

Global Wind Turbine Composite Materials Market: Market Segments: By Type (Fiber, Resin and Others); By Technology (Vacuum Injection Molding, Prepreg, Hand Lay-Up, and Others); Application (Wind blades, Nacelles, and Others);and Region – Analysis of Market Size, Share & Trends for 2014 – 2019 and Forecasts to 2030

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Abstracts

Product Overview

In the manufacture of the wind turbine rotor blade, which is one of the essential components of the overall structure of the wind turbine, composites are of great importance. The composites that go into wind turbine production are simply referred to as composite materials for wind turbines. They are made of two or more material groups, which have different physical and chemical properties. The characteristics of these materials vary entirely from those of the individual materials. For producing wind turbine composite materials, different fibers, including those derived from glass and carbon, are used. The renewable source of energy that can be used to generate electricity is wind energy. A wind turbine is a system used to transform the wind's kinetic energy into electrical energy. A composite material is widely used in the production of wind turbine blades and nacelles. The lightweight character of the composite material helps to harness wind energy with greater performance.

Market Highlights

Global Wind Turbine Composite Materials Market is expected to project a notable CAGR of XX.X% in 2030.

Global Wind Turbine Composite Materials Market to surpass USD XXXX million by 2030 from USD XXXX million in 2018 at a CAGR of XX% throughout the forecast

period, i.e. 2019-30. Wind power generation is rapidly meeting the need for renewable, reliable sources of power to drive economic growth globally. The pattern is predicted to continue in the future as well. Competitive pricing, energy security, and price stability are constantly driven by the market. The growth of composite materials in the wind energy industry has been driven by increased demand for lightweight materials with high performance. The continuous increase in the length of rotor blades to increase wind turbine production is supposed to boost the global demand for wind turbine composite materials.

Global Wind Turbine Composite Materials Market: Segments

Fiber Segment to grow with the highest CAGR during 2019-30

Global Wind Turbine Composite Materials Market is segmented by type into fiber, resin and others. The greater market share in 2019 was accounted for by the fiber segment and is expected to see the highest growth during the forecast period. Carbon and glass fibers are two of the most common composite materials used for manufacturing wind turbine components, including spars, blades and nacelles. The advantages of these products include long service life, increased reliability and flexibility, and lower standards for maintenance is boosting the market. Moreover, the glass fiber segment led the market for glass and carbon fibers due to their low weight and high strength, composites made from carbon fiber are increasingly being used to produce wind turbine blades. Also, carbon fiber is increasingly being used to manufacture wind turbine blades owing to their low weight and high strength, different consumer buying patterns and preferences.

Wind Blade segment to grow with the highest CAGR during 2019-30

Global Wind Turbine Composite Materials Market is segmented by application into nacelle and wind blade and others. Based on application, the wind blade held the largest share in 2018 in terms of revenue. The rising demand for wind energy plays an important role in the progress of the industry. The increasing demand for wind energy is leading to the development of larger wind blades providing higher power output, resulting in higher use of blade composite materials. In addition, composite materials, including aluminum and steel, replace traditional materials, as the former provides advantages such as a high strength-to-weight ratio, a longer life cycle, low maintenance requirements, and high corrosion resistance. Nacelle, as a wind turbine composite material application, is expected to see faster market growth during the forecast period.

Global Wind Turbine Composite Materials Market: Market Dynamics

Drivers

Increased government support and stringent environmental regulations

The main factors contributing to the growth of the wind turbine composite materials market are strict environmental regulations and increasing government funding for wind power generation. Increased use of fossil fuels has resulted not only in global warming but also in rapid resource depletion, leading to a global transition from traditional energy sources to green alternatives. Many initiatives have been launched by governments of several countries and schemes have been introduced to facilitate and support the production of wind energy. Furthermore, the need for effective use of renewable energy sources is being posed by strict environmental regulations around the world.

The increasing need for energy independence and geopolitical energy security

The substantial increase in wind energy production has had a positive impact on the demand for wind turbine composite materials. Many governments around the world have set wind power generation goals over the next five years to meet their energy needs. The increasing potential of wind power generation around the world is thus indirectly helping the wind turbine composite materials market to expand. The supporting economic and environmental factors that increase the demand for composite materials in the wind energy industry further support the increase in the industry. In addition, due to its properties such as corrosion resistance, decreased maintenance, long life cycle and high strength-to-weight ratio, the competitive advantage of composites over conventional materials such as steel and aluminum increases its demand from the wind energy industry.

Restraints

High cost of composite materials

Uncertain economic conditions and high costs for composite materials around the world are the main factors hindering the development of the wind turbine composite materials industry. In comparison, the high cost of these products is inhibiting the growth of the industry. Significant carbon fiber prices are also expected to pose a challenge to the rising demand for wind turbine composite materials.

Global Wind Turbine Composite Materials Market: Regions

Global Wind Turbine Composite Materials Market is segmented based on regional analysis into five major regions. These include North America, Latin America, Europe, APAC and MENA.

Global Wind Turbine Composite Materials Market in the Asia Pacific held the largest market share of XX.X% in the year 2019 owing to the increasing wind energy infrastructure in the region. In the global market for composite materials for wind

turbines, the Asia Pacific is projected to endure power. Increasing awareness of renewable energy sources, growth of installed wind power sizes in China and India, new product launches and higher expansions are factors leading to increasing demand in APAC. The APAC market is expected to be followed by North America and Europe over the forecast period.

Competitive Landscape:

The Global Wind Turbine Composite Materials market, which is highly competitive, consists of several major players such as Cytec Industries, Teijin Limited, Gurit Holding AG hold a substantial market share in the Global Wind Turbine Composite Materials market. Other players analyzed in this report are Toray Industries Inc., Cytec Solvay Group, Hexcel Corporation, Koninklijke Ten Cate N.V., TPI Composites Inc., Teijin Limited, and Molded Fiber Glass Companies among others.

Recently, various developments have been taking place in the market. For instance, in June 2016, the inauguration of a wind blade mold production plant in Szczecin, Poland, was announced by Gurit Holding AG. The expansion was aimed at further increasing the market share of the company in Europe.

Global Wind Turbine Composite Materials Market is further segmented by region into:
North America Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – United States and Canada

Latin America Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – Mexico, Argentina, Brazil and Rest of Latin America

Europe Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – United Kingdom, France, Germany, Italy, Spain, Belgium, Hungary, Luxembourg, Netherlands, Poland, NORDIC, Russia, Turkey and Rest of Europe

APAC Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – India, China, South Korea, Japan, Malaysia, Indonesia, New Zealand, Australia and Rest of APAC

MENA Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – North Africa, Israel, GCC, South Africa and Rest of MENA

Global Digital Pen Market: Key Players

Exel Composites

Company Overview

Business Strategy

Key Product Offerings

Financial Performance

Key Performance Indicators

Risk Analysis

Recent Development

Regional Presence

SWOT Analysis

Gurit Holding AG

Hexcel Corporation

Reliance Industries Limited

Lianyungang Zhongfu Lianzhong Composites Group Co., Ltd

Molded Fiber Glass Companies

Siemens AG

Teijin Limited

Toray Industries, Inc.

TPI Corporation

Vestas

Global Wind Turbine Composite Materials Market report also contains analysis on:

Global Wind Turbine Composite Materials market segments:

By Type:

Fiber

Glass fiber

Carbon Fiber

Others

Resin

Epoxy

Polyester

Polyurethane

Vinyl ester

Others

Others

By Technology:

Vacuum Injection Molding

Prepreg

Hand Lay-Up

Others

By Application:

Wind Blade

Nacelle

Others

Wind Turbine Composite MaterialsMarketDynamics

Wind Turbine Composite MaterialsMarketSize

Supply & Demand

Current Trends/Issues/Challenges
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Value Chain of the Market
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Consultant Recommendation

**The above-given segmentations and companies could be subjected to further modification based on in-depth feasibility studies conducted for the final deliverable.

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