

# **Energy efficient Windows Market - Global Industry Size, Share, Trends, Opportunity, and Forecast Segmented By Glazing Type (Double Glazed, Triple Glazed and Others), By End-use Sector (Non-residential and Residential), By Component (Glass, Frame and Hardware), By Application (New construction and Renovation & reconstruction), By Region & Competition, 2021-2031F**

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## **Abstracts**

The Global Energy Efficient Windows Market is projected to expand from USD 17.96 Billion in 2025 to USD 28.25 Billion by 2031, registering a CAGR of 7.84%. These fenestration products are engineered with multiple glazing layers, low-emissivity coatings, and inert gas fills to effectively minimize thermal transfer. The market is primarily supported by drivers such as rising energy costs and strict government building codes focused on decarbonization, which compel property owners to prioritize thermal performance. According to the Fenestration and Glazing Industry Alliance, demand for windows in new housing increased by 1 percent in 2024, reflecting sustained adoption within the construction sector despite broader economic pressures.

Conversely, the substantial upfront cost of high-performance units presents a significant challenge to market expansion, often deterring investment in the price-sensitive retrofit sector. This financial barrier hinders mass adoption in existing infrastructures, where immediate affordability frequently takes precedence over long-term savings. This difficulty is clearly reflected in the renovation market, as the Fenestration and Glazing Industry Alliance reported that demand for remodeling and replacement windows declined by 5 percent in 2024.

## Market Driver

The implementation of stringent government building codes and energy standards serves as a primary catalyst for the Global Energy Efficient Windows Market, fundamentally altering manufacturing priorities and product specifications. Across the globe, legislative frameworks and incentive programs are mandating superior thermal performance to achieve decarbonization targets, effectively necessitating the replacement of substandard fenestration in both residential and commercial sectors. This regulatory pressure compels manufacturers to produce units that meet rigorous certifications, ensuring alignment with sustainability goals. For instance, JELD-WEN's '2024 Annual Report' from March 2025 notes that 90 percent of its North American window product lines now offer an Energy Star certified option. Additionally, the efficacy of these initiatives is highlighted by the UK Government's 'Household Energy Efficiency Statistical Release' from March 2025, which reported the installation of 420,600 energy efficiency measures in 2024, a 27 percent increase from the previous year.

Market momentum is further propelled by a surge in renovation and retrofitting activities for aging infrastructure, particularly in developed regions where existing building stock requires urgent thermal upgrades. While upfront costs can be a barrier to general remodeling, the comfort benefits and operational savings associated with modern glazing solutions encourage property owners to prioritize energy-focused retrofit projects. This segment has demonstrated resilience, acting as a stabilizing force for industry revenues even when broader construction metrics soften. As evidence of this trend, Saint-Gobain's '2024 Annual Results' from February 2025 reported 1.9 percent organic growth in its North America region for the year, largely supported by robust volumes in the renovation market. These efforts are critical for reducing building energy consumption, ensuring energy-efficient windows remain a priority investment.

## Market Challenge

The significant upfront cost of high-performance units constitutes a primary obstacle to the expansion of the global energy-efficient windows market. Advanced manufacturing requirements, such as the inclusion of multiple glazing layers, specialized low-emissivity coatings, and inert gas fills, inherently increase production expenses relative to standard fenestration products. When these elevated costs are passed on to the consumer, the premium pricing often exceeds the budget flexibility of property owners. This price disparity is particularly detrimental in the commercial and retrofit sectors, where the immediate capital outlay frequently outweighs the promise of long-term utility

savings, leading stakeholders to defer renovation projects or select lower-cost, less efficient alternatives.

This financial barrier directly restricts market volume, preventing the mass adoption of energy-efficient solutions in cost-sensitive environments. The difficulty in justifying high initial expenditures amidst broader economic pressures leads to reduced procurement activities across major building segments. This contraction is evident in recent industrial performance data regarding the commercial sector. According to the Fenestration and Glazing Industry Alliance, the non-residential glazing market decreased by 3 percent in 2024. This decline highlights the tangible impact that cost barriers have on limiting the broader integration of advanced fenestration technologies.

## **Market Trends**

The manufacturing landscape is being reshaped by the rising utilization of recycled and bio-based frame materials, as stakeholders increasingly prioritize reducing embodied carbon alongside operational efficiency. Manufacturers are transitioning toward circular economy models by incorporating post-consumer vinyl, reclaimed wood fiber, and other sustainable composites into frame production to minimize industrial waste and resource depletion. This shift expands the value proposition beyond thermal insulation to encompass the entire product lifecycle, appealing to environmentally conscious consumers and meeting sustainability certifications. Illustrating the scale of this material recovery effort, Andersen Windows stated in the April 2025 article 'From Waste to Resource' that the company successfully diverted 23,523,000 pounds of material from landfills in 2024 through its internal recycling programs and strategic reclamation initiatives.

Simultaneously, the integration of windows into smart home and IoT ecosystems is advancing, transforming static building components into active, automated energy management systems. Modern fenestration units are increasingly equipped with motorized actuators and sensors that automatically adjust shading or ventilation based on real-time weather conditions and indoor air quality readings, thereby optimizing energy usage without user intervention. This connectivity allows windows to interface with central home automation platforms, driving adoption among tech-savvy homeowners seeking enhanced control and comfort. The market resilience of companies investing in such advanced portfolios is evident; according to VKR Holding's 'Annual Report 2024' from March 2025, the Velux Group delivered a revenue increase of 1.8 percent for the year, largely supported by its continued expansion in high-performance and automated daylighting solutions.

## Key Market Players

Saint-Gobain S.A.

Asahi Glass Co. Ltd.

VKR Holdings A/S

PGT Innovations, Inc.

Cornerstone Building Brands

Andersen Corporation

Rehau Limited

YKK Corporation

Jeld-Wen Holding, Inc.

Deceuninck Group

## Report Scope

In this report, the Global Energy efficient Windows Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

Energy efficient Windows Market, By Glazing Type

Double Glazed

Triple Glazed

Others

Energy efficient Windows Market, By End-use Sector

Non-residential

Residential

Energy efficient Windows Market, By Component

Glass

Frame

Hardware

Energy efficient Windows Market, By Application

New construction

Renovation & reconstruction

Energy efficient Windows Market, By Region

North America

United States

Canada

Mexico

Europe

France

United Kingdom

Italy

Germany

Spain

Asia Pacific

China

India

Japan

Australia

South Korea

South America

Brazil

Argentina

Colombia

Middle East & Africa

South Africa

Saudi Arabia

UAE

## **Competitive Landscape**

Company Profiles: Detailed analysis of the major companies present in the Global Energy efficient Windows Market.

## **Available Customizations:**

Global Energy efficient Windows Market report with the given market data, TechSci

*Energy efficient Windows Market - Global Industry Size, Share, Trends, Opportunity, and Forecast Segmented By...*

Research offers customizations according to a company's specific needs. The following customization options are available for the report:

### **Company Information**

Detailed analysis and profiling of additional market players (up to five).

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