

Japan Fiber-Reinforced Plastic (Frp) Recycling Market Forecast 2024-2032

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Report description:

KEY FINDINGS

The Japan fiber-reinforced plastic (FRP) recycling market is expected to progress at a CAGR of 8.24% during the forecast period of 2024-2032, reaching a revenue of \$32.69 million by 2032. In terms of volume, the market is anticipated to record a CAGR of 7.77% during the projection period, reaching 9414.76 tons by 2032.

MARKET INSIGHTS

Currently, only 22-25% of plastic waste is recycled in Japan, revealing significant growth potential for the FRP recycling market. As the government and industry stakeholders emphasize sustainability and improved waste management, the FRP recycling sector is set to play a pivotal role in Japan's pursuit of a more environmentally responsible future.

The fiber-reinforced plastic (FRP) recycling market in Japan is witnessing gradual expansion as the nation faces significant environmental challenges. Decades of rapid industrial development and economic growth have led to severe pollution across air, land, and marine environments. Waste management remains particularly pressing in Japan, an island nation with limited landfill space.

Furthermore, the country predominantly relies on waste incineration, which accounts for 78% of its waste management strategy, though this method releases greenhouse gases and harmful compounds into the environment. However, despite ongoing efforts, the country's recycling rate remains low compared to other OECD nations, exacerbated by high volumes of single-use plastic packaging and a cultural norm favoring plastic use. In response to global concerns about marine pollution and new, stricter regulations on plastic waste exports, Japan is seeking innovative waste management solutions.

Accordingly, the establishment of an emergency fund to support local recyclers and promote thermal recycling demonstrates the country's commitment to addressing these issues. Japan is also focused on creating a circular economy and ensuring resource sustainability through the promotion of the 3Rs (reduce, reuse, recycle). With advanced waste management systems and strong local cooperation, the nation ranks second globally in plastic management indices (PMI). In this regard, however, innovative policies and strategies are needed to enhance resource circulation and foster a sustainable lifestyle.

SEGMENTATION ANALYSIS

The Japan fiber-reinforced plastic (FRP) recycling market segmentation includes product type, recycling technique, and end-user. The recycling technique segment is further categorized into thermal/chemical recycling, incineration and coincineration, and mechanical recycling (size reduction).

Thermal and chemical recycling techniques are at the forefront of addressing the complex challenges associated with reclaiming

fiber-reinforced plastic (FRP) materials. These advanced methods provide efficient solutions for disassembling the polymer matrix and recovering valuable components such as fibers and resins.

A notable application of these recycling techniques is in the recycling of carbon fiber-reinforced polymer (CFRP) materials. Carbon fibers, recognized for their high chemical stability and superior mechanical properties, maintain their integrity throughout the reclamation process, making them ideal for recycling. The economic benefits of recovering fibers are particularly significant for high-value filaments like carbon fibers, which makes thermal and chemical recycling methods economically viable.

The fiber reclamation process is primarily driven by three methods: pyrolysis, oxidation, and chemical recycling (solvolysis). These recycling techniques represent significant strides in managing FRP waste, providing pathways to reclaim and repurpose valuable materials while addressing environmental concerns.

COMPETITIVE INSIGHTS

Some of the major players operating in the Japan fiber-reinforced plastic (FRP) recycling market include Mitsubishi Chemical Group Corporation, Toray Industries Inc, Iwatani Corporation, etc.

Mitsubishi Chemical Group Corp (MCGC), formerly known as Mitsubishi Chemical Holdings Corp, is a prominent diversified chemical company. The company's extensive product and service portfolio includes advanced polymers, high-performance chemicals, high-performance films, advanced moldings and composites, petrochemicals, carbon, industrial gases, methyl methacrylate, and solutions for the environment and living sectors.

In addition to its chemical products, MCGC offers ethical pharmaceuticals, diagnostic reagents and instruments, capsules and pharmaceutical equipment, active pharmaceutical ingredients and intermediates, and self-health check services. The company caters to various industries such as mobility, environment and new energy, information technology, electronics and display, medical, food and bioproducts, packaging, labels and films, and healthcare. The company operates globally, with a presence in Europe, Africa, Asia-Pacific, North America, and Latin America, and is headquartered in Chiyoda-Ku, Tokyo, Japan.

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