Glass in the Region

NERC Spring Conference

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Agenda

• Who is Strategic Materials?
• National & Regional Focus
• Key Takeaways
We are the largest glass recycler in North America, with nearly 50 plants.

With over 120 years of experience, we are a recycling market leader for glass.

The markets we serve with our recycled glass helps to reduce manufacturing costs and improve sustainability.

We recycle nearly 3 million tons of glass a year into a variety of applications.
China’s SWORD Policy

- Glass is collected and recycled domestically
- Glass has *never* been sent to China
- Glass was *not* impacted by China’s policy nationally except:
  - MRFs are trying to cut costs or focus on quality of other recyclables
  - Glass is a red herring to cut from programs to save money. Glass can be valuable with the right processes.

*The biggest glass impact in the NE Regional last year was the closure of Ardagh in Milford, MA. For Strategic Materials, we lost 30-40% of our glass sales in the region.*
### Who uses glass?

**End Markets**

<table>
<thead>
<tr>
<th>Glass Containers</th>
<th>Fiberglass</th>
</tr>
</thead>
<tbody>
<tr>
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</table>

Glass is likely the most stable commodity in the stream for the past 5 years.

The container and fiberglass industries collectively purchase **3.35 million tons of** recycled glass annually.  
*Sources: Precision Consulting, NAIMA)*

An estimated **80% of all glass containers** recovered for recycling are re-melted in furnaces, and used in the manufacture of new glass containers.

*Source: Glass Packaging Institute*
National View
Glass demand is high

- Glass demand exceeds supply in many regions
  - Primary outlet is container glass manufacturing - 90%
  - Secondary outlet is fiberglass insulation manufacturing – 10%
- Along the glass value chain, each party needs to make money for a truly successful glass recycling loop
- Collection and recovery rates are the biggest challenge glass recycling faces today
- 93% of residents and consumers expect to be able to recycle glass*
- Alternative collection programs for glass recycling are becoming more popular – collaboration between city, MRF and processor
- Alternative outlets/uses for recycled glass are being researched including road base aggregate.
- Glass generated in U.S. 7.7M tons (EPA 2015). Only ~3.5M tons are known to be recycled.

*Glass Recycling Coalition’s 2nd Annual Survey, conducted in 2018
Glass Quality
Material Recovery Facility (MRF)

($$$) Negative Value

($$$) Positive Value
### Regional Focus
End Markets by quality & color

<table>
<thead>
<tr>
<th>End Market</th>
<th>Color</th>
<th>Quantity</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Container Glass</td>
<td>Amber, Emerald, Flint</td>
<td>Clean, deposit/curbside, soda lime, plate glass (furnace specific)</td>
<td>Nationally</td>
</tr>
<tr>
<td>Fiberglass Insulation</td>
<td>Any color</td>
<td>Clean, deposit/curbside, soda lime, plate glass</td>
<td>Nationally</td>
</tr>
<tr>
<td>Highway/Reflective Bead</td>
<td>Flint</td>
<td>Plate glass</td>
<td>SE, Gulf, SW, MW</td>
</tr>
<tr>
<td>Decorative Glass</td>
<td>Any color</td>
<td>Clean any type (soda lime, plate)</td>
<td>MW, SW</td>
</tr>
<tr>
<td>Fillers, Other</td>
<td>Any color</td>
<td>Clean any type (soda lime, plate)</td>
<td>SE</td>
</tr>
</tbody>
</table>

There are other “low value” markets for recycled glass that have popped up in the Northeast, such as road base aggregate or landfill cover.
Regional Focus
Our NE operations

- We have a facility in South Windsor, CT
- We accept deposit glass from all states
- We accept glass from Clynk program
- Support HRRA’s source-separated glass pilot program

- Our operations still service container glass market as well as fiberglass.
  - About 75% of recycled glass demand is from container
  - ~15% fiberglass

- We are working on other high-value end market solutions to accept more glass in the future.
Key Takeaways

- Residents want to recycle glass
- Glass does not belong in the landfill
- Glass has value
- Glass demand exceeds supply in many regions
- Other end markets are being developed
- Other collection methods are being developed
Thank You

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Glass Recycling Coalition Member – glassrecycles.org