the rising demand for energy-

efficient buildings. Here are the key factors fueling this expansion:

1□□ Growing Focus on Sustainable & Green Buildings □
- Increasing demand for zero-energy buildings (ZEBs) and LEED-certified projects.
- Governments and corporations are prioritizing carbon neutrality and energy-efficient construction.

2□□ Supportive Government Policies & Incentives □
- Tax credits, subsidies, and feed-in tariffs for solar energy adoption.
- Regulations promoting net-zero carbon emissions in construction and urban development.

3□□ Advancements in Photovoltaic Technology □
- Development of high-efficiency solar cells, transparent PV glass, and flexible PV modules.
- Integration of smart energy management systems with BIPV solutions.

4□□ Rising Demand for Aesthetic & Functional Solar Solutions □
- Architects and developers are adopting seamless solar integration in building facades, windows, and roofs.
- BIPV enhances both aesthetics and functionality, unlike traditional rooftop solar panels.

5□□ Increasing Urbanization & Smart City Initiatives □
- Growth in urban infrastructure and smart city projects drives the adoption of solar-integrated building materials.
- BIPV plays a key role in sustainable urban energy management.

6□□ Cost Reductions & Improved ROI □
- Declining costs of solar panels and PV materials make BIPV more affordable.
- Long-term savings from reduced electricity bills and increased property value.

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Region-wise, the global building integrated photovoltaics market is studied across North America, Europe, Asia-Pacific, and LAMEA. Europe emerged as the leader in 2020, owing to European Commission's supportive directives in the form of financial incentives, such as subsidies on photovoltaic integration. Europe accounted for a major building integrated photovoltaics market share in 2020, and dominated the global market with more than one-third of the total market share in 2020.

The major players studied and profiled in the global building integrated photovoltaics market are AGC Solar, Belectric, Heliatek GmbH, Carmanah Technologies Corporation, Greatcell Solar Limited, Hanergy Holding Group Limited, Ertex Solartechnik GmbH, Canadian Solar Inc., Tesla Inc., and Solaria Corporation.

Key findings of the study
• In 2020, Europe dominated the global building integrated photovoltaics market with around 39.8% share, in terms of revenue.
• North America is projected to grow at the highest CAGR of 20.7% in terms of revenue.
• The crystalline silicon segment dominated the global building integrated photovoltaics market with around 70.0% of the share in terms of revenue. In addition, it is also projected to grow at the highest CAGR of 20.4% in terms of revenue.
• The roof segment dominated the global building integrated photovoltaics market with around 38.7% of the share in terms of revenue.
• The glass segment is projected to grow at the highest CAGR of 21.0% in terms of revenue.
• The commercial segment dominated the global building integrated photovoltaics market with around 53.8% of the share in terms of revenue.
• The residential segment is projected to grow at the highest CAGR of 20.7% in terms of revenue.

David Correa
Allied Market Research
+15038946022 ext.
email us here
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