



Global and China Photovoltaic Glass Industry Report, 2012-2014

Dec. 2012

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 China Customs, and National Bureau of Statistics of China etc.

Abstract

Photovoltaic glass, also known as solar photovoltaic glass or ultra clear photovoltaic glass, is mainly applied to solar PV power generation and solar PV components. Currently, ultra-clear patterned glass used for crystalline silicon solar cell components and TCO glass used for thin-film solar cell components are utilized most widely.

In the global photovoltaic market, China sees rapid development and has become the world's largest producer of solar cells and solar cell components.

In recent years, the global consumption of PV glass has been ascending with the development of the solar photovoltaic industry. In 2012, due to the sluggish global photovoltaic market as well as the countervailing & anti-dumping investigation imposed by Europe, America, India and other countries on Chinese solar cells and components, China's photovoltaic industry and photovoltaic glass industry show a significant declining trend. The representative PV glass companies like CSG, Almaden and Xiuqiang Glasswork witnessed the fall of more than 40% in their net income in the first three quarters of 2012.

The report analyzes the status quo of the global and Chinese

photovoltaic glass industry, studies ultra clear patterned glass, TCO glass as well as photovoltaic anti-reflective glass markets. Besides, it highlights five global companies including Saint-Gobain, Asahi Glass, etc. as well as 18 Chinese peers such as CSG, Xinyi Glass and Almaden.

Saint-Gobain, Nippon Sheet Glass, Asahi Glass and PPG are the PV glass leaders in the world. In recent years, as the photovoltaic cell component market which is the terminal of the photovoltaic industry transfers to China, these tycoons have speeded up the pace of their development in China.

Saint-Gobain: in August 2008, it put an patterned photovoltaic glass production line of Saint-Gobain Hanglas Nanjing Glass Industry Inc. (subject to Saint-Gobain Glass Co., Ltd.) into operation. In September 2012, it invested in another Saint-Gobain patterned photovoltaic glass production line of the above company.

Nippon Sheet Glass(NSG): it signed an agreement with Shanghai Yaohua Pilkington Glass Co., Ltd. in August 2011 to produce NSG TEC ? solar glass products in China in order to meet China's fast-growing demand for thin-film solar glass.

At the same time, Chinese PV glass manufacturers seek breakthroughs in technology and products. A number of competitive players have mushroomed, such as Xinyi Glass, Flat Solar Glass and Jinjing Science & Technology in the field of ultra-clear patterned glass; CSG, Xiuqiang Glasswork and Aviation Sanxin in TCO glass; Almaden in anti-reflective glass.

Xinyi Glass: in 2012, it has had a 2,900 tons /day solar ultra-clear PV glass production line, covering ultra-clear patterned glass (original glass, tempered glass), AR photovoltaic glass, TCO glass, and ultra-clear float glass. In addition, the company also plans to divest its solar energy business to go public. It submitted the application in June 2011 and now it is pushing forward IPO.

CSG: it owns four businesses: flat glass, architectural glass, fine glass and solar energy industry. The solar business is held responsible by Shenzhen CSG Float Glass Co., Ltd., Dongguan CSG Photovoltaic Technology Co., Ltd. and Dongguan Solar Glass Co., Ltd.. In Q1 2010, the first 460,000 m² / a TCO coated glass production line used for thin-film solar cells of Shenzhen CSG began mass-production, so that CSG became one of the domestic enterprises with TCO glass mass-production capability.

Almaden: it is mainly engaged in photovoltaic anti-reflective glass. In 2011, the total sales volume of anti-reflection films reached 27.01 million square meters; in H1 2012, the figure was roughly 15 million square meters. What's more, the company began to tap into the ultra-thin components business in 2012; later in September, it started small-batch production; and it is expected that, in 2013, the profit will be generated.

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