

## EUROPE

# European Report Examines the Competitiveness of the Glass Industry

**T**he European Commission has published the study it commissioned on “Competitiveness of the Glass Sector Within the Framework Contract of Sectoral Competitiveness

Studies.” The study examines global factors impacting the glass industry within the European Union (EU), including increased competition from non-EU countries, climbing energy

prices and economic factors. Although the study addresses all aspects of the industry, including flat, container and “special” glass products, it notes early on that flat glass makes up roughly one-third of total EU glass production and correspondingly dominates the report.

The report included an analysis of the sector’s strengths, weaknesses, opportunities and threats. Among them were the following points.

## Glass Manufacturers Fined for Price-Fixing—Again

**T**he European Commission has imposed fines totaling \$1.7 billion USD (1.4 billion EUR) on Asahi, Pilkington, Saint-Gobain and Soliver for illegal market sharing and exchange of commercially sensitive information regarding deliveries of auto glass in the European Economic Area (EEA).

According to a statement released by the commission in November 2008, between early 1998 and early 2003 these companies allegedly “discussed target prices, market sharing and customer allocation in a series of meetings and other illicit contacts.”

Commission officials started the cartel investigation following a tip-off from an anonymous source.

The Commission increased the fines to St. Gobain by 60 percent because it was a repeat offender, according to the statement, and Asahi provided additional information to help expose the infringement and its fine was reduced by 50 percent under the Leniency Notice. The Commission reports that these are the highest cartel fines it has ever imposed, both for an individual company (\$1.1 billion USD on Saint Gobain) and for a cartel as a whole.

In November 2007, the EC fined Asahi subsidiary AGC Flat Glass Europe, Pilkington, Saint Gobain and Auburn Hills, Mich.-based Guardian Industries approximately USD \$719.2 million for price-fixing of flat glass. The ruling led to a rash of lawsuits in the United States in early 2008 that referenced the EC ruling.

### European Commission Fines on the Auto Glass Industry

Company	Reduction under the Leniency Notice (%)	Reduction under the Leniency Notice (USD)	Approximate Fine (USD)
Saint-Gobain (France)	0	0	\$1.1 billion
Asahi/AGC Flat Glass (Japan)	\$50	\$1.4 billion	\$142 million
Pilkington (UK)	0	0	\$464 million
Soliver (Belgium)	0	0	\$6 million
<b>Total</b>	<b>N/A</b>	<b>N/A</b>	<b>\$1.7 billion</b>

### Strengths

- **Several large companies.** In the market for mass-produced glass products size matters due to the capital-intensive technology involved. Consequently, a relatively small number of large companies increasingly dominate;
- **High-quality products.** The EU glass industry is a main supplier of high-quality and high-value products, meaning EU producers are able to command a high price for their products;
- **High technological innovation capacity.** So far, the EU glass industry has succeeded in improving labor productivity by investing heavily in automation technology; and
- **A skilled workforce.** Although the size of the workforce in the sector has been steadily decreasing as in many other manufacturing industries, the skill level has increased, as the remaining workforce has been trained for several years.

### Weaknesses

- **Mature production process.** Over time, technological innovation has increased the energy efficiency of production, leading to savings and reduced carbon dioxide (CO<sub>2</sub>) emissions. However, in most glass sub-

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sectors, the manufacturers seem close to the physical limits of efficiency due to the laws of thermodynamics and the limitations of the modern materials available for furnace construction. This limits the ability of EU glass producers to reduce their use of energy and CO<sub>2</sub> emissions through efficiency in the short term;

- **High entry barriers.** The high capital intensity and associated financial and economic costs and risks act as a significant barrier to entry. This may prevent new firms from starting up;
- **High sunk costs.** To achieve significant economies of scale in production, the output needs to be on a mass scale, and high labor and capital productivity is usually required. This may impede restructuring in production from low- to high-price products due to the costs connected with abandoning existing production equipment; and
- **Long investment cycle in glass production.** In most glass subsectors high investments are needed and long investment cycles are to be expected.

## Opportunities

- **New market opportunities.** Increasing globalization means improved access to new markets, most notably the Middle East and Asia;
- **Increasing demand for innovative and specialized products.** Widening the market and creating new specialized products may give the EU glass industry new opportunities;
- **Increased research and development (R&D).** In respect to product development, R&D may open up new opportunities, while the introduction

of more sophisticated manufacturing systems and energy-efficient techniques may alter the cost structure of the production process itself;

- **Renewable energy.** The ability to switch from fossil to non-fossil energy sources would enable the glass industry to be carbon neutral;
- **Glass as an energy-friendly product.** The glass industry produces a range of advanced products that deliver energy savings and environmental benefits. Photovoltaic development is another area with the potential to deliver significant benefits in electricity generation. The challenge for the glass sector is to better communicate these developments and their merits, and in so doing let policymakers and consumers see that glass can be a relatively low-cost solution to climate change.

## Threats

- **Global competition and consolidation.** The global market for glass products is increasingly dominated by a small number of global companies;
- **Low-cost competition.** Globalization puts cost pressure on several European industrial sectors, including the glass sector. In terms of productive performance China seems to be more efficient than the EU at producing low-value products. In addition, it is expected that the competition from production facilities in the Middle East will increase;
- **Downstream cost-cutting demands.** The cost pressure resulting from intensified global competition in European industries, such as car production, consumer electronics, airline and retail, may affect the glass

industry negatively. These industries are all direct or indirect customers of EU glass producers in one form or another, and hence globalization has a knock-on effect on the demand profile of the EU glass industry;

- **Excess production capacity in the sector.** The European glass industry has excess capacity in several glass subsectors, including flat glass. This may affect the European glass industry negatively as it cuts profit margins;
- **Upward pressure on energy (and inputs) prices.** Globally, the demand for energy increases affects long-term supply and costs in the EU glass industry. This is a severe threat to the glass industry since it is one of the most energy intensive industries and energy costs make up a high share of total production costs;
- **Working condition regulations.** A number of regulations with respect to working conditions affect input materials and the way they are stored, handled and used in production. Many countries outside EU have less strict regulation and consequently lower production costs;
- **Environmental regulations.** The glass sector faces environmental regulation concerning its energy use, CO<sub>2</sub> emissions, pollution prevention and waste, as well as other environmental regulations. Non-EU producers, especially from developing countries, have significantly less strict environmental legislation and thereby fewer production constraints and lower production costs;
- **Trade restrictions.** Trade restrictions may hinder export to non-EU markets. Many export markets impose tariffs on goods from the EU.

The most formidable example is, arguably, the high rate of duty imposed on EU products sold in the United States; and

- **Counterfeiting.** The competitiveness of many EU glass manufacturers has suffered due to the counterfeiting of EU-origin designs by non-EU firms. This is a severe problem for many producers, and is also expected to be in the future.

To read the report in full, visit [http://ec.europa.eu/enterprise/non\\_metallic\\_mineral\\_products/finalreport\\_glass\\_141008.pdf](http://ec.europa.eu/enterprise/non_metallic_mineral_products/finalreport_glass_141008.pdf).

## CHINA

### Crystal Window & Door Uses Bi-Cultural Background to Meet Demand in China

Crystal Window & Door Systems, which was founded by Thomas Chen, who immigrated to the United States from Taiwan, is using its bi-cultural American-Chinese background to meet the growing needs of the Chinese construction industry. The company re-



**Crystal Window & Door Systems recently celebrated one year of production in Suzhou, China.**

cently celebrated the one-year anniversary of its pilot production and sales operation in Suzhou, China. The 60,000-square-foot plant, located in the Xiangcheng Industrial District of Suzhou City, is producing and distributing vinyl extrusion systems to the Chinese market. Through the location, Crystal is able to control all aspects of production and sales to the Chinese market.

According to Bob Nyman, a spokesperson for the company, Chen saw creating a pilot facility in China as a good opportunity because of the amount of construction taking place there.

“There was gap in construction and the building products industry; there wasn’t enough product,” says Nyman, who explained that by starting a pilot facility the company can familiarize itself with how to do business in China.

In order to get the business underway, there a number of obstacles that first had to be overcome.

“A lot of the challenges are the same as starting up a business anywhere,” Nyman says, “but what’s unique to starting a business in China are all of the bureaucracies and the amount of government approval that is required. It takes a lot of time and it goes quicker if the government officials and the other companies you’re working with [such as builders] and contractors meet you in advance. It also helped that Chen speaks fluent Mandarin.”

Hiring and retaining employees has also been a challenge.

“China is transitioning from a [highly agricultural] society to an industrial and manufacturing culture,” Nyman says, explaining that the people who are great farmers are not necessarily going to be great industrial workers.

Other start-up issues included material sourcing and learning how to sell in China compared to the United States.

“In China you have to get out, find where the next project is being constructed and by whom and really get in front of them with your product so they are aware of it,” Nyman says. “That’s partly why Crystal has the two sales offices in China—one in Shanghai and one in Shenyang.”

## BELGIUM

### Solutia Hits Milestone at New Line

One million square meters of Saflex polyvinyl butyral (PVB) interlayers had been produced and shipped for commercial sale from the recently completed third extrusion line (TEL) located at its plant in Ghent, Belgium. Saflex® is a unit of Solutia Inc.

As a result of this expansion, which provided the company with an additional 40 million square meters, Solutia estimates that the Ghent plant now is the world’s largest PVB sheet extrusion facility.

▶ [www.saflex.com](http://www.saflex.com)



Another challenge the company had to face in getting started was the Beijing Olympics.

"We had a slow start because at that time everything was directed toward the Olympics," Nyman says. "But the last six months have been good."

And as far as future growth plans?

"Crystal wants to grow sales and expand the business, as well as production capabilities to go from a pilot operation to a more robust sales/production operation and possibly move into producing the finished product as Crystal does already in the United States," said Nyman. The company is also exploring further expansion in Mainland China and other parts of Asia.

## GERMANY German Manufacturers Prepared for End of Boom

After six years of growth in a row, the German construction equipment and building material machinery industry expects to see an end to the construction boom in 2009, according to a report from the German Engineering Federation (VDMA). "We see a slump with regard to incoming orders already today which indicates that the construction equipment sector is to face serious setbacks in the nearer future," says Dr. Christof Kemmann, chairman of the association representing the construction equipment and building material machinery industry, adding, "But we are well prepared to take a decline."

The German construction industry has seen sales continue to increase through the first nine months of 2008, particularly for building material machinery. Despite this positive streak, the association expects a decline in turnover for the entire industry in 2009 of 4.6 percent to about \$22.8 billion USD (15.8 billion EUR). According to the association's experts, a positive change in the economic situation for the construction equipment and building material machinery industry can

be expected in the second half of 2010 at the earliest.

The association notes that exchange rates are offsetting some disadvantages that German companies are facing, and that the European industry is currently enjoying a competitive advantage when it comes to prices due to the decreased Euro compared to the revalued U.S. dollar, the Yen and the Won.

VDMA also notes that it expects global demand for house building, for private and commercial use alike, particularly in the emerging nations, will stay as big as before.

▶ [www.vdma.org/construction](http://www.vdma.org/construction)

## ENGLAND Guardian Goole Celebrates New Laminating Process and Customer Showroom

In late October, Guardian Goole in Goole, England, held an event to announce the addition of its new laminating line and the "Glass Room," an onsite meeting and training center. The laminating line will allow the glass manufacturing plant to create new jobs and provide LamiGlass®, glass with enhanced performance capabilities.

Total investment for the line was more than \$9 million USD. Local business and political leaders were on hand for the celebration.

The Glass Room provides a hands-on experience with the glass products. Visitors are able to touch, feel and see how the glass works and are provided detailed information through photos and videos about different glasses in different applications.

10/08; image saved as Goole.jpg; Caption: Helping to celebrate Guardian Industries fifth anniversary in the United Kingdom was (from left) MP Ian Cawsey, town mayor Kevin Flynn, company executive vice president Ralph Gerson and chairman of Yorkshire Forward Terry Hodgkinson.

## INDIA Sejal Architectural Glass Adds Float Line

Work is underway on the new float glass facility for Sejal Architectural Glass. The float glass plant in Jhagadia, India, is expected to have a production capacity of 606 tons per day, and cost approximately USD \$9 million, according to an article in *The Economic Times*.



Sejal's new float line will produce 606 tons of glass per day.

The plant is expected to be operational in April 2009.

## UAE Emirates Float Glass Signs Second Licensing Agreement with PPG

Emirates Float Glass (EFG), a subsidiary of Glass LLC, has signed a technology licensing agreement with Pittsburgh-based PPG Industries for its second float glass manufacturing facility in Abu Dhabi.

The construction of the new plant, which complements the company's existing production unit in the Abu Dhabi Industrial City, will enable EFG to become the largest single-location float glass manufacturing facility in the region. The two factories, covering a total area of 320,000 square meters, will have a combined production capacity of 1,200 tons per day.

"Within the next 2-3 years, we plan to further expand our operations by setting up a number of related value-added and special product glass processing facilities in order to meet growing consumer demand," says N. D. Mohanty, general manager of EFG. ■