



Glass industry trends in the Philippines

With *Glass Worldwide* exclusive official journal of the AFGM, the 39th ASEAN Glass Conference takes place in Cebu this October. Here, independent correspondent Sunder Singh presents an overview of the country's flat and container glass industries.

Overall, the Philippines economy and manufacturing sector has posted healthy numbers in last five years, yet glass demand in both sub-segments has not been able to match the numbers, even with the economic growth figures.

High unemployment and poverty (at 26%) has resulted in an economic disparity and absence of a strong and prosperous middle class, the largest consumer (and often the driving force) of the glass industry in both sub-segments. The implementation of a 'sin tax' law in January 2013, which raised retail prices of alcohol products by 15% to 50% through higher excise taxes, has had an effect on the consumption of these products. This decrease in consumption has had a proportional effect on the consumption of container glass.

FLAT GLASS INDUSTRY

Demand for flat glass in the Philippines is expected to grow at 8%-10% annually in the next three years because of the robust construction industry, particularly in the non-residential sector.

According to Ronilo Matas, Executive Director of the Flat Glass Alliance of the Philippines Inc (FGAPI), the local flat glass industry is worth \$80 million. FGAPI data shows that the total number of construction permits rose from 29,424 to 32,729 in the second quarter in 2014. Much of this real estate growth is driven by the expanding outsourcing sector and multi-national companies. Construction spend for 2011-2016 is estimated to reach \$70 billion, a large chunk of which will go into glass products for housing and building projects.

Year	Food industry	Beverage industry	Alcoholic beverage industry
2013	5.6%	9.8%	0.6%
2012	6.0%	8.7%	5.8%
2011	6.2%	8.4%	1.74%

Growth of container glass consuming sub-segments in the Philippines.

Flat glass demand in the country has shifted into the commercial construction segment from what used to be strong growth in the residential sector. In the first half of last year, commercial constructions accounted for about 45% of total glass demand, while the residential sector accounts for 10% only.

The country's sole float glass producer, Asahi Glass accounts for as much as 60% of the total market for raw glass, with imports particularly from China having quickened with safety and standards issues. Imported glass now accounts for 40% of the local glass market. Processors are currently investing in tempering and double glazing facilities to satisfy local requirement. There are now a total of 19 tempering plants in the country, increasing from just four in 2012.

ASAHI GLASS

AGC Flat Glass Philippines, which commenced commercial production of float glass in the country in 1991 at Pasig City with a 400 tonnes/day plant is the only float glass producer in the Philippines. The company added a figured glass (110 tonnes/day) furnace in 1996, in order to achieve product differentiation. The current plant, which started production (after a useful life of 15 years for the first plant) in 2006, has an installed capacity of 520 tonnes/day. This line has the provision to increase installed capacity by a further 20% (to 625 tonnes/day) if required. Asahi Glass Philippines focuses on the production of raw glass and imports high value products from affiliates in the region.

Besides in-house technology, Bystronic glass and

Henry F Teichmann are among the glassmaker's leading technology and service providers.

CONTAINER GLASS

The Philippines container glass industry is dominated by large food and beverage companies, setting up their own units to meet captive requirements of glass bottles. Later, these producers started catering for other clients and sub-segments of the container glass market. With the exception of Arcya Glass, all other producers are subsidiary companies of food and beverage conglomerates in the Philippines.

Liquor (beer and spirits) accounts for more than 55% of total container glass demand. Although a per capita beer consumption of 22 litres is low as compared to Thailand, China and Japan, there are good prospects for container glass in the country, as glass bottles almost dominate this sub segment in terms of packaging. Beer in cans is unpopular due to their high cost, although demand is increasing with the expansion of modern trade channels.



In the first half of 2014, commercial constructions accounted for about 45% of total flat glass demand.



The Philippines glass industry is plagued by a lack of raw materials and high energy costs.

SAN MIGUEL YAMAMURA GLASS CORP

With three container glass manufacturing facilities (supported by a mould manufacturing plant), San Miguel Yamamura Glass is the largest container glass producer in the Philippines. The company serves the glass bottle requirements of the beverage, spirits, food, pharmaceuticals, chemicals, personal care and health care industries. The bulk of production is destined for the beverage industries, however.

San Miguel Yamamura Packaging is 65%-owned by San Miguel Corp and 35% by leading Japanese container

glass and technology provider, Nihon Yamamura Glass Co Ltd. The packaging group has one of the largest packaging operations in the Philippines and also supplies packaging products to customers throughout the Asia-Pacific region, Africa, Australia and the Middle East. Key clients include the Coca Cola Bottling Co, Nestle Philippines and Pepsi Cola Products Philippines.

The container glass division of San Miguel traces its history back to 1938, when it started supplying the glass requirements of San Miguel Group. Over the years, the company has expanded and currently operates three production units and a mould plant in the country. Besides glass, San Miguel Yamamura also produces other forms of packaging such as paper, composites and plastic to serve the packaging requirements of a wide variety of local industries.

SMC Yamamura-Fuso Molds Corp, the mould production unit has its manufacturing plant in Cavite. It has business links with Japan's Nihon Yamamura Glass Co Ltd and Fuso Machine and Mold Manufacturing Co Ltd.

With an installed capacity of 17 million hectoliters from six breweries, San Miguel is the largest beer producer in the country, with an estimated market share of more than 85%.

In pursuit of international expansion, San Miguel Yamamura Packaging International Ltd acquired Australian company Vinocor Worldwide Direct Pty Ltd this March. Vinocor is a leading supplier of wine bottle closures and customised bottles. With operations in Adelaide, South Australia, its product portfolio includes cork, screw caps, customised glass bottles and sparkling wine hoods and capsules. "The acquisition will enable our packaging business to tap expanding premium wine markets in Australia and New Zealand" commented SMC President, Ramon S Ang. "Vinocor will complement our current packaging operations, the Cospak Group, in both countries."

ASIA BREWERY

Founded in 1982 in Makati City, Asia Brewery was set up to break the monopoly of San Miguel Brewery. >

Saving Energy and Fuel

Lubisol Ltd is offering significant savings of energy and fuel by efficient thermal insulation of glass furnace crowns.



The Lubisol crown insulation design is based on the principle that the usual light silica bricks insulation is partly replaced by the Lubisol insulation, applied over the light silica bricks. It is followed by a layer of Lubisol Cover Coat on the top. The thickness and the total cost of the insulation remain almost the same, but the heat losses from the crown are reduced by about 800-1000W/m². The amount of the saved fuel is around 1300-1500m³/m²/year natural gas or 1200-1400 kg/m²/year heavy oil. The cost of the saved fuel is significant.

The insulating material Lubisol 2-SL has a very low specific density of 0.3kg/dm³, a high working temperature of 1500°C and a very low thermal conductivity of 0.11 W/m.K at 500°C. The cost for one cubic meter of this insulating material is lower in comparison with the cost of the light silica bricks, and in the same time it is about 3 times more efficient.

The Lubisol crown insulation package is suitable for application on all types of glass furnaces producing any type of glasses, including float glass, container glass, tableware or technical glass. It is very suitable for insulation of silica crowns as well for AZS and alumina fused cast crowns. It has been applied recently on 80 glass furnaces all over the world.

The efficient Lubisol insulation package brings significant energy and fuel savings without any additional material and labor costs. It is just a very good technical solution and a better option for the glass industry.

website: www.lubisol.com
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Lubisol now has a new name **Lubisol Ltd**



Much like its larger competitor, the company set up a container glass plant to meet internal demand.

Currently, Asia Brewery runs two breweries in the country. Its main plant is in Cabuyao, Laguna, while a second facility is located at El Salvador, Misamis Oriental. The Cabuyao plant is one of the largest and most modern fully integrated manufacturing plants in South East Asia. Located 45km south east of Manila, the plant is designed to process an annual production capacity of four million hectolitres of beer.

Equipped with three furnaces (200, 60 and 140 tonnes/day), Asia Brewery's glass plant meets most of the captive glass demand of the company's brewery and distillery division. Bucher Emhart Glass, Land Instruments, Sheppee International, E W Bowman, Fives Stein, Bottero, Henry F Teichmann and Tiana - msc & sgcc are counted among the glass plant's main technology suppliers.

ANGLO WATSONS GLASS

Anglo Watsons Glass Inc (AWGI) is a medium sized container glass producer, created to meet the captive demand of its parent company, Emperador Distillery Inc. Emperador Distillery is a market leader in alcoholic beverages in the country, best known as a brandy producer but also satisfying other spirits interests. With 33 million cases sold in 2013, Emperador is the world's leading producer of brandy in terms of volume. The company has successfully cultivated a brandy culture in the Philippines, where it commands more than 90% of the market for the distilled beverage.

Last year, it paid £430 million (\$\$968.8 million) for Scotch whisky maker Whyte and Mackay and €60 million (\$\$109.5 million) for 50% of Spanish brandy producer Bodega Las Copas. Emperador is a wholly-owned subsidiary of Alliance Global Group, a Philippines conglomerate with interests in liquor, real estate, resorts and gaming, as well as fast food restaurants. Alliance Global is controlled by Andrew Tan, the Philippines' fourth richest man, according to Forbes Magazine.

Located at Canlubang Industrial Estate in Laguna, AWGI has an installed capacity of 200 tonnes/day of flint container glass. Due to the high demand from its parent company and capacity constraints,



The implementation of a 'sin tax' in January 2013 raised retail prices of alcohol products to 50% through higher excise taxes.

the glass plant currently services Emperor's bottling requirements only. In anticipation of increased demand of Emperor's products and its expansion programme, Anglo Watsons Glass doubled its production capacity in the fourth quarter of 2012 and is able to manufacture enough glass bottles to meet the company's requirements.

ARCYA GLASS

Located at Calamba, Laguna, about 50km south of Manila, Arcya Glass Corp is a mid-sized producer of container glass for the food and beverage industry.

With an installed capacity of 110 tonnes/day of container glass, the factory produces clear containers for a variety of uses. The plant is equipped with technology from some of the leading names in glass technology, including Bucher Emhart Glass, Shamvik Glasstech, Lubisol, E W Bowman and Lahti.

REUSABLE BOTTLE MARKET

A high number of reusable bottles used by brewers and distillers is another reason for low usage of container glass in the country. According to San Miguel Brewery, as of 31 December 2014, over 90% of the glass bottles used by the company were returned. These returnable bottles, which are the most important and popular form of packaging in the Philippines, account for more than 95% of San Miguel's sales. San Miguel claims that its efficient returnable bottle system

has enabled it to reduce its exposure to rising packaging costs on account of perennially rising prices for new glass bottles.

On average, a glass bottle is used over 50 times over a lifetime of 10 years. Retail outlets selling San Miguel beers collect deposits on these bottles when customers buy beer and return the deposit when the bottles are returned. New glass bottles are purchased to support the increase in sales and to replace broken or scuffed bottles. For its international operations, San Miguel uses returnable glass bottles in Vietnam and Indonesia. In Thailand and Singapore, it uses only one way bottles, whereas in China, the company uses both returnable and one way containers.

San Miguel Ginebra, another sister concern of San Miguel Yamamura Glass, which sells hard liquor in the country, maintains a network of second-hand bottle dealers across the country to retrieve bottles. The company comments that the cost of reprocessing used bottles is lower than the cost of purchasing new ones.

CHALLENGING CONDITIONS

Besides economic disparity and the absence of a vibrant middle class, the Philippines glass industry is plagued by a lack of raw materials and high energy costs.

Raw materials represent a major concern, locally available silica sand, for example, containing iron and unsuitable for glassmaking. Consequently, local producers are forced to import vast quantities of this key component from Indonesia

Energy prices are another major headache, accounting for approximately 50% of the total cost of production (source: Asahi Glass Annual Report 2014). Additionally, fuel required for furnaces makes up 75% of energy cost in the Philippines. ■

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