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Carbon Fiber Recycling Market Forecasts to 2034 – Global Analysis By Type (Milled Carbon Fiber and Chopped Carbon Fiber), Source, Recycling Process, End User and By Geography

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Abstracts

According to Stratistics MRC, the Global Carbon Fiber Recycling Market is accounted for $162.9 million in 2026 and is expected to reach $475.5 million by 2034 growing at a CAGR of 14.3% during the forecast period. Recycling carbon fiber is gaining prominence due to the rising need for lightweight, durable materials in sectors like aerospace, automotive, and sports equipment. Conventional production consumes significant energy, and discarded composites create environmental concerns. Techniques like mechanical shredding, pyrolysis, and chemical treatments enable fibers to be recovered and reused, lowering the demand for virgin materials and reducing waste. Technological improvements are enhancing the quality of recycled fibers and broadening their use, promoting sustainability and a circular economy while retaining the mechanical properties essential for high-performance applications.

According to the Union Cycliste Internationale (UCI), the sports industry is the third largest global user of carbon fiber, with most equipment having an average lifespan of three years. Critically, UCI reports that 90% of end?of?life carbon fiber sports equipment ends up in landfill, underscoring the urgent need for circular recycling solutions through initiatives like the Carbon Fibre Circular Alliance.

Market Dynamics:

Driver:

Increasing demand in automotive industry

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The rising use of carbon fiber in automobiles drives the recycling market, as manufacturers seek to cut weight, improve fuel economy, and reduce emissions. Recycling end-of-life carbon fiber parts helps manage waste and reduce material costs. Reclaimed fibers are suitable for secondary automotive components, offering economic and sustainable advantages. Environmental regulations and sustainability goals further motivate automakers to invest in carbon fiber recycling solutions. As the automotive industry continues to expand its use of lightweight materials, the recycling of carbon fiber becomes essential for maintaining efficiency, cost-effectiveness, and compliance with ecological standards.

Restraint:

High initial investment costs

Setting up carbon fiber recycling plants demands substantial investment in advanced machinery, skilled personnel, and technology. The mechanical, thermal, and chemical recycling processes are expensive to operate and maintain, making entry difficult for smaller businesses. Research efforts to enhance fiber recovery further increase costs. Although recycled carbon fiber offers long-term savings and sustainability advantages, the high initial expenditure discourages investors and slows market growth. Consequently, the financial barrier restricts adoption across industries aiming for eco-friendly solutions, limiting the scale and pace of carbon fiber recycling despite its environmental and economic benefits.

Opportunity:

Technological advancements in recycling

Technological innovations in carbon fiber recycling present substantial growth opportunities. Enhanced mechanical, thermal, and chemical methods improve fiber quality and extend usability to demanding applications. Automation, AI-driven sorting, and process optimization reduce costs and increase scalability, making recycling feasible for a broader range of manufacturers. Ongoing research and partnerships accelerate improvements in fiber recovery and performance. As technologies evolve, recycled carbon fibers increasingly satisfy stringent structural and mechanical requirements, enabling their integration across automotive, aerospace, and industrial sectors.

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Threat:

Limited recycling infrastructure

The carbon fiber recycling market is constrained by a lack of adequate infrastructure. Many regions lack specialized facilities, skilled workforce, and efficient logistics to collect and process composite waste. These gaps cause delays, higher costs, and reduced availability of recycled fibers for manufacturers. Limited infrastructure hampers large-scale adoption in automotive, aerospace, and construction industries. Without investment in collection systems, processing plants, and advanced technologies, the potential of the recycled carbon fiber market remains untapped.

Covid-19 Impact:

The COVID-19 crisis significantly affected the carbon fiber recycling market, causing supply chain disruptions, factory closures, and decreased industrial output. Demand fell as major end-use sectors like automotive, aerospace, and construction slowed operations. Logistical challenges and limited workforce availability further constrained recycling processes, while investment uncertainty delayed new projects. Despite these challenges, the pandemic underscored the value of sustainable, cost-efficient materials, encouraging companies to adopt recycling practices for future resilience. As industries reopen and economic activities normalize, the carbon fiber recycling market is gradually recovering, with renewed focus on sustainability and long-term growth opportunities across key sectors.

The milled carbon fiber segment is expected to be the largest during the forecast period

The milled carbon fiber segment is expected to account for the largest market share during the forecast period owing to its adaptability, economic benefits, and ease of use in diverse composites. These fibers can be blended into polymers, plastics, and other matrices for automotive, aerospace, and industrial uses, offering lightweight, durable solutions. Their uniform size and reliable properties make them suitable for secondary and non-structural components, encouraging broad adoption. The combination of consistent performance and process flexibility across multiple sectors establishes milled carbon fiber as the leading segment, making it the primary contributor to the recycled carbon fiber market.

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

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Over the forecast period, the solvolysis segment is predicted to witness the highest growth rate because it enables recovery of high-strength fibers with minimal degradation. By chemically dissolving resin matrices, solvolysis preserves fiber length and mechanical properties, unlike conventional mechanical recycling. This makes it suitable for high-performance applications in automotive, aerospace, and industrial sectors. Rising adoption of advanced chemical recycling processes and demand for premium-quality recycled fibers are fueling the segment's rapid expansion.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share due to its mature automotive, aerospace, and defense sectors that rely heavily on carbon fiber composites. Robust recycling infrastructure, advanced R&D, and sustainability-focused policies support market growth. The emphasis on lightweight materials, fuel efficiency, and circular economy initiatives drives the use of recycled carbon fibers. Awareness of environmental advantages and cost-saving potential further promotes adoption across industries. These factors collectively establish North America as the dominant region in the global carbon fiber recycling market, setting benchmarks for technology, application, and sustainable material integration worldwide.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR, driven by rapid industrial development, rising automotive production, and expanding aerospace and construction sectors. Government support for sustainable manufacturing, increasing environmental consciousness, and investments in modern recycling technologies are accelerating adoption. Countries including China, Japan, and India are witnessing growing demand for lightweight, durable, and cost-efficient materials, boosting market potential. The synergy of industrial growth, policy backing, and technological progress establishes Asia-Pacific as the region with the highest growth rate, making it the leading growth hotspot for the global carbon fiber recycling market.

Key players in the market

Some of the key players in Carbon Fiber Recycling Market include Toray Industries, Inc., ELG Carbon Fibre Ltd., Procotex Corporation SA, SGL Carbon SE, Carbon Conversions, Inc., Gen 2 Carbon Limited, Vartega Inc., Shocker Composites LLC,

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Carbon Fiber Remanufacturing, LLC, CFK Valley Stade Recycling GmbH & Co. KG, Carbon Fiber Recycling, Inc., Alpha Recycling Composites, Hera SpA, Pyrum Innovations AG, Carbon Fiber Recycling Technologies Inc., Mitsubishi Chemical Group Corporation, Sigmatex and CATACK-H.

Key Developments:

In March 2026, Sigmatex has just signed a distribution agreement with Link Composites. Under this agreement, Link Composites will be Sigmatex's official distribution partner in India, expanding access to globally certified high performance carbon fibre textile technologies for the Indian composites market and strengthening Link Composites' advanced materials portfolio, reinforcing its position as a trusted supplier to high-performance manufacturing sectors such as aerospace, renewable energy, automotive, infrastructure and industrial markets.

In October 2025, Toray Industries, Inc. and Hyundai Motor Group signed a Strategic Joint Development Agreement to collaborate on advanced materials and components innovation, aiming to set new standards in future mobility. This agreement marks an important milestone in our partnership, as it represents the first tangible outcome of our strategic collaboration initiated last year.

In September 2025, Mitsubishi Chemical Corporation has officially announced that it has entered into an Agreement on Coordination and Cooperation for the Maintenance and Development of the Yokkaichi Industrial Complex. This agreement, involves three parties—Mitsubishi Chemical, Mie Prefecture, and Yokkaichi City.

Types Covered:

- Milled Carbon Fiber
- Chopped Carbon Fiber

Sources Covered:

- End-of-life Products
- Manufacturing Waste

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Recycling Processes Covered:

- Pyrolysis
- Solvolysis
- Mechanical Recycling

End Users Covered:

- Automotive & Transportation
- Aerospace & Defense
- Consumer Goods
- Marine
- Industrial Applications

Regions Covered:

- North America
  - United States
  - Canada
  - Mexico
- Europe
  - United Kingdom
  - Germany
  - France

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- Italy
- Spain
- Netherlands
- Belgium
- Sweden
- Switzerland
- Poland
- Rest of Europe

Asia Pacific

- China
- Japan
- India
- South Korea
- Australia
- Indonesia
- Thailand
- Malaysia
- Singapore
- Vietnam

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- Rest of Asia Pacific
- South America
  - Brazil
  - Argentina
  - Colombia
  - Chile
  - Peru
  - Rest of South America
- Rest of the World (RoW)
  - Middle East
    - Saudi Arabia
    - United Arab Emirates
    - Qatar
    - Israel
    - Rest of Middle East
  - Africa
    - South Africa
    - Egypt
    - Morocco
    - Rest of Africa

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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 2023, 2024, 2025, 2026, 2027, 2028, 2030, 2032 and 2034
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market 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

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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

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