



The glass industry in the USA

Trade tariffs, continued consolidation, the rollout of enhanced technologies and recycling efforts all were elements of the glass industry in the United States of America in 2021. Richard McDonough reports on industry activities in one of the most important glass markets globally.

Change is one of the constants in the American economy, and the glass industry is no exception. Among the changes that have occurred at some of the largest businesses active in the glass industry include acquisitions and the rollout of enhanced technologies.

In early 2021, Anheuser-Busch (A-B) announced an agreement to sell its Houston-based Longhorn Glass manufacturing facility to Ardagh Group. According to A-B, the Longhorn facility supplies bottles to A-B's Houston brewery.

"As we consistently work to structure our organisation and network for long-term success, we are excited to further strengthen our longstanding partnership with Ardagh by transitioning our Longhorn facility," said Dave Taylor, US Chief Supply Officer at Anheuser-Busch, in a news release dated 29 January 2021. "It was important for us to find a partner with a clear vision for this facility and its workforce. That, coupled with Ardagh's expertise in the glass manufacturing space, makes them the perfect collaborator on this agreement."

"This agreement with Anheuser-Busch further strengthens the longstanding and highly collaborative relationship between our companies, across both glass and metal packaging," stated Paul Coulson, Chairman and Chief Executive Officer of Ardagh Group. "Ardagh is committed to the long-term future of Longhorn and looks forward to welcoming Anheuser-Busch employees in Houston to the Ardagh team to continue to serve demand for sustainable glass packaging."

The sale of Piral Glass Ltd, a major glass packaging company with operations in the USA as well as in India and Sri Lanka, to the Blackstone Group for US \$1 billion was finalised on 31 March 2021. The firm has now been rebranded as 'PGP Glass.'

In a news release dated 28 September 2021, O-I Glass, Inc. announced an investor presentation to highlight "its business plan to accelerate the company's



A solar array nearing completion at the NSG Group facility in Rossford, Ohio. The 1.4MW solar array installation, using NSG Group's solar energy glass products, is being constructed by AEP OnSite Partners, an affiliate of American Electric Power. According to the NSG Group, the solar array will supply about 2.5 million kWh of renewable energy annually. Photograph courtesy of NSG Group, 20 October 2021.

transformation and increase value for all stakeholders."

In particular, O-I Glass detailed that its "MAGMA (Modular Advanced Glass Manufacturing Asset) reimagines the glassmaking process. A flexible, modular, standardised glass production line will enable rapid mobile capacity expansion in smaller increments. This transformation uniquely positions us to help customer brands better capitalise on market opportunities, opening up a new world of possibilities."

According to a statement from O-I Glass, the firm has both a prototype and pilot programme operating with this technology. The firm indicated that it expected to have "... scaled commercial viability by 2023."

"To meet the packaging market's evolving needs, we will continue to transform the company, and with our MAGMA solution, O-I will redefine the glass production process for decades to come," said Andres Lopez, Chief Executive Officer of O-I Glass. "MAGMA will further enhance our capabilities to support many of these categories and expand in the highly differentiated product segments, which are aligned to changing consumer

preferences. MAGMA also is more flexible and scalable and further improves glass' position as the most sustainable packaging material available. With MAGMA, we can quickly add capacity in smaller increments, closer to our customers, and at lower capital intensity. This new capability will increase O-I's right to win in the more differentiated markets. It will enable the company to grow in existing markets and enter new markets with greater flexibility. We are ready to deploy MAGMA, achieve the full potential of glass, and enable profitable growth."

Labor in the glass industry

"The United Steelworkers (USW) represents about 25,000 members in all segments of the glass industry in the USA, including glass container, architectural glass, automotive glass, specialty glass, scientific glass, pharmaceutical glass, glass fibre, optical glass fibre, consumer ware, tableware and light covers," stated Rob Witherell, Co-ordinator of the Glass Industry Conference for the United Steelworkers.

He indicated that almost 11,000 USW members work for glass container companies (O-I, Ardagh Glass, Anchor Glass Container, Gallo Glass, and others), 2,500 work for architectural and automotive glass businesses (NSG Pilkington, Fuyao, and Asahi), 3,700 work for specialty glass companies (Corning, Gerresheimer and Nipro), 3,600 work for glass fibre firms (O-I, Johns Manville, Knauff, and CertainTeed) and 3,000 USW members work for companies manufacturing tableware, bakeware and consumer ware (Libbey, Corelle and Oneida).

"The USW continues to advocate for our members and the work they do in the glass industry, including a tour of infrastructure events backing the passage of billions of ▶

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dollars of investments in related glass sectors: fibre optic cable used in broadband expansion, float glass used for solar panels, glass fibre and float glass for windows to improve energy efficiency, light cover glass for roads and highways, and more,” stated Mr Witherell.

Tariffs

“In 2019, we also supported an International Trade Commission petition by USA glass container companies (including Ardagh and Anchor Glass),” said Mr Witherell, “for relief on unfair imports, resulting on tariffs being applied.”

“The Chinese tariffs on empty glass bottles and jars remained at 25% in 2021,” explained Scott DeFife, President of the Glass Packaging Institute (GPI). “Whilst overall shipments of Chinese glass container imports are up about 6% year-to-date (the first increase in over two years, that began a few months ago), the 750ml-sized category remains down for the year, by about 4%.

“Of note, this is the primary category to package wine and spirits products, and where we have also seen anecdotal reports of ‘glass container shortages,’” Mr DeFife continued. “What we have found in researching claims of glass shortages is the vast majority of customers are not using North American made bottles, and are instead reliant on larger, distribution import companies to supply their packaging. These customers often do not know that their bottles for fill are being made outside of the country, and are on vessels waiting to be unloaded and distributed from the overcrowded ports of entry. GPI member companies are actively working with brands and other end markets to supply their container needs when these, and other supply issues arise.”

“The tariffs on glass container imports have slowed the growth of imports from China, now making Mexico the number one source of glass container imports,” stated Mr Witherell.

Architectural glass

Guardian Glass and NSG Group are among the largest architectural glass businesses globally. Guardian is headquartered in the USA and NSG Group has large operations in the country.

“Our architectural business in the USA focuses on both the domestic and international markets,” stated Stephen Weidner, Head of Architectural Glass North America at NSG Group. He is responsible for the company’s North American architectural business as well as global solar activities. “NSG Group, operating under the Pilkington brand, manufactures and markets glass and glazing products for the architectural,

automotive and specialty flat glass markets with an increased focus on value-added products and services.”

Results for operations of NSG Group in the USA are included in the results overall for the Americas; this region includes both North and South America. The firm released its Fiscal Year Quarter 2 results in early November of 2021.

Among the details reported was that the architectural sector in the Americas represents 28% of NSG Group’s architectural sales with, “revenues and profits [...] ahead of the previous year. Volumes rebounded from the previous year although they were constrained to some extent by low levels of inventory due to a planned cold repair, and also shortages of transportation capacity. Sales of glass for solar energy continued to be positive.”

As for the automotive sector, the Americas represents 35% of NSG Group’s automotive sales overall with “cumulative revenues and profits also increased strongly from the previous year. The positive impact of removing Covid-19 restrictions was partly offset by the impact on vehicle production of computer-chip component shortages.”

Sustainability

“The glass manufacturing process itself produces very little waste material,” stated Mr Weidner of NSG Group. “All trimmed glass (cullet) from the manufacturing process is reused as one of the raw materials in the melting process. Other glass not used in processing for automotive or architectural glazing is provided to external glass recycling partners to be used for other purposes. It is also important to note the remelting of glass cullet significantly helps to reduce energy consumption and related CO₂ emissions.”

“Sustainability is one of the most important topics not only regionally but around the world,” Mr Weidner continued. “The NSG Group is fully committed to maximising the reuse, recycling or recovery of resources and minimising the production of waste involved in glass manufacturing, processing, packaging and delivery.”

A variety of glass products are collected and processed for recycling in the Kansas City Metropolitan Area and the Midwest of the USA through Ripple Glass.

“After the glass is collected through our collection programme in Kansas City and from the surrounding

states we work with, the glass is brought to our processing facility in Kansas City where it is processed into furnace-ready cullet and bottle cullet,” stated Lydia Gibson, Director of Sourcing at Ripple Glass. “Most of the glass products we receive are food and beverage containers, but we also receive post-industrial plate glass. After the cullet is processed, it is sent to a glass fibre insulation manufacturer and a bottle manufacturer.”

These recycling efforts in the Midwest operate through a metro-wide collection network established by Ripple Glass to obtain glass from residents in Kansas City and nearby communities: “We set out over 100 purple bins in convenient locations like grocery store or liquor store parking lots,” stated Ms Gibson. “There, residents can drop off glass recycling for free. This source separation of containers keeps the glass clean and free of contaminants. This collection network has expanded to other cities around the Midwest.”

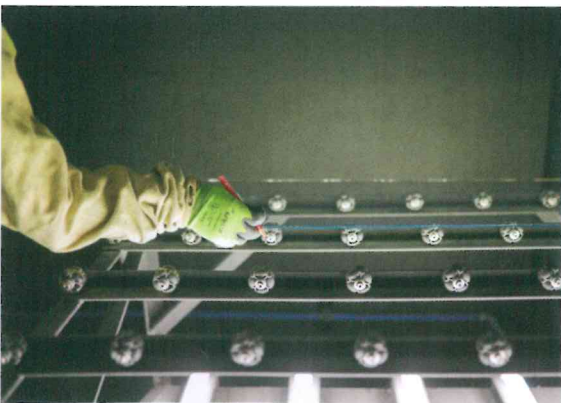
She explained that Ripple Glass also collects glass products directly. “In the Kansas City Metro, we have implemented a business recycling programme that recycles glass from bars, restaurants, multi-family homes/apartments and other businesses. For a fee, we pick up glass from these businesses. We also provide an outlet for manufacturers of glass products to recycle their post-industrial waste.”

These efforts have borne fruit during the past decade: “Specific to Ripple Glass – we took the glass recycling rate in the Kansas City Metro from 3% in 2009 to 20% in 2019,” stated Ms Gibson. “We have recycled over 200,000 tonnes of glass since 2009.” She indicated that continued growth for the recycling company is projected for 2022 and beyond.

Ms Gibson explained that glass recycling has been problematic in many areas of the USA.

“We believe there are issues with glass collection and recycling across the country, primarily stemming from co-mingled collection,” Ms Gibson explained. “We observe a lack of transparency in the recovery of glass post collection. Therefore, receiving glass that is clean enough to process for end-users and markets is a persistent problem. We have approached this with transparency and source separated collection through drop-off collection.”

Among the best practices noted by Ripple Glass to encourage ▶



Glass in production at the float line of NSG Group in Ottawa, Illinois. Photograph courtesy of NSG Group, 2 May 2018.



consumers to recycle glass products include “clear messaging and convenient access... Allowing recyclers to understand why glass is not collected kerbside with other materials and why it’s important to recycle glass... Transparency around the process and end-users also encourages and increases confidence in recycling.”

One of the selling points noted by Ripple Glass to businesses considering participation in recycling is that “glass is heavy... When they recycle glass, they are creating less waste in their trash stream, which can in turn reduce their trash bills.”

Nationally, cullet is one of the most sought-after products, especially for businesses in such industries as glass fibre.

A total of 4.1 billion pounds [1.9 billion kg] of recycled glass was used by manufacturers in the production of residential, commercial, and industrial thermal and acoustical insulation in 2019 and 2020, according to a survey of members of the North American Insulation Manufacturers Association (NAIMA). This trade association describes itself as “the association for North American manufacturers of glass fibre, rock wool and slag wool insulation products and is an authoritative resource on energy-efficiency, sustainable performance, and the application and safety of these insulation products.” In addition to cullet, NAIMA indicated that American and Canadian facilities used more than 1,333 million pounds [605 million kg] of recycled blast furnace slag in the

production of thermal and acoustical insulation in 2019 and 2020.

“Our industry is tremendously proud of the substantial use of recycled content in the production of energy-saving insulation products,” said Curt Rich, President and Chief Executive Officer of NAIMA. “These products ultimately reduce building energy use and decrease our carbon footprint. Over the long term, the glass fibre and mineral wool insulation industry expects to continue using substantial amounts of recycled content in the production of insulation products.”

Environmental efforts

A number of businesses active in the glass industry have enhanced existing products or created new products to help with aspects of the environment. One of the biggest issues facing tall buildings in the USA is when birds fly into office and residential structures. The birds mistake many types of glass for clear skies.

Both NSG Group and Guardian Glass have been active in this area.

“... NSG Group is focused on value-added products and services and targets products that make a difference to the world in general, not only [to] people but also [to] wildlife,” stated Mr Weidner of NSG Group. “Our products make a positive contribution to the quality of living and working environments. We have glass that acts as flat transparent wire, glass used in the manufacture of solar products, antimicrobial glass and bird-safe glass, to name a few.”



Ripple Glass uses this commercial truck and trailer to pick up glass from local bars, restaurants, apartments and other businesses in the Metropolitan Kansas City Area in the USA. Photograph courtesy of Ripple Glass.

In a news release dated 16 March 2021, Chris Dolan, Director of Commercial Segment and Technical Services at Guardian Glass North America, noted that

“Guardian Bird1st Etch glass gives architects greater flexibility to select the best coated glass for their project. By pairing a Bird1st Etch pattern on surface 1 and a Guardian SunGuard low-E coating on surface 2 of an insulating glass unit, the project can achieve desired energy performance whilst meeting bird-friendly standards.”

Impact of Covid-19

“Covid-19 has impacted our members working in the glass industry in different ways,” stated Mr Witherell of the United Steelworkers. “The closures of bars and restaurants early in the pandemic had a significant impact... On the other hand, a surge in demand has kept our members busy in glass container, glass fibre and consumer ware.”

Mr Weidner of NSG Group stated that “Covid-19 has had an impact on our business similar to many businesses. Logistics constraints have been a big challenge for us again similar to what I am sure all other businesses have faced. Raw materials coming in and finished goods going out have been impacted domestically by the truck driver shortage and other domestic logistics constraints. On the export side, the situation with port blockages, container and vessel constraints as well as shipping costs have had an impact as well. Labour constraints are affecting all businesses.”

For Ripple Glass, Ms Gibson noted that “Covid-19 brought unique challenges, however, due to easy access to our drop-off recycling bins, recyclers still recycled glass.”

Additional details on the glass container industry in the USA can be viewed in another news column in this edition of *Glass Worldwide* (see page S18). ●

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Third and Lenora is a 36-story office and apartment tower in Seattle, Washington State. The complex was designed by Perkins & Will of Seattle. Guardian SunGuard SuperNeutral 68 coated glass was used to help maintain the building’s climate control. This mixed-use project was honoured with a Commercial Project Award by Guardian Glass in 2021. Photograph produced by Clarity Northwest Photography and provided courtesy of Guardian Glass, August 17, 2020.

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