



December 14, 2020

The Honorable Regina Romero
Mayor
City of Tucson
255 W. Alameda Street
Tucson, AZ 85701

Re: Comments on City of Tucson Glass Reuse Plan and Decision to Remove Glass from Curbside Recycling

Dear Mayor Romero and City Council Members,

On behalf of the Glass Packaging Institute (GPI), I am writing to raise serious concerns with the City's recently released Glass Reuse plan. For reasons outlined below, we ask the Council to move to immediately pause implementation and reconsider the decision to remove glass from residential curbside recycling and grind the remaining glass into mineral replacement.

While the study was a well-intentioned effort to address budget constraints, information used to develop the plan serving as the foundation of the decision is inaccurate and incomplete. The glass industry would like to work with the City to address concerns and develop a different plan to address the City's needs.

GPI is the primary North American trade association for the glass container (food and beverage) manufacturers, glass recyclers, suppliers of raw materials, equipment and other elements that comprise the glass container industry. Domestic glass container manufacturing companies purchase over 2 million metric tons of recycled glass annually, which is mixed with other raw materials, to produce 26 billion bottles and jars each year. The average glass food or beverage container is made of 1/3 recycled glass, with demonstrated air emissions and energy savings when recycled glass is reused to make bottles and jars.

Neither GPI, nor any of our members, were approached to discuss or comment on the glass reuse plan. Our members currently use glass from Tucson to make new containers, and the decision made significant negative impacts the glass container industry supply chain. Had we been afforded the opportunity to comment on the plan before adoption, we would have made the following observations and contributions:

- 1) The glass reuse plan is missing several key points in the underlying facts and analysis concerning removal of glass from curbside recycling, including its positive impact on carbon emissions, versus the proposed alternative, downcycling glass for sand substitute.**

- 2) **There are several alternatives for the City to consider (at every step of proposed plan) that could reduce costs, improve marketability of the glass, increase recovery rates and deliver better value to the taxpayers of Tucson, as well as improving environmental outcomes.**
- 3) **The industry is actively working with local governments to increase glass recycling and could help Tucson if the Glass Reuse Plan were paused.**

Flaws in the Glass Reuse Plan that materially alter the outcome

- 1) The plan underestimates the value of recycled glass and assumes that the price it is getting in the current contract arrangement is the only value. There are steps that can be taken to improve the value of glass in the current system.
- 2) Tucson's glass goes to Strategic Materials in Phoenix, which at 120 miles is within a generally accepted economic range for truck transportation. The majority of glass is not transported to Mexicali, and the glass is not used for sandblasting.
- 3) Tucson should expect to lose 80 percent of the glass that was recycled once removed from curbside – putting this glass in landfill will increase the City's landfill tip fee costs, and nearly eliminate the regional air quality improvements that recycling glass provides.
- 4) The end-market assumptions are in error, and the GHG analysis fails to account for amounts transported from processor to end-market by rail. It also fails to account for the actual end-market locations and the current GHG savings from those end-markets.
- 5) The highest best use of glass and most carbon savings in a circular economy is a refill program. After that, it is recycling glass back into glass containers, and then fiberglass, which is the current disposition of the glass from Tucson.
- 6) Downcycling into sand is not "reuse" in the glass hierarchy, so these numbers in the GHG emissions calculations should be revisited.
- 7) If the analysis considers transportation costs from glass processing to end-market, it must also include transportation costs for residents to recycle at drop-off, and the loss of GHG savings from glass not being recycled at all.
- 8) The size of containers is critical to the success of the drop-off program. The purple bin picture on page 5 appears to be a 30-yard roll-off and is not the same as the proposed 3 Cubic Yard (CY) dumpsters cited in the plan. The volume in a roll-off is significantly more, and they use a different truck to move and need to be emptied less often. As an example, counties in Northern Virginia that use the 30-yard roll-off bins collect about 7,500 pounds of glass in each (about 3.5 tons each), and they are emptied approximately once per week. The twenty 3 CY dumpsters envisioned could fill up and need to be serviced every day.
- 9) While diverting the weight of the glass from recycling to landfill will reduce some recycling fees, the analysis does not appear to include the increased landfill costs of the large volume of glass that will end up in the landfill.

- 10) Removing glass from single-stream will dramatically increase its value – which creates more alternative - covered in greater detail in the next section.
- 11) In reference to #8, the impact of daily collections at 20 locations around the city is not included in the GHG emissions scenario of the plan.
- 12) The plan seriously underestimates the time and maintenance it will take to operate the glass grinder, which is not apparent in the plan.

For glass recycling, reducing contamination within the recycling stream is a top priority. Contamination has continued to grow over the past two decades, with the prevalence of single-stream (one-bin) recycling utilized in the majority of communities with residential recycling agreements. It is important to remember that decreasing contamination improve the value of all materials in the stream and is critical to address both the inbound contamination from the consumer and the residual contamination from the material recovery facility to end-markets.

Alternatives to Consider at Every Step

- 1) **Option 1** is approaching the MRF and industry to study and take steps to improve the infrastructure for glass at the MRF which could increase quality, value and usable volume of glass.
- 2) **Option 2** is to pilot a dual-stream curbside glass pickup program which retains the convenience for residents, improves the quality of the stream, increases the amount of glass recovered, diverts glass from landfill and improves value of the commodity for end-markets.
- 3) If the City moves ahead with removing glass from curbside, **Option 3** is to use larger roll-off bins rather than the 3 CY dumpsters.
- 4) If the City moves ahead with removing glass from curbside and utilizes larger roll-off bins, then **Option 4** is to move the higher quality, higher value glass to Phoenix and end-markets. This could also include a study of nearby freight rail (5 miles from landfill) to move glass to Phoenix.
- 5) Lastly an additional program, **Option 5**, could be added to any of the above options – that would be to add a commercial bar and restaurant glass collection service, increasing the volume of high value glass from the city.

All of the alternatives listed above maintain existing end-markets, which are preferable from a circularity and sustainability outcome, rather than crushing glass into sand or roadbed aggregate. Some of them can be combined to increase the glass recovery in the city and divert sustainable glass from landfill. In comparison to other parts of the country, Tucson is well situated for glass recycling, with a glass processing plant nearby, opening up many end-markets that other communities do not have.

Industry Partnerships and Opportunities

The industry is actively pursuing policy, infrastructure and partnership opportunities to increase the amount of glass recovered and headed into a circular glass supply chain.



We are a part of the national Recycling Partnership which has several avenues for assistance to communities struggling with budget issues.

The glass container industry is embarking on an effort to increase the supply and use of recycled glass cullet for manufacture in containers, raising the average profile from roughly one-third to 50 percent recycled content. We have, along with other users of recycled glass created the Glass Recycling Coalition for education and outreach on glass recycling issues. The Glass Recycling Foundation assists with partnership grants to communities needing financial support for recycling programs. GPI and the GRF are in active discussions about a new initiative to expand recovery of commercial bar and restaurant glass in Arizona.

Should the City pause and reconsider its plan, the industry will immediately engage in accelerated efforts to see if Tucson could be included in a glass recycling pilot program, through planned Arizona-focused glass recycling initiatives.

Thank you for your consideration of our comments and your commitment to tackle the opportunities and challenges in front of the recycling and recycling-connected industries.

I look forward to hearing from you.

Sincerely,

A handwritten signature in black ink that reads "Scott DeFife". The signature is written in a cursive style with a long horizontal stroke at the end.

Scott DeFife
President

Cc: Michael Ortega, Tucson City Manager