

# **Green Cement Market Assessment, By Raw Material [Fly Ash, Blast Furnace Slag, Recycled Aggregates, Others], By Product Type [Magnesium Oxychloride Cement, Ekkomaxx Cement, Geopolymer Cement, Calcium Sulfoaluminate Cement, Others], By Application [Residential, Non-Residential, Others], By Region, Opportunities and Forecast, 2016-2030F**

<https://marketpublishers.com/r/G67E078DF116EN.html>

Date: March 2025

Pages: 227

Price: US\$ 4,500.00 (Single User License)

ID: G67E078DF116EN

## **Abstracts**

Global Green Cement Market size was valued at USD 905.4 million in 2022 which is expected to reach USD 1532.54 million in 2030 with a CAGR of 6.8% for the forecast period between 2023 and 2030. The demand for cement is progressively growing due to frequent construction of high-rise buildings, complex infrastructures, industrial sectors, etc. The production of cement is accompanied by a huge percentage of carbon emissions which is a serious environmental concern. Green cement is gaining significant attention as its incorporation can reduce the carbon footprint by 40%. Conventional cement also raises the problem of landfills and majorly contributes to rise in pollution levels leading to environmental damage. Green cement shows more resistance to variation in temperature leading to cost optimization for both heating and cooling. Green cement is suitably manufactured from industrial waste like silica fume, fly ash ultimately limiting the usage of natural resources such as shale, clay, limestone. Unlike traditional cement, green cement is more durable and fire resistant.

Magnesium Oxychloride Cement is Augmenting the Green Cement Market

Mechanical and durable properties of concretes used for building massive infrastructure can significantly control the strength of such constructions. Magnesium oxychloride cement is one of the strongest green types of cement that possesses various

advantages over conventional cement. It acquires early strength that develops higher strength and bonding making it suitable for mixing in every stage. Generally, magnesium oxychloride comprises of magnesium oxide powder and concentrated solution of magnesium chloride. It is substantially used in ship decks, railway coach flooring, industrial flooring, ammunition facilities flooring, underground bunkers, etc. Heavy cast iron wheel movement generates immense vibrations where the magnesium oxychloride cement has incredible load bearing capacity are successively incorporated to withstand such dreadful vibration.

A data published by rail passengers' association in March 2022, states that President Joe Biden commenced the investment up to USD 100 billion under the Infrastructure and Jobs Act for building national railway network over the coming years. Rail networks across North America, Europe, Russia, China, India, and Japan contributes to around 90% of global passenger movements which significantly has huge potential for magnesium oxychloride green cement market to grow exponentially.

### Rising Demand from Residential Sector is Propelling the Green Cement Market

The growing urbanization and exploding population have remarkably increased the demand for construction of residential projects. Due to frequent earthquakes and movable plates has generated concerns among residents to build strong adoptable infrastructure that could survive even in highest tremors. Green cement possesses tremendous strength compared to conventional cement and is potentially strong to withstand temperature fluctuations and disturbance in underground movements. The composition and Raw Material of green cement impart additional strength to the structure and embed the foundation to become more resistant to earthquakes and any natural calamity.

Data released by the European Steel Association (EUROFER) states that in 2022 the volume of production in the construction sector across the European Union substantially grew by 4.8%. The UAE's construction and real estate sector is estimated to grow 3.7-4.4% during the next five years. Public Investment Fund of Saudi Arabia is progressively looking to invest around USD 4 billion in the India real estate over 3 years.

### Growing Demand to Develop Sustainable Infrastructure is Accomplished using Green Cement

An indispensable requirement to replace conventional cement by green cement which is exceptionally growing in new skyscrapers projects. Green cement possesses unique

characteristics to remain more resistant to changes in temperature which incorporates in various concrete making processes. World's highest standards of sustainable building certifications organizations such as BREEAM, LEED, etc. are significantly responsible for providing regulations to sky rise buildings and large infrastructures. Advanced equipment and technology accompanied by green cement combine to give an impeccable solution by reducing carbon dioxide emission with a significant factor. Green cement extends to photocatalytic cement that potentially decomposes oxides of nitrogen in high traffic areas like densely populated buildings.

Numerous cement manufacturing companies are shifting their technology to alternative green cement that eradicates the concerns of environmental impact. In September 2022, Holcim stated that they have developed ECOPlanet green cement that incorporation assisted in building Al-Ain El-Sokhna in Egypt. They have provided around 85,000 tons of ECOPlanet cement that significantly reduced carbon dioxide emissions by 45%. The prominent project in Egypt is considered a main gateway to the Gulf Cooperation Council (GCC), East Africa and Asia covering huge area of 23km\*km.

### Asia-Pacific, a Dominating Market for Green Cement Capturing More Than Half of the Global Revenues

Technological advancements, the strong presence of key players, growing environmental concerns and the need to reduce carbon emissions make Asia-Pacific a dominating market for green cement, globally. Moreover, green cement is eco friendly and economical which makes it an ideal choice for construction activities in countries like India. Cement manufacturing companies in the region are tapping the market potential by expanding their manufacturing facilities to meet the increasing demand in coming years.

In May 2023, Ambuja Cement announced to expand its production capacity of green cement and double the cement production to 140 MTPA in next five years. In September 2022, its parent company Adani Group acquired Switzerland-based Holcim Group's stake in Ambuja Cements and ACC for USD 6.5 billion.

### Impact of COVID-19

The outbreak of COVID-19 has severely impacted entire humankind where people were vulnerable to infectious disease. Different sectors were economically impacted consequently leading to supply chain disruptions, shutdown of ongoing constructions due to reduced labor force, etc. Accounting to each sector real estate business was

majorly troubled which slowed down the growth of construction. Consequently, the consumption of cement fell that brought huge loss to leading players. Gradually with time pandemic impact was decreasing which enforced population to shift towards sustainable surroundings. Significantly this led to huge opportunities for green cement market across the globe to build infrastructure by reducing carbon footprint.

### Key Players Landscape and Outlook

The Green Cement market is successfully growing with increasing demand to build sustainable infrastructure. Holcim has successfully developed low-carbon cement with different ranges and is called ECOPlanet. This wide range of green cement is LEED Gold certified and aims to tackle sustainable challenges by reducing carbon emissions from cement by at least 30%. Innovative formulation expertise incorporates low-emissions raw material including calcined clay which significantly lowers the carbon footprint. ECOPlanet green cement are successively using in the construction of Mohammed VI Tower in Morocco which will be Africa's second tallest tower by 2023. The construction has already consumed 5,000 tons of ECOPlanet green cement which has already assisted in reducing carbon emissions by 32%. In the first quarter of 2023 Holcim delivers excellent performance by reducing carbon dioxide per net sales by 18%.

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\*Companies mentioned above DO NOT hold any order as per market share and can be changed as per information available during research work

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