



**Global and China Carbon Fiber Industry Report,
2013-2016**

Feb. 2014

STUDY GOAL AND OBJECTIVES

This report provides the industry executives with strategically significant competitor information, analysis, insight and projection on the competitive pattern and key companies in the industry, crucial to the development and implementation of effective business, marketing and R&D programs.

REPORT OBJECTIVES

- ◆ To establish a comprehensive, factual, annually updated and cost-effective information base on market size, competition patterns, market segments, goals and strategies of the leading players in the market, reviews and forecasts.
- ◆ To assist potential market entrants in evaluating prospective acquisition and joint venture candidates.
- ◆ To complement the organizations' internal competitor information gathering efforts with strategic analysis, data interpretation and insight.
- ◆ To suggest for concerned investors in line with the current development of this industry as well as the development tendency.
- ◆ To help company to succeed in a competitive market, and

METHODOLOGY

Both primary and secondary research methodologies were used in preparing this study. Initially, a comprehensive and exhaustive search of the literature on this industry was conducted. These sources included related books and journals, trade literature, marketing literature, other product/promotional literature, annual reports, security analyst reports, and other publications. Subsequently, telephone interviews or email correspondence was conducted with marketing executives etc. Other sources included related magazines, academics, and consulting companies.

INFORMATION SOURCES

The primary information sources include Company Reports, and National Bureau of Statistics of China etc.

Abstract

Carbon fiber is the new-generation reinforced fiber, mainly used in the fields of aerospace, wind power, automotive, sports and leisure. In 2013, the global industrial applications like wind power and automobiles showed the largest demand for carbon fiber, namely more than 60%, followed by aerospace, with the growing proportion of carbon fiber application and hence the demand steadily increased; while the growth of demand from sports and leisure was relatively slow.

In 2013, the global carbon fiber capacity totaled approximately 120,000 tons, mainly contributed by Japan and the U.S.. The world's top five companies -- Toray, Teijin, Zoltek, Mitsubishi Rayon and Formosa Plastics shared 55% of the global carbon fiber capacity together. In September, 2013, Toray acquired Zoltek to raise its market share to about 30%.

Carbon fiber is primarily divided into PAN-based carbon fiber whose utilization rate hits about 95%, and pitch-based carbon fiber. In 2013, two-thirds of the global small-tow ($\leq 24K$) PAN-based carbon fiber was produced by Toray, Teijin and Mitsubishi Rayon; three-fourths of the large-tow ($> 24K$) PAN-based carbon fiber was made by Zoltek and SGL; half of pitch-based carbon fiber was created by Kureha.

Though still in the initial stage, China carbon fiber industry has been developing fast under the stimulation of policies and the gap between supply and demand in recent years.

In 2009-2013, China's carbon fiber capacity grew at the CAGR of up to 53.5%, reaching 18,000 tons or so in 2013. However, the immature technology of Chinese carbon fiber manufacturers resulted in low quality, high production costs and poor profitability. In 2013, China's actual carbon fiber output was only about 3,000 tons, with the import dependency rate of around 76%.

In 2013, there were more than 20 Chinese carbon fiber manufacturers, such as Jiangsu Hengshen Fiber Material, Zhongfu Shenying Carbon Fiber, Bluestar Fibres, Tianhua Excel-Way Special Fiber (Xintai) and Weihai Tuozhan Fiber. But, only Jiangsu Hengshen Fiber Material and Zhongfu Shenying Carbon Fiber achieved the respective output of 1,000 tons or so.

Currently, numerous proposed and ongoing projects of China carbon fiber industry embrace Jiangcheng Carbon Fiber Project Phase II (1,500 tons / a) and Shanghai Petrochemical 3,000 tons / a Carbon Fiber Precursor and 1,500 tons / a Carbon Fiber Project, both of which are planned to be put into production in 2014.

Global and China Carbon Fiber Industry Report, 2013-2016 of ResearchInChina mainly covers the followings:

- ✘ Supply and demand, competition pattern and price analysis of the global carbon fiber industry;
- ✘ Supply and demand, competition pattern, import and export, price, proposed and ongoing projects of China carbon fiber industry;
- ✘ Operation and carbon fiber business of nine overseas carbon fiber manufacturers;
- ✘ Operation, carbon fiber business and development forecast of nine carbon fiber manufacturers as well as the development trends of 20 carbon fiber producers in mainland China.
- ✘ Summary of global carbon fiber production enterprises and forecast for supply and demand of China carbon fiber industry.

Geographical Distribution of Global Carbon Fiber Capacity, 2013



Source: Above Companies; ResearchInChina

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