

Building Integrated Photovoltaics Glass Market Growth Driven by Sustainable Buildings & Solar Innovation | DataM

BIPV market grows with demand for sustainable buildings, energy-efficient construction, and integration of advanced solar technologies in urban infrastructure.

TEXAS, TX, UNITED STATES, September 16, 2025 /EINPresswire.com/ -- The

global [Building Integrated Photovoltaics \(BIPV\) Glass market](#) is

booming, with a projected CAGR of 37.4% from 2024 to 2031. BIPV glass replaces traditional building envelope materials (in façades, roofs, skylights, etc.) with solar-integrated glass,

allowing buildings to generate electricity on-site while enhancing architectural aesthetics and energy efficiency. Demand is particularly strong in the residential, infrastructure, and industrial sectors of Asia Pacific and Europe, as sustainability policies and energy standards drive adoption.



Building Integrated Photovoltaics Glass Market

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Market Dynamics

Drivers

- **Energy Efficiency & Aesthetics:** BIPV glass acts as a structural element while producing clean electricity, reducing material and energy costs, and improving building appearance.
- **Sustainability & Regulation:** Nearly Zero Energy Building (NZEB) mandates, especially in Europe, are propelling demand for creative, energy-saving solutions. Policy initiatives—such as the EU directive requiring large-scale NZEB implementation—are reinforcing the market.

- **Technological Advances:** The cost of photovoltaic modules continues to drop, and innovations (like crystalline silicon glass) have improved power output, customization, and integration into modern building designs.

Restraints

- **Consumer Awareness:** Many decision-makers remain underinformed on solar building benefits and incentives.
- **Lower Energy Efficiency:** BIPV glass generally has lower conversion efficiency (<20%) than traditional rooftop PV panels and is more sensitive to site specifics and weather.

Segment Insights

- **Type & Technology:** Crystalline silicon glass dominates due to easy customization, high efficiency, and suitability for skylights, canopies, and solid walls. It outperforms amorphous PV glass, especially where space is limited and power density matters.
- **End User:** Residential and commercial building demand is rising thanks to urban sustainability pushes and investment in smart eco-friendly infrastructure.

Regional Analysis

- **Europe** holds the largest market share, fueled by stringent energy performance laws, economic incentives for solar integration, and a focus on decarbonizing the building stock. Countries like France and the Netherlands offer bonus tariffs and net-metering for BIPV, driving further adoption.
- **Asia-Pacific** is fastest-growing, riding a wave of urbanization, government clean energy targets, and large-scale infrastructure projects especially in China, Japan, and India.

United States: Recent Industry Developments

- In September 2025, First Solar announced the launch of next-gen BIPV glass panels for commercial building facades, integrating high efficiency with architectural aesthetics.
- In August 2025, Onyx Solar expanded its U.S. operations with customized BIPV glass solutions for skyscrapers and urban infrastructure projects.
- In July 2025, Tesla Energy introduced solar roof glass tiles with enhanced durability and higher energy conversion rates.
- In June 2025, Ubiquitous Energy partnered with U.S. developers to deploy transparent solar windows in commercial buildings.
- In May 2025, Solaria Corporation expanded its BIPV glass offerings for residential and office buildings.

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Europe: Recent Industry Developments

- In September 2025, AGC Glass Europe launched energy-generating BIPV facade glass designed for sustainable smart cities.
- In August 2025, Saint-Gobain announced BIPV-integrated curtain wall solutions, combining daylighting and energy harvesting.
- In July 2025, Schott AG developed semi-transparent BIPV glass modules for architectural applications across Europe.
- In June 2025, Heliatek expanded commercial deployments of organic BIPV glass films for zero-energy buildings.
- In May 2025, Pilkington Glass introduced structural BIPV glazing systems to integrate solar power into modern architecture.

Japan: Recent Industry Developments

- In September 2025, Sharp Corporation unveiled high-efficiency BIPV glass panels for residential and commercial rooftops.
- In August 2025, Panasonic expanded its solar window glass solutions, targeting office towers and high-rise apartments.
- In July 2025, Kyocera introduced semi-transparent BIPV glass for greenhouses and eco-friendly buildings.
- In June 2025, AGC Inc. partnered with Japanese construction firms to install BIPV curtain wall glass in smart building projects.
- In May 2025, Sekisui Chemical launched durable laminated BIPV glass for earthquake-resilient building designs.

Notable Developments

- The introduction of colored crystalline silicon BIPV panels for façade applications, offering both high efficiency and design flexibility.
- Hevel Solar's 22.3% efficient heterojunction module for BIPV, and Vitro Architectural Glass's Solarvolt™ launch.
- Expansion of manufacturing and distribution partnerships (e.g., Ertex Solar's collaboration with Pholtec).

Competitive Landscape & Key Players

The market is highly competitive and fragmented, featuring major players like:

- Onyx Solar Group LLC
- Canadian Solar
- Solarwatt
- First Solar
- AGC Inc
- Nippon Sheet Glass Co., Ltd

- Wuxi Suntech Power
- Glassbel Baltic
- TAIYO KOGYO
- ViaSolis

Market strategies include product launches, partnerships, acquisitions, and innovative project deployments (e.g., Onyx Solar's glass in Dubai Solar Park, new crystalline modules by Solarday, and custom PV solutions for high-profile buildings).

Conclusion

BIPV glass is fast becoming the material of choice for smart, sustainable buildings aiming for net-zero energy standards most notably in Europe and Asia-Pacific. The convergence of regulatory mandates, cost reductions, and advanced solar glass technology is fueling growth, even as the market overcomes challenges related to awareness and efficiency. With dozens of new product launches and high-profile installations, the BIPV glass market is poised for sustained, global expansion through 2031.

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