



GLASS MARKET UPDATE

Ripple Glass, LLC.

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RippleGlass

A faint, light purple line-art illustration of a glass bottle with a long neck, positioned centrally. Behind the bottle are several stylized leaves or petals, also in a light purple outline style, creating a symmetrical, floral-like background.

93%

WHY RECYCLE GLASS?

Saves raw materials —



More than 1 ton of natural resources are conserved for every ton of glass recycled.

Resources conserved include:

1,300 lbs. Sand

410 lbs. Soda Ash

380 lbs. Limestone

160 lbs. Feldspar

Lessens the demand for energy —



Energy costs drop about 2-3% for every 10% cullet used.

Cuts CO2 emissions —



For every six tons of recycled container glass used, a ton of carbon dioxide, a greenhouse gas, is reduced.
A relative 10% increase in cullet reduces particulates by 8%, nitrogen oxide by 4%, and sulfur oxides by 10%.

No processing by-products —



Glass recycling is a closed-loop system, creating no additional waste or by-products.

IT CREATES JOBS!



An estimated 8 jobs per 1,000 tons recycled.



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JOIN THE PARTY. RECYCLE YOUR GLASS.

USES FOR RECYCLED GLASS

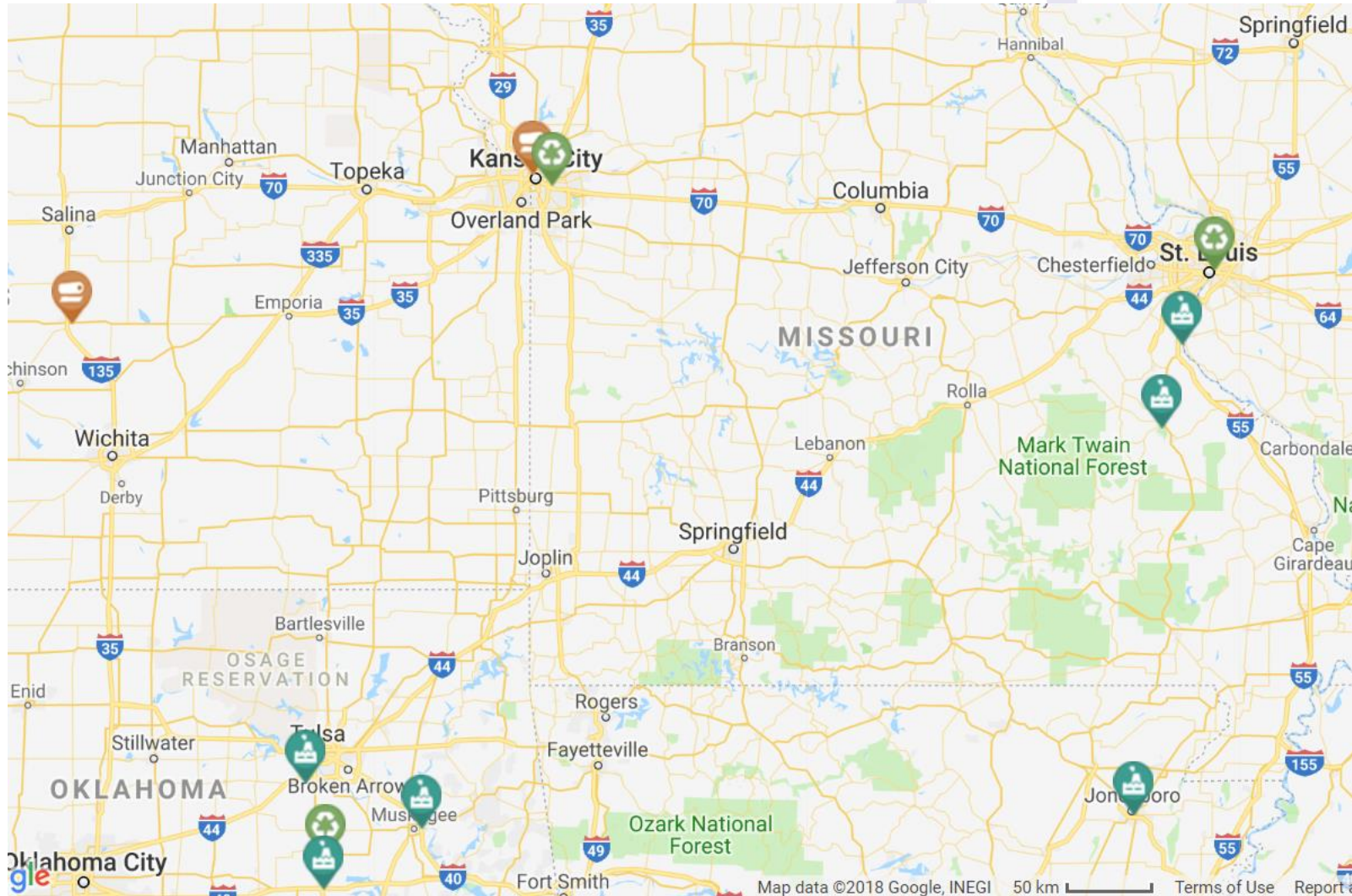
- **Container and Fiberglass Manufacturers**
 - Purchase over 3.2 million tons of recycled glass annually.
 - 80% goes back to new bottles
 - Recycled glass extends their furnace life and saves energy costs
- **Abrasives/Sandblasting Material**
- **Aggregate**
- **Reflective Beads**
- **Daily Cover**



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AREA END MARKETS



LEGEND

Location Type

- ☐  GPI Member Manufacturing Plant
- ☐  Recycled Glass Processing Facilities
- ☐  Fiberglass Manufacturing Facilities

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GLASS RECYCLING RATES

- Glass can be recycled endlessly with no loss in quality or purity!

- Recycling by container type:

In 2014, glass was recycled at these rates:

40% Glass beer & soft drink bottles

32% Wine & liquor bottles

15% Food jars

Percentage of all glass containers that are recycled:

32.5%

National Average

80%

California

In some states, like California, glass bottle recycling percentages soar because of deposit laws.



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CONVENIENCE VS. RECOVERY

Not all glass recycling is the same!

Out of the three common ways to collect glass for recycling, **ONLY ONE** has a 98% recovery rate.



Source: "Understanding Economic and Environmental Impacts of Single-Stream Collection Systems," Container Recycling Institute, Dec. 2009



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“NOBODY WANTS MY GLASS!”



Clean Glass vs. MRF Glass

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TIPS FOR SUSTAINABLE GLASS RECYCLING

- Keep it **local/regional**
- Stay flexible. Work with your **end users** to design a system that produces the quality of glass they can use
- Minimize transportation/touches
- Consider **landfill and tip fee avoidance**
- **Make it fun.**



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TOOLS FOR SUSTAINABLE GLASS RECYCLING

Glass Recycling Coalition (glassrecycles.org)

- Decision making tool
- Cost and recovery rates of various glass collection systems

How much glass can be recovered & turned into recycled glass?

Collection System	Glass Collected from 5,000 HH (tons/year)			% Glass Yield at MRF		% Cleanup (Beneficiation) Yield		Glass Recovery Rate (Furnace-Ready)		Actual Glass Recovered after Yield Loss (tons)	
	Max.	Average*	Min.	Best Practice	Average Practice	Best Practice	Average Practice	Best Practice	Average Practice	Best Practice	Average Practice
Single Stream Carts - Weekly	385	209	0	90%	64%	84%	65%	76%	42%	158	87
Single Stream Carts - Bi-weekly	348	191	0	90%	64%	84%	65%	76%	42%	144	80
Single Stream, Glass Separate - Weekly	301	228	182	97%	95%	97%	97%	94%	92%	215	210
Dual Stream Bins - Weekly	284	149	80	92%	74%	95%	90%	87%	67%	130	99
Drop-off	182	104	78	97%	95%	97%	97%	94%	92%	98	96



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THANK YOU



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