Strengthening recycling in the USA

Lynn Bragg* discusses how the US glass container industry has partnered with the glass recycling supply chain in an effort to, ultimately, boost the commodity value of glass.

The glass container manufacturing industry has consistent and strong demand for recycled glass at its 45 glass plants across the US. In 2015, glass manufacturers purchased 2.4 million tons of recycled glass for remelting into new containers. The fibreglass industry, also a large market for recovered glass, purchased around 750,000 tons. So, glass recycling remains a priority.

The purchase of recycled glass is reflected in the average recycled content of bottles and jars nationwide, which has increased since 2008 from 26% to roughly 33% for 2015. At some plants it reaches as high as 96%. When glass container plants use recycled glass, they experience energy reductions of about 2-3%, for every 10% remelted, as well as associated greenhouse gas emissions of approximately 6-8% for every 10% remelted.

While recycled glass provides a high value for manufacturers, it also helps communities and states reach their sustainability and recycling goals. On average and by weight, glass constitutes about 25% of local recycling programmes. By continuing to recycle glass, communities move closer to meeting their recycling goals, reducing landfill ‘tipping’ or disposal fees, and cutting energy and carbon emissions. Cities and counties also want to continue to provide glass recycling as an option for their residents, who expect glass containers to be included in local programmes.

Food and beverage companies that use glass containers also have broad-based sustainability goals in place and packaging made from recycled materials remains a priority. GPI and its member companies are engaged with brands in key ‘beverage customer’ sectors to work together on behalf of strong recycled glass programmes that will best help them position their products and meet company environmental goals.

Challenges and opportunities

While there is market demand and a strong desire to recycle glass containers, the US recycling industry faces a perfect storm of forces impacting the economics and quality of material recovered for recycling. These include plummeting oil prices, increased volume of material in curbside single-stream collection programmes, higher processing costs, increased contamination and lower market prices for most recycled materials.

The result is that municipalities receive less money from revenue sharing agreements for the sale of all recyclables (paper, plastic, metals), and, in many instances, have to pay for their recycling programmes out of already squeezed local budgets. Recycled glass is typically not a high value recyclable in terms of commodities, but the prices paid continue to remain consistent.

While glass collected through container deposit programmes constitutes 65-80% of all recycled glass remelted to manufacture new containers, staying in single-stream (one-bin) collection programmes is a top priority for the glass industry. Removing glass from these programmes causes consumer confusion and is against their expectation that 100% recyclable glass can and should be recycled.

Some communities have created hybrid programmes, collecting glass separately from other recyclables where it makes sense from a geographic perspective.

Several companies have recognised the industry’s desire for high-quality sorted recycled glass and developed models that...
place a focus on clean collection and processing.

Ripple Glass, in Kansas City, MO, Clear Intentions in Denver, CO, and Momentum Recycling in Salt Lake City, UT, only recycle glass containers and typically collect them through some type of drop-off collection system.

They also take glass bottles for recycling directly from high-volume sources such as bars and restaurants. Across the board, they cite much lower contamination rates for the glass collected and have emerged as key suppliers to the glass container and other manufacturing-based end markets.

**Partnership**

In late 2014 the glass container manufacturing industry began to collaborate more closely with the glass recycling supply chain, opening a dialogue with waste haulers, operators of materials recovery facilities (MRFs), glass recyclers and consultants to address opportunities and concerns with community glass recycling.

This has resulted in an effort to develop a recycled glass specification (spec) for glass exiting the MRF for delivery to the glass processors who prepare it for market. Other commodities have such a spec in place, which assists with expectations for recyclables received, as well as prices paid for material exiting the MRF.

The Glass Packaging Institute (GPI) and its member companies have also examined MRF operations to determine the processes and equipment that provide the best opportunity for recycled glass to be recovered. In general, the sooner recycled glass is removed from the conveyor belts and sorting equipment, the better the chance for it to be resold to a glass recycler and end up as part of new glass bottle, jar, or fibre glass insulation.

Improved sorting processes at the MRFs provide the potential to boost the commodity value of glass, changing it from tri-mix to recycled glass. While prices paid for recycled glass have remained consistent across the country for all colours, the price for tri-mix is often a negative value because of its high level of contamination.

Tri-mix consists of recycled glass, recyclable residuals and solid waste. Recycled glass, on the other hand, is a mix of brown, amber and green glass, with limited solid waste and other recyclables.

The GPI is also looking at target communities to improve glass recycling and recovery. Following a site visit and determinations about best next steps, GPI will provide resources to two MRFs in North Carolina to assist them in moving and purchasing equipment to better recover the recycled glass that moves through their facilities.

North Carolina is home to three glass container plants, as well as two in nearby Virginia, ensuring a strong and continued market for the recycled glass.

In 2016 GPI and its member companies will also contact municipal solid waste officials, recycling companies, haulers and MRF operators through state, regional and national conferences in 2016. Participation on recycling markets panels across the US will help to inform and further collaborate with stakeholders on industry efforts to improve the stream of recycled glass.

To further support municipalities and others who recycle glass, the GPI has developed the Glass Resource Locator. This interactive map provides locations of facilities that process glass, as well as key end markets, including glass container and fibreglass facilities.

To use the locator, visitors type in their address, and find highway routes to and from their facilities to the glass processors, as well as the distance between the manufacturing end points.

Additionally, companies involved in the recycled glass stakeholder chain are also searchable through easy-to-follow Excel spreadsheets.

The glass container industry will continue to work on initiatives in 2016 to stabilise, improve and expand the supply of recycled glass.

The desire expressed by consumers to recycle glass, the contributions to energy and emissions reductions when glass is recycled and the strong demand for quality recycled glass by both the container and fibre glass industries will drive these efforts.

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http://www.gpi.org

The GPI Glass Resource Locator is at www.gpi.org/glass-resource-locator