+357 96 030922
info@marketpublishers.com

Carbon-negative Construction Materials Market Forecasts to 2032 – Global Analysis By Material Type (Carbon-Negative Concrete, Hemp-Based Blocks and Panels, Mycelium Composites, Biochar-Enhanced Aggregates, CO2-Sequestered Aggregates, Engineered Timber Products and Algae-Derived Panels), Technology, End User and By Geography

https://marketpublishers.com/r/C0E0720F55CBEN.html
Date: November 2025
Pages: 200
Price: US$ 4,150.00 (Single User License)
ID: C0E0720F55CBEN

Abstracts

According to Stratistics MRC, the Global Carbon-negative Construction Materials Market is accounted for $16.44 billion in 2025 and is expected to reach $31.23 billion by 2032 growing at a CAGR of 9.6% during the forecast period. Carbon-negative construction materials are transforming sustainable architecture by capturing more carbon dioxide than they release. Innovations like hempcrete, mycelium-based composites, and biochar concrete are key examples that lock carbon within building structures. These materials rely on renewable or waste-derived inputs, aligning with circular economy principles and significantly lowering the environmental footprint of construction. Global efforts to achieve net-zero emissions are boosting investment and research in scalable carbon-negative solutions. Supported by eco-friendly building standards and policy incentives, their adoption is expanding rapidly, signaling a major step toward climate-positive infrastructure and fostering a new era of environmentally beneficial construction practices.

According to the World Green Building Council (WGBC), data shows that buildings account for 39% of global energy-related carbon emissions, with 11% coming directly from materials and construction. This highlights the critical role of carbon-negative and low-carbon materials in reducing the sector’s footprint.

+357 96 030922
info@marketpublishers.com

Market Dynamics:

Driver:

Rising focus on net-zero emissions

Global initiatives focused on net-zero emissions are propelling the expansion of the carbon-negative construction materials market. As nations strive to meet the Paris Agreement's climate targets, demand for materials that absorb or offset carbon—such as hempcrete, biochar concrete, and other biogenic composites—continues to grow. These innovations support low-carbon building designs and help achieve carbon-neutral or negative performance throughout a structure's lifecycle. Increasing environmental regulations and green certification programs are compelling developers and manufacturers to adopt sustainable alternatives. This transition is strengthening the construction industry's role in carbon reduction efforts, establishing carbon-negative materials as essential to achieving a climate-resilient and sustainable future.

Restraint:

High production and material costs

One of the main obstacles hindering the carbon-negative construction materials market is the high cost of production. Creating materials like hempcrete, biochar-infused concrete, and carbon-capturing aggregates involves complex manufacturing techniques, costly raw materials, and rigorous testing standards. Due to limited industrial-scale operations and supply chain inefficiencies, overall expenses remain higher than traditional construction materials. The absence of standardized pricing and insufficient economies of scale further intensify cost disparities. These financial constraints often discourage developers and contractors from adopting carbon-negative options in large-scale projects. Consequently, while environmental benefits are clear, economic viability continues to challenge widespread implementation and commercialization of these sustainable solutions.

Opportunity:

Growing demand for sustainable and circular construction

Rising interest in environmentally responsible and circular construction is creating strong opportunities for carbon-negative materials. Governments, corporate builders,

+357 96 030922
info@marketpublishers.com

and developers are increasingly focused on lowering embodied emissions, driving demand for products that capture and retain carbon throughout their use. Circular economy principles promote renewable, recyclable, and waste-based inputs, enhancing the attractiveness of carbon-negative options. As public preference shifts toward green buildings and companies commit to sustainability reporting, adoption is accelerating. Certifications like LEED and BREEAM further incentivize low-carbon materials, positioning carbon-negative solutions for rapid expansion. This trend opens significant market potential for producers supplying regenerative, climate-beneficial construction materials.

Threat:

Competition from established conventional materials

Strong competition from conventional building materials such as cement, steel, and concrete poses a major threat to the carbon-negative construction materials market. Traditional materials benefit from global availability, mature supply chains, lower prices, and well-documented structural performance, making them the preferred choice for contractors. Carbon-negative materials, however, face hurdles related to proving reliability, scaling production, and matching the affordability of established products. The industry's long-standing dependence on conventional materials further limits experimentation with emerging alternatives. This entrenched dominance restricts the pace at which carbon-negative solutions can penetrate the market, slowing broader adoption and reducing their potential impact on sustainable construction.

Covid-19 Impact:

The Covid-19 outbreak created both setbacks and opportunities for the carbon-negative construction materials market. Early in the pandemic, disrupted logistics, restricted workforce mobility, and halted infrastructure projects slowed production and reduced material availability. Supply issues involving renewable feedstocks like agricultural waste and bio-based components further intensified challenges. Yet, as economies began recovering, sustainability gained stronger attention, supported by government green recovery plans and corporate climate commitments. This shift encouraged greater adoption of carbon-negative materials in rebuilding efforts. With construction activities rebounding, the sector regained momentum, driven by heightened demand for environmentally resilient, low-carbon, and future-ready construction solutions.

The carbon-negative concrete segment is expected to be the largest during the forecast

+357 96 030922
info@marketpublishers.com

period

The carbon-negative concrete segment is expected to account for the largest market share during the forecast period because it fits seamlessly into current building systems while delivering measurable sustainability benefits. By incorporating CO?-mineralized inputs, biochar, and other eco-friendly components, it effectively lowers embodied carbon without compromising structural performance. Its suitability for diverse applications—from foundations to large infrastructure—makes it a preferred choice for builders transitioning to low-carbon materials. The segment also gains traction through sustainable building standards and rising environmental compliance requirements. With its scalability, durability, and strong industry acceptance, carbon-negative concrete continues to dominate the market as the most practical pathway to climate-positive construction.

The public infrastructure segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the public infrastructure segment is predicted to witness the highest growth rate, driven by expanding governmental focus on sustainable development and low-emission urban transformation. Increasingly, national and regional authorities require carbon-sequestering materials for highways, transportation hubs, civic buildings, and large public works. Supportive regulations, climate policies, and green procurement frameworks further accelerate adoption. The long lifespan and scale of infrastructure projects create strong opportunities for integrating carbon-negative solutions, including engineered timber, eco-concrete, and biochar-enhanced aggregates. With countries advancing net-zero strategies and investing heavily in resilient public infrastructure, this segment achieves the highest growth momentum within the market.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share, supported by progressive environmental regulations, strong innovation capabilities, and widespread acceptance of sustainable building practices. The region’s substantial investment in carbon capture technologies, bio-derived materials, and climate-ready infrastructure drives accelerated adoption. Policies promoting green construction, along with corporate sustainability goals, encourage developers to integrate carbon-negative products into various building segments. A thriving startup ecosystem, robust material testing standards, and reliable distribution networks

+357 96 030922
info@marketpublishers.com

strengthen market leadership. As governments and industries intensify their pursuit of net-zero objectives, North America remains the leading region in scaling carbon-sequestering construction materials across diverse infrastructure projects.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR, driven by massive urban development, expanding infrastructure needs, and strengthened climate policies. Nations including China, India, Japan, and South Korea are integrating carbon-sequestering materials to meet emission-reduction goals and improve environmental performance. Supportive government schemes, updated construction standards, and rising green investment flows are further accelerating adoption. Rapid growth across housing, commercial buildings, and public infrastructure fuels demand for innovative carbon-negative solutions. Increasing research activity and technology deployment in bio-based materials and low-carbon concrete reinforce Asia-Pacific's position as the region with the highest market growth rate.

Key players in the market

Some of the key players in Carbon-negative Construction Materials Market include LafargeHolcim Ltd., Kingspan Group plc, BASF SE, Cemex S.A.B. de C.V., Saint-Gobain S.A., EcoCem Materials Ltd., Hempitecture, Inc., CarbonCure Technologies Inc., Green Jams, CarbonCraft, Carbonaide, Plantd, Partanna, ecoLocked and Prometheus Materials.

Key Developments:

In July 2025, BASF and Equinor have signed a long-term strategic agreement for the annual delivery of up to 23 terawatt hours of natural gas over a ten-year period. The contract secures a substantial share of BASF's natural gas needs in Europe. This long-term partnership will support the company's strategy to diversify its energy and raw materials portfolio. The gas is sold on market terms.

In June 2025, LafargeHolcim and the Bangladesh government have renewed a gas sales agreement (GSA), which will remain in effect for 10 years. Under this revised agreement, LafargeHolcim has concurred with Jalalabad Gas Transmission and Distribution System Ltd to accept the current industrial gas rates of BDT40/m3 (US$0.34/m3) and BDT42 for captive use.

+357 96 030922
info@marketpublishers.com

In October 2024, Saint-Gobain has reached a binding agreement to acquire Kilwaughter, a leading player in fa?ade mortars in the UK and Ireland. It operates well-established and recognized brands including K Rend and K Systems. This transaction will further strengthen Saint-Gobain’s offering in the UK and Ireland in light and sustainable construction.

Material Types Covered:

- Carbon-Negative Concrete
- Hemp-Based Blocks and Panels
- Mycelium Composites
- Biochar-Enhanced Aggregates
- CO2-Sequestered Aggregates
- Engineered Timber Products
- Algae-Derived Panels

Technologies Covered:

- Direct Carbon Capture Integration
- Biogenic Material Cultivation
- Mineralization and Carbonation Techniques
- Additive Manufacturing for Carbon-Negative Materials
- Bio-Enzymatic Cement Synthesis

End Users Covered:

- Residential Buildings

+357 96 030922
info@marketpublishers.com

- Commercial Structures
- Industrial Facilities
- Public Infrastructure

Regions Covered:

- North America
  - US
  - Canada
  - Mexico
- Europe
  - Germany
  - UK
  - Italy
  - France
  - Spain
  - Rest of Europe
- Asia Pacific
  - Japan
  - China
  - India

+357 96 030922
info@marketpublishers.com

- Australia
- New Zealand
- South Korea
- Rest of Asia Pacific

South America

- Argentina
- Brazil
- Chile
- Rest of South America

Middle East & Africa

- Saudi Arabia
- UAE
- Qatar
- South Africa
- Rest of Middle East & Africa

What our report offers:

- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2024, 2025, 2026, 2028, and 2032
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market

+357 96 030922
info@marketpublishers.com

estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

+357 96 030922
info@marketpublishers.com

Contents

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

9 KEY DEVELOPMENTS

10 COMPANY PROFILING

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

List Of Tables

LIST OF TABLES

+357 96 030922
info@marketpublishers.com

Note: Tables for North America, Europe, APAC, South America, and Middle East & Africa Regions are also represented in the same manner as above.

+357 96 030922
info@marketpublishers.com

I would like to order

Product name: Carbon-negative Construction Materials Market Forecasts to 2032 – Global Analysis By Material Type (Carbon-Negative Concrete, Hemp-Based Blocks and Panels, Mycelium Composites, Biochar-Enhanced Aggregates, CO2-Sequestered Aggregates, Engineered Timber Products and Algae-Derived Panels), Technology, End User and By Geography

Product link: https://marketpublishers.com/r/C0E0720F55CBEN.html

Price: US$ 4,150.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:
info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page https://marketpublishers.com/r/C0E0720F55CBEN.html