

The Carbon Fiber Market: Manufacturers Invest Heavily Through 2014

The carbon fiber shortages during 2005, 2006 and the first half of 2007 are now history, as the majority of carbon fiber producers have announced large carbon fiber plant capacity increases and have started to bring their new production lines on stream during the second half of 2007. These announced increases indicate carbon fiber plant production output will continue to increase through to 2014 with new production lines coming on stream at regular intervals. The combined large tow and small tow name plate capacities

Forecasted PAN-based Carbon Fiber Nameplate Announced Capacity Expansions (MT)

	2006	2007	2008	2009	2010	2011	2012	2013	2014
Small tow	29,750	37,650	42,950	49,850	56,200	59,200	59,700	60,200	60,700
Large tow	9,800	15,800	20,500	23,750	23,750	25,750	31,750	32,250	32,750
Total	39,550	53,450	63,450	73,600	79,950	84,200	91,450	92,450	93,450

Source: AJR Consultant

increase from 39,550 metric tonnes (MT) in 2006 up to 93,450 MT by 2014, an increase of 136%. The investment to achieve these carbon fiber plant expansion along with the required PAN precursor volume is estimated to be in the range of \$2,000 - 3,000 million.

The value of the carbon fiber business in 2006 based on actual fiber output was estimated to be \$1,300 million and is forecasted to grow to \$3,364 million in 2014 (based on 2006 \$/lb values).

There are eight main manufacturers who will account for an estimated 94% of the 93,450 MT of capacity in 2014. Six new companies, who have indicated they will be entering the carbon fiber production business over the next 5 years, will account for 6% (6,000 MT). According to reports, three of these companies are located in

China along with one each in Canada, Saudi Arabia and India.

The geographic location of carbon production has been historically 1/3rd USA, Europe and Japan; by 2014 this will start to change with the rest of the world accounting for 14%, mainly at the expense of Europe and Japan. By the end of this forecast, carbon fiber production in the USA will account for 33%, Europe 29% and Japan 25%.

SMALL TOW VS. LARGE TOW

The small tow versus large tow debate has been around for years - both products offering benefits. Large tow prices have generally been lower than the small tow products, the tradeoff being that large tow fiber has lower

In This Issue

The Carbon Fiber Market: Manufacturers Invest Heavily Through 2014	
Small Tow VS. Large Tow...	1
Carbon Fiber Plant Output...	2
Carbon Fiber Demand...	3
Industrial & Consumer Demand...	4
The Big Picture...	4
US Wind Energy Installations Grow 45% in 2007	
	5
Chevy Unleashes 2009 Z06 ZR1	
	8
Quick Takes	
	9