

Stratview Research Publishes New Thought Leadership Report Offering a Commercial Perspective into Carbon Fiber Recycling

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DETROIT, MI, UNITED STATES,
December 4, 2024 /EINPresswire.com/
-- Stratview Research, a leading global
business consulting firm specializing in
mobility and composites consulting,
has published a new thought
leadership report titled "Carbon Fiber
Recycling: A Commercial Perspective",
on its portal, Composights; which
addresses the growing need for



achieving carbon fiber circularity and thus details the opportunities and challenges present in the evolving carbon fiber (CF) recycling industry.

The report provides essential insights derived from internal research and contributions from experts across the CF recycling value chain.

The complete report can be downloaded for free.

Key findings from the report:

- In 2024, ~50 kilotons of CF waste is expected to be generated globally.
- The annual CF waste generation is expected to surpass the 100 kilotons/year mark after 2029.
- The APAC region is currently the biggest generator of CF waste, mainly driven by China.
- Thermolysis is the most common recycling method among the current recycling companies.
- Consumer goods and the mobility sector are currently the biggest end markets for recycled CF products.

Understanding the key findings:

According to the report, the CF recycling market will be worth more than \$400 million by 2030, with ~30 kilotons of recycled CF being consumed annually across different industries.

The report highlights the disparity between the growth in the demand for CF versus the advancements in the state of recycling and identifies the gaps in capacity. According to the report, the global demand for CF has grown ~20x over the past five decades, outpacing the development of commercial recycling initiatives, which have only become active in the last decade.

The gap between the annually produced CF waste and the existing recycling capacity is so huge that even the combined nameplate capacity of all carbon fiber recycling companies would leave ~50% of the globally produced CF waste untreated, claims the report.

The report classifies the inward flow of waste primarily from two streams namely 'Factory' waste and 'End-of-Life (EoL)' waste and also studies the waste production trends. According to the report, starting from 2029, 100+ kilotons of CF waste will be generated globally every year, most of which will be factory waste. The ease of recycling and sourcing for both kinds of waste has also been discussed in the report.

A high-level regional analysis of the annual production capacities and consumption of CF is also presented, which aids in the identification of the highest waste-generating regions for both types of waste. Based on the annual production capacities and consumption, in conjunction with the presence of major players, the APAC region, mainly driven by China has been identified as the most lucrative region for CF recycling companies, in the report.

The pros and cons of different recycling methods have been highlighted and thermal methods, being the middle ground between mechanical and chemical recycling methods in terms of setup/processing cost and amount of CF recovered, has been found to be the most common technique among the current recycling companies. Promising non-conventional recycling techniques from companies like Fairmat (Paris, France) have also been mentioned.

Sporting goods, consumer electronics, and semi-structural automotive parts have been identified as the most high-volume applications of recycled CF primarily since none of these require exceptional mechanical properties. While most CF recycling companies have been found to be offering just recycled 'material', there are companies like Fairmat and Thermolysis Asia (Taiwan R.O.C) that are offering end products manufactured using their own recycled CF.

An overview of the challenges and outlook:

Sourcing EoL CF scrap and maintaining a low price with high quality are among the top challenges being faced by CF recycling companies, as per the study. Another challenge is the readiness to use recycled CF and experts who contributed to this report had different opinions

regarding the acceptance of recycled CF across potential industries. While some said that almost everyone is interested in buying recycled material, others said that the industry needs to educate the potential buyers first, about the advantage of recycled CF.

Despite the challenges, the demand for CF recycling does not seem to abate for at least the next 2-3 decades since the penetration of carbon composites is quite high in industries like the wind and aerospace currently, and all the composite-rich parts/structures that are currently in service will reach their EoL in the next three decades. ~40 kilotons of EoL waste is expected to be generated by the commercial aerospace industry alone, in the year 2050, as per the report. The availability of CF waste is thus not going to cease and neither is the need to go green. The ultimate challenge thus for the industry right now is to figure out how to achieve sustainability first, and then turn this sustainability into profitability.

Read in more detail, about the trajectory of the Carbon Fiber Recycling industry, in our latest report, available for free access, here:

Carbon Fiber Recycling: A Commercial Perspective (https://www.composights.com/composights-portal/carbon-fiber-recycling-a-commercial-perspective)

About Stratview Research:

Stratview Research is a leading global market research and consulting firm specializing in the Composites and Mobility industries. With a proven track record, our team of seasoned analysts and industry experts has been instrumental in shaping the strategic direction of numerous leading companies worldwide. We provide actionable insights and strategic guidance to help businesses navigate complex market dynamics and achieve sustainable growth.

Composights is a first-of-its-kind dedicated portal for composites business intelligence, launched by Stratview Research, with a mission to empower professionals across the composites value chain with the critical insights they need to stay informed and make strategic decisions. Membership to the Composights portal is free for qualified professionals working within the composites value chain.

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