

Global Solar Windows Market Size study & Forecast, by Cell Type (Thin Film Photovoltaics (TPVs), Polymer Solar Cell, Others), by Transparency Type (Partial, Full), by Application (Residential, Commercial, Automotive, Others) and Regional Analysis, 2023-2030

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Abstracts

Global Solar Windows Market is valued approximately at USD 9.0 million in 2022 and is anticipated to grow with a healthy growth rate of more than 9.6% over the forecast period 2023-2030. Solar window captures sunlight and converts it into power using photovoltaic (PV) technology such as transparent solar cells. Solar windows are created by embedding thin film solar cells inside the window's glass, allowing them to generate energy while still allowing light to flow through. Solar windows are often used in commercial and residential buildings to reduce energy consumption and greenhouse gas emissions. The rise in the demand for renewable energy, advancement in technology linked to transparent solar cells and support from different government programmers and regulations are driving the expansion of the solar windows market. Business models and mutual financing options can also play a key role in driving the market.

Growing demand for sustainable building materials and the growing awareness about renewable energy, is expected to drive greater adoption of solar windows in both residential and commercial applications. According to the IEA, in 2021, Renewable power output increased by about 7%, a record 522 TWh increase, with wind and solar PV technologies accounting for nearly 90% of this gain. After modest increase, the percentage of renewables in worldwide power generation reached 28.7% in 2021. of 0.4?percentage points. Additionally, government subsidies for solar power across the world can be leveraged by solar window manufacturing companies also growing electricity demand and flourishing construction sector is anticipated to create the

lucrative opportunity for the market during forecast period. However, due to a lack of significant real-world testing, the technology has yet to demonstrate its commercial feasibility.

The key regions considered for the Global Solar Windows Market study includes Asia Pacific, North America, Europe, Latin America, and Middle East & Africa. Europe dominated the market in 2022 holding the largest market share on the back of growing investment and demand for renewable energy, the government's emphasis on reducing carbon emissions and the limited accessible space for traditional solar panel installation in load centers. This is expected to drive the market in the region during the forecast period. Asia Pacific is expected to fastest growing during the forecast period, owing to high scale usage of glass by solar module manufacturers in Asia. According to the International Energy Agency, Asia Pacific accounts for more than 90% of solar module manufacture, with China accounting for 74% of worldwide module manufacturing. Furthermore, the governments in the region have granted financial assistance and tax breaks to enterprises that create and use solar energy.

Major market player included in this report are:

Brite Solar
Energy Glass Inc.
Glass to Power A
Heliatek.GmbH
Onyx Solar Group LLC
Physee
Polysolar Ltd.
Solaria Corporation
Solar Window Technologies, Inc.
Ubiquitous Energy, Inc.

Recent Developments in the Market:

In April 2020, According to a group of researchers from the Australian Research Council's Centre of Excellence in Exciton Science, next-generation perovskite solar cells with a 17% conversion efficiency can turn windows into power producers. The semi-transparent solar cells can produce power and let light pass through them at the same time.

In March 2020, Luminescent solar concentrator technology has been developed by the Italian start-up Glass to Power and can be combined with functional architectural windows and components. Additionally, it disclosed that the technique is based on chromophores, nanoparticles that can separate the processes of light absorption and

emission. In addition, the business claimed that the new technology had a visible spectrum transparency of about 80% and conversion efficiencies of up to 3.2%.

Global Solar Windows Market Report Scope:

Historical Data – 2020 - 2021

Base Year for Estimation – 2022

Forecast period - 2023-2030

Report Coverage - Revenue forecast, Company Ranking, Competitive Landscape, Growth factors, and Trends

Segments Covered - Cell Type, Transparency Type, Application, Region

Regional Scope - North America; Europe; Asia Pacific; Latin America; Middle East & Africa

Customization Scope - Free report customization (equivalent up to 8 analyst's working hours) with purchase. Addition or alteration to country, regional & segment scope*

The objective of the study is to define market sizes of different segments & countries in recent years and to forecast the values to the coming years. The report is designed to incorporate both qualitative and quantitative aspects of the industry within countries involved in the study.

The report also caters detailed information about the crucial aspects such as driving factors & challenges which will define the future growth of the market. Additionally, it also incorporates potential opportunities in micro markets for stakeholders to invest along with the detailed analysis of competitive landscape and product offerings of key players. The detailed segments and sub-segment of the market are explained below:

By Cell Type:

Thin Film Photovoltaics (TPVs)

Polymer Solar Cell

Others

By Transparency Type:

Partial

Full

By Application:

Residential

Commercial

Automotive

Others

By Region:

North America

U.S.

Canada

Europe

UK

Germany

France

Spain

Italy

ROE

Asia Pacific

China

India

Japan

Australia

South Korea

RoAPAC

Latin America

Brazil

Mexico

Middle East & Africa

Saudi Arabia

South Africa

Rest of Middle East & Africa

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