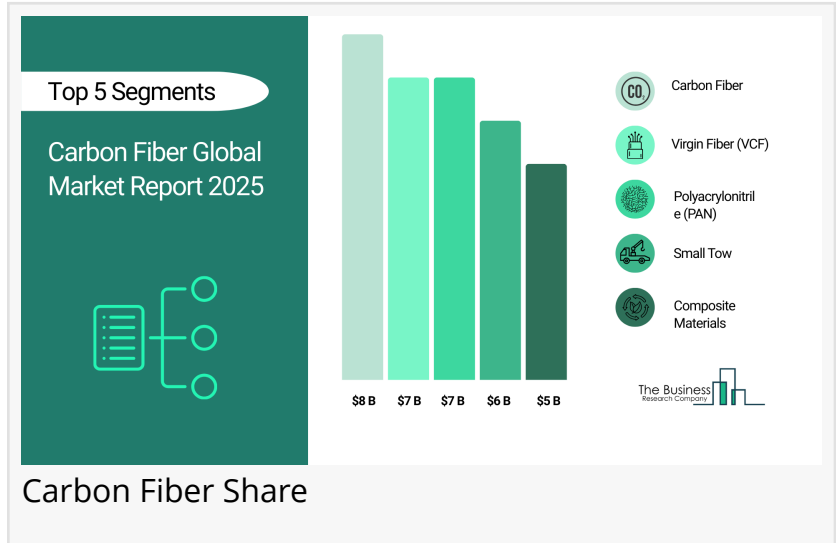


Carbon Fiber Market In 2029

*The Business Research Company's
Carbon Fiber Global Market Report 2025
- Market Size, Trends, And Global Forecast
2025-2034*

LONDON, GREATER LONDON, UNITED KINGDOM, December 10, 2025
/EINPresswire.com/ -- Carbon Fiber Market to Surpass \$8 billion in 2029. Within the broader Paper, Plastics, Rubber, Wood And Textile industry, which is expected to be \$9,585 billion by 2029, the Carbon Fiber market is estimated to account for nearly 0.1% of the total market value.



Which Will Be the Biggest Region in [the Carbon Fiber Market in 2029](#)



The Business Research Company's Carbon Fiber Global Market Report 2025 - Market Size, Trends, And Global Forecast 2025-2034"

The Business Research Company

Western Europe will be the largest region in the carbon fiber market in 2029, valued at \$2,694 million. The market is expected to grow from \$1,650 million in 2024 at a compound annual growth rate (CAGR) of 10%. The rapid growth can be attributed to the growing automotive industry and growth in the construction industry.

Which Will Be The Largest Country In The Global Carbon Fiber Market In 2029?

The USA will be the largest country in the carbon fiber market in 2029, valued at \$1,774 million. The market is expected to grow from \$1,202 million in 2024 at a compound annual growth rate (CAGR) of 8%. The strong growth can be attributed to the rising use of carbon fiber in wind energy and growing industrialization.

Request a free sample of the Carbon Fiber Market Report

https://www.thebusinessresearchcompany.com/sample_request?id=10773&type=smp

What will be Largest Segment in the Carbon Fiber Market in 2029?

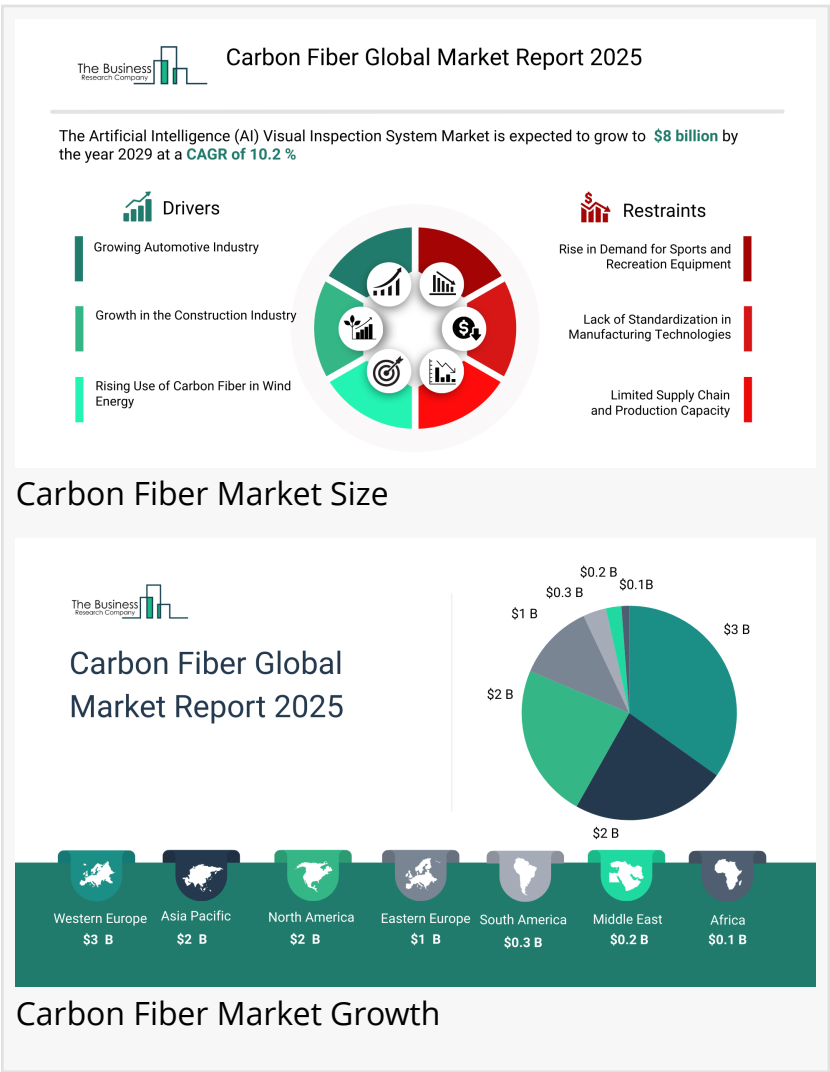
The carbon fiber market is segmented by type into virgin carbon fiber and recycled carbon fiber. [The virgin carbon fiber \(VCF\) market](#) will be the largest segment of the carbon fiber market

segmented by type, accounting for 93% or \$7,437 million of the total in 2029. The virgin carbon fiber (VCF) market will be supported by superior mechanical properties including strength-to-weight ratio, greater compatibility with high-end applications, rising research and development (R&D) investments for next-gen carbon composites, consistent quality with minimal impurities, strong preference in new production over recycled alternatives, growing usage in military-grade components and increasing demand in aerospace and automotive sectors.

The carbon fiber market is segmented by raw material into polyacrylonitrile (PAN), petroleum pitch and rayon. The polyacrylonitrile (PAN) market will be the largest segment of the carbon fiber market segmented by raw material, accounting for 92% or \$7,393 million of the total in 2029. The polyacrylonitrile (PAN) market will be supported by its dominance as the primary raw material due to high carbon yield, superior tensile strength and modulus, consistent thermal stability for structural applications, widespread availability and established supply chain, ongoing technological improvements in PAN precursor processing, increased PAN-based fiber usage in aerospace and automotive, robust global demand across both virgin and recycled segments and increased in wind energy.

The carbon fiber market is segmented by tow into small tow and large tow. The small tow market will be the largest segment of the carbon fiber market segmented by tow, accounting for 70% or \$5,621 million of the total in 2029. The small tow market will be supported by superior mechanical performance for critical aerospace and defense applications, high-quality control and precision during production, increasing adoption in high-strength and stiffness-demanding components, preference in sports equipment and performance automotive parts, suitability for filament winding and complex weaves, technological innovations improving tow uniformity and growth of automotive industry.

The carbon fiber market is segmented by application into composite materials, textiles, microelectrodes and catalysis. The composite materials market will be the largest segment of the carbon fiber market segmented by application, accounting for 62% or \$4,996 million of the total



in 2029. The composite materials market will be supported by broad applications across transportation, construction, marine and wind energy sectors, increasing substitution of metals for weight reduction, enhanced performance under stress and fatigue, compatibility with various resin systems for tailored applications, cost benefits over lifecycle, expanding adoption in additive manufacturing processes, rising use of lightweight aircraft and electric vehicles and rise in investment.

The carbon fiber market is segmented by end-user into aerospace and defence, automotive, wind energy, pipes and tanks, sporting goods and other end-users. The aerospace and defence market will be the largest segment of the carbon fiber market segmented by end-user, accounting for 45% or \$3,648 million of the total in 2029. The aerospace and defence market will be supported by stringent weight reduction and fuel efficiency requirements, high strength-to-weight ratio of carbon Fiber composites, demand for structural integrity under extreme conditions, expanded space exploration activities, regulatory mandates for emissions and efficiency, long-term lifecycle cost benefits and increasing production of drones and aircraft.

What is the expected CAGR for the Carbon Fiber Market leading up to 2029?

The expected CAGR for the carbon fiber market leading up to 2029 is 10%.

What Will Be The Growth Driving Factors In The Global Carbon Fiber Market In The Forecast Period?

The rapid [growth of the global carbon fiber market](#) leading up to 2029 will be driven by the following key factors that are expected to reshape advanced manufacturing, lightweight engineering, and sustainability practices worldwide.

Growing Automotive Industry - The growing automotive industry will become a key driver of growth in the carbon fiber market by 2029. The automotive industry refers to the industry that includes the manufacture and sale of motor vehicles. Carbon fibers are widely used in high-end automotive sectors worldwide, due to their lightweight, temperature resistance, chemical resistance, excellent structural performance and mechanical properties for vehicles. As a result, the growing automotive industry is anticipated to contributing to a 2.0% annual growth in the market.

Growth In The Construction Industry - The growth in the construction industry will emerge as a major factor driving the expansion of the carbon fiber market by 2029. The construction industry encompasses the planning, creation and maintenance of physical structures and infrastructure using lab or, materials and equipment. Carbon fiber is increasingly used in residential, commercial and infrastructure projects due to its lightweight, high strength, corrosion resistance and durability, making it an attractive alternative to steel for reinforcing concrete, retrofitting bridges and restoring historical buildings. Its use allows for innovative architectural designs, faster project completion and reduced maintenance costs. Consequently, the growth in the construction Industry is projected to contributing to a 1.5% annual growth in the market.

Rising Use Of Carbon Fiber In Wind Energy - The rising use of carbon fiber in wind energy will serve as a key growth catalyst for the carbon fiber market by 2029. The rising use of carbon fiber in wind energy is expected to propel carbon fiber market growth due to its superior strength-to-weight ratio, durability and fatigue resistance, which enable the production of longer and lighter wind turbine blades. These blades can capture more wind energy, increase the efficiency and output of wind farms while reduce stress on turbine components and maintenance costs. Therefore, this growing integration of AI rising use of carbon fiber in wind energy is projected to supporting to a 1.0% annual growth in the market.

Rise In Demand For Sports And Recreation Equipment - The rise in demand for sports and recreation equipment will become a significant driver contributing to the growth of the carbon fiber market by 2029. Carbon fiber is increasingly used in manufacturing lightweight, durable and high-performance equipment such as bicycle frames, tennis racquets, golf clubs, hockey sticks, skis, snowboards and even kayak shells. Its superior strength-to-weight ratio, stiffness and resistance to environmental factors like water and temperature make it ideal for both professional and recreational sports gear. Consequently, the rise in demand for sports and recreation equipment is projected to contributing to a 0.5% annual growth in the market.

Access the detailed Carbon Fiber Market report here:

<https://www.thebusinessresearchcompany.com/report/carbon-fiber-global-market-report>

What Are The Key Growth Opportunities In The Carbon Fiber Market in 2029?

The most significant growth opportunities are anticipated in the polyacrylonitrile (PAN) carbon fiber market, the virgin and recycled carbon fiber market, the small tow carbon fiber market, the composite materials carbon fiber market and the aerospace and defense carbon fiber market. Collectively, these segments are projected to contribute over \$11 billion in market value by 2029, driven by rising demand for lightweight and high-strength materials, expanding applications across aerospace, automotive, and renewable energy sectors, and increasing focus on sustainable and recyclable composite solutions. This surge reflects the accelerating adoption of carbon fiber technologies that enable superior performance, structural efficiency, and environmental sustainability, fueling transformative growth within the broader carbon fiber industry.

The polyacrylonitrile (PAN) carbon fiber market is projected to grow by \$2,855 million, the virgin and recycled carbon fiber market by \$2,735 million, the small tow carbon fiber market by \$2,093 million, the composite materials carbon fiber market by \$2,054 million and the aerospace and defense carbon fiber market by \$1,424 million over the next five years from 2024 to 2029.

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