



Overview of Recycling Markets



THE RECYCLING
PARTNERSHIP

Rob Taylor, The Recycling Partnership
CT Coalition for Sustainable Materials Management
December 7, 2020

We're all in this bin together



Special Support for Circular Initiatives



Overview



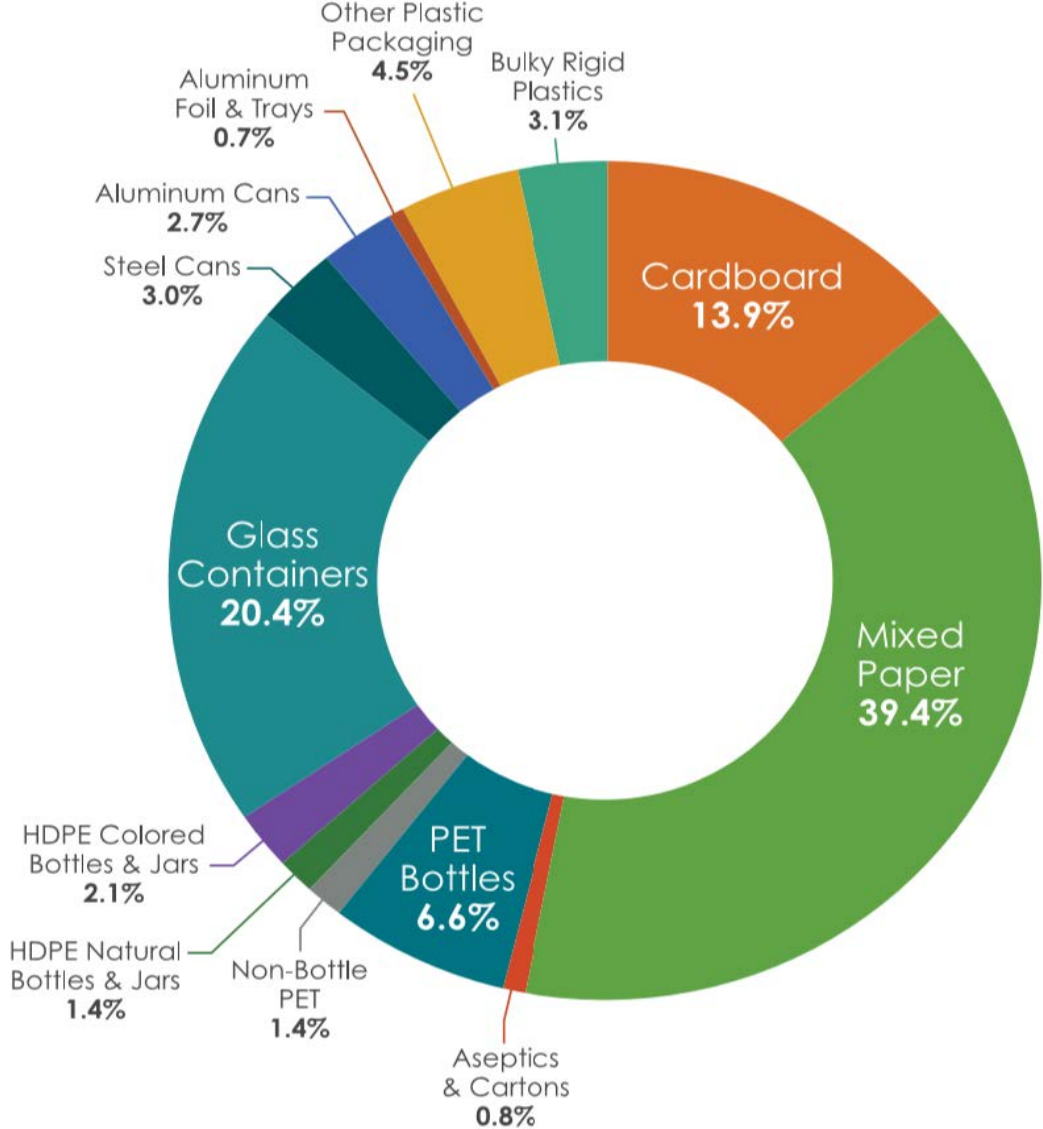
- Recyclable Materials Markets - Big Picture
- Why Blended Value of Commingled Ton Matters
- Factors Impacting Blended Value
- Material Specific Look at Markets
 - Paper
 - Plastics
 - Metals
 - Glass
- Why Contamination Matters

The Big Picture



- Recyclable materials are commodities
- Wide range of factors impact prices of individual materials
- Public recycling programs manage a “portfolio” of commodities
- Community recycling programs = first link in supply chain delivering materials to the recycling economy
- Citizen consumption and generation of recyclables not sensitive to recyclable market factors

Single-Family Home Generation of Recyclable Materials



MRF Material Costs and Values

Commodity	% of Outbound Materials	Price*	Weighted Value
Cardboard	17.00%	\$58.75	\$9.99
Mixed paper	38.00%	\$28.44	\$10.81
Cartons/aseptics	0.20%	\$22.50	\$0.05
Aluminum cans	1.50%	\$916.20	\$13.74
Steel cans	1.80%	\$71.70	\$1.29
Glass	16.00%	(\$27.50)	(\$4.40)
PET	4.80%	\$126.80	\$6.09
HDPE Natural	1.20%	\$1,242.60	\$14.91
HDPE Colored	1.00%	\$317.60	\$3.18
PP	1.00%	\$6.88	\$0.07
Mixed Rigid Plastics	0.50%	\$48.80	\$0.24
Residue	17.00%	(\$50.00)	(\$8.50)
	100.00%		\$47.46
		Processing Cost	\$90.00
		Profit (Loss)	(\$42.54)

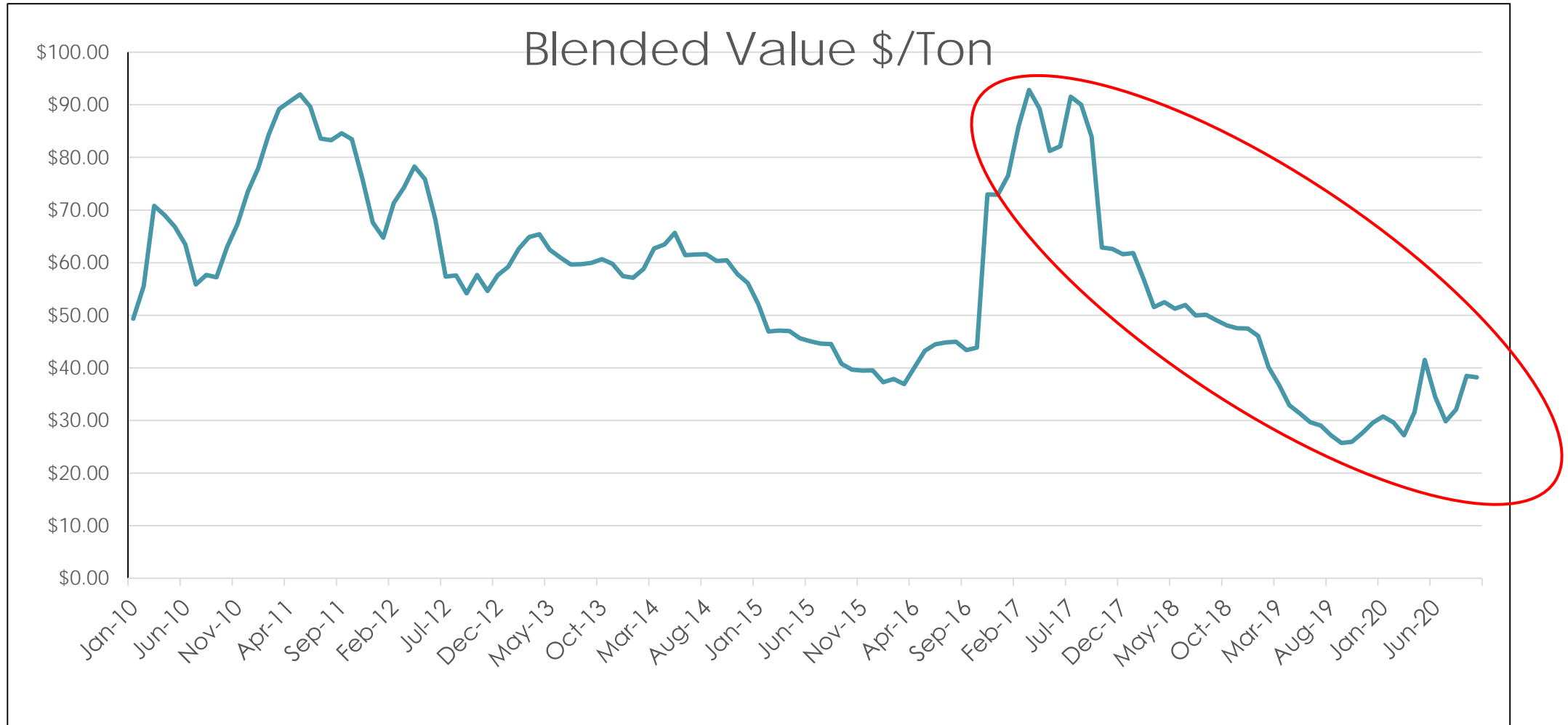
The Commingled Ton

- Composite of materials
- Value changes every month
- Value of ton typically doesn't cover cost of sorting
- Communities pay processing charges

Blended Value

* Pricing as of Nov 2020, RecyclingMarkets.net US Average

The Commingled Ton Over Time



Factors That May Help Blended Values

New Domestic Paper Capacity and Demand

Rise/stabilization of OCC and Mixed Paper prices

Domestic demand for polypropylene

*Stabilizing/rekindling of market;
Switchover from 3-7s*

Brand post-consumer content commitments

Increased demand for recycled material, especially plastics



Factors That May Hurt Blended Values

Changes in domestic aluminum industry

Soft UBC prices

Cheap petrochemicals

Cheap virgin plastics

Low capture rates of highest value materials

Affecting PET and aluminum

Contamination

Unwanted materials in the stream



Paper

- Two paper grades most important to community recycling programs:
 - Corrugated Cardboard (OCC)
 - Residential Mixed Paper
- Paper pricing experienced big impact from loss of China market
- Domestic markets have responded and export patterns have shifted
- U.S. paper still need some export outlet
- New kinds of export are helping resiliency of domestic markets – e.g., pulp, finished containerboard

Average Annual US OCC Price

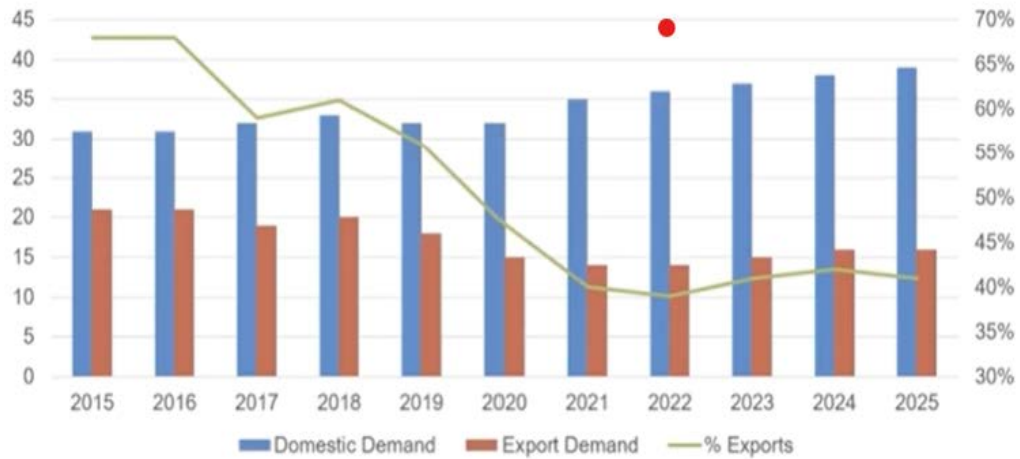


Average US Mixed Paper Prices



Paper

US Domestic and Export RCP Demand (million tons)

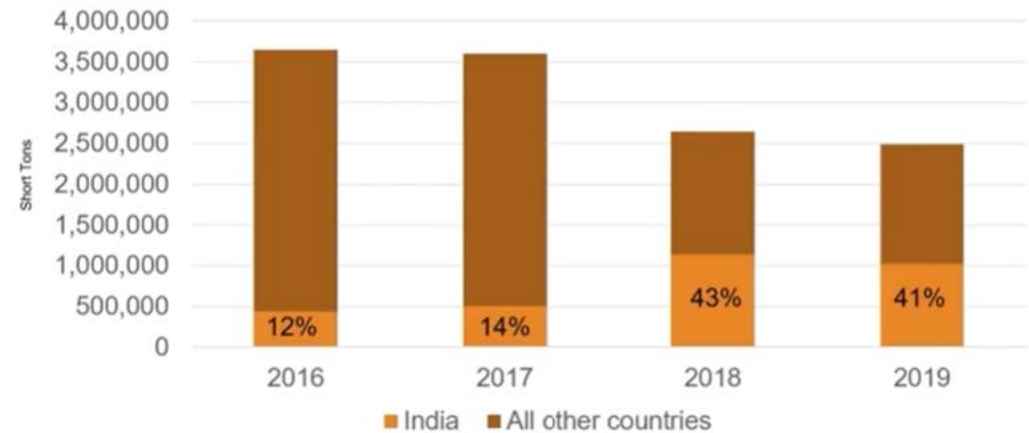


Source: Moore & Associates

Long term Trend in US Exports (000's of tons)

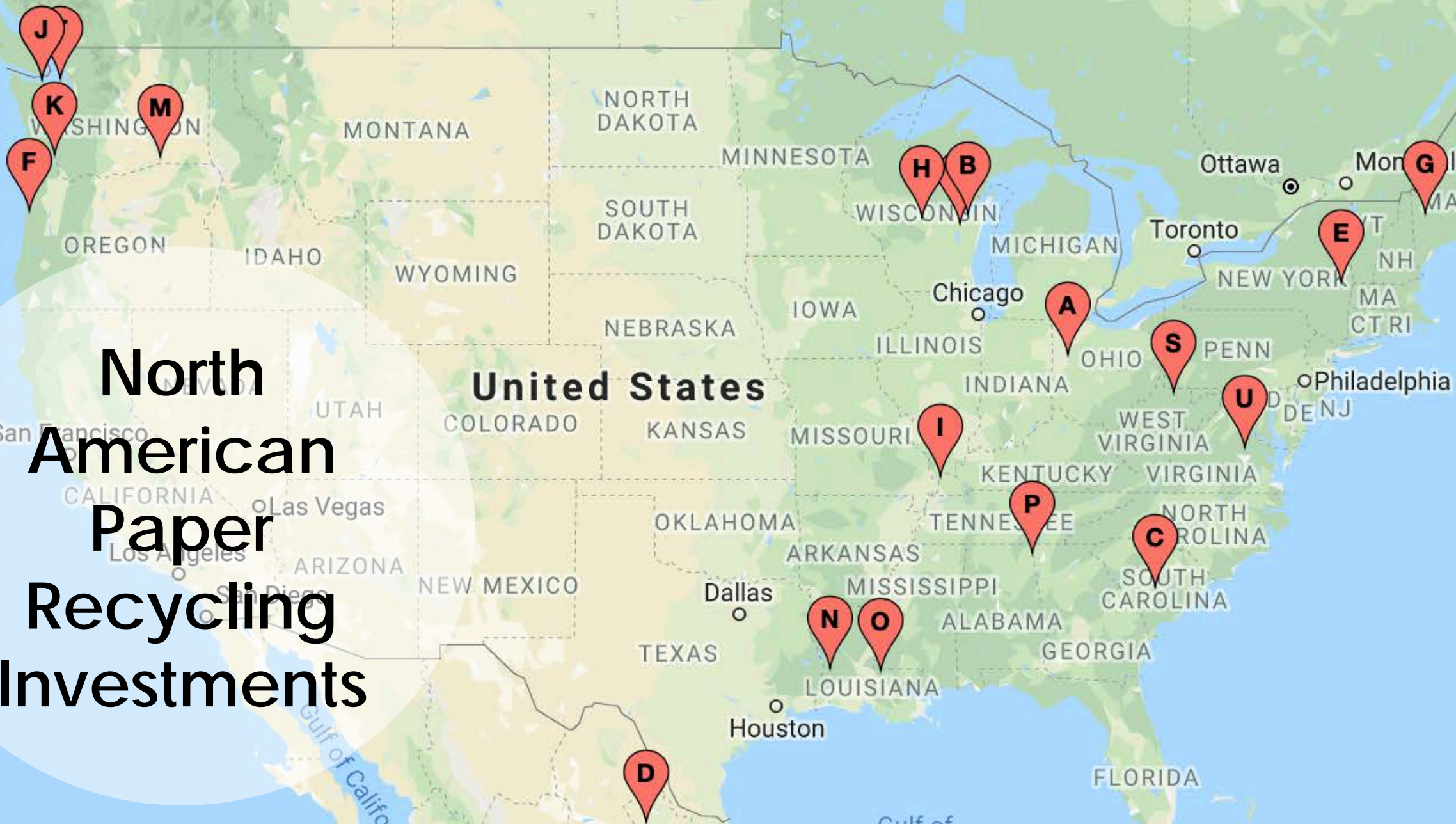


India's Share of US Mixed Paper Exports



North American Paper Recycling Investments

United States

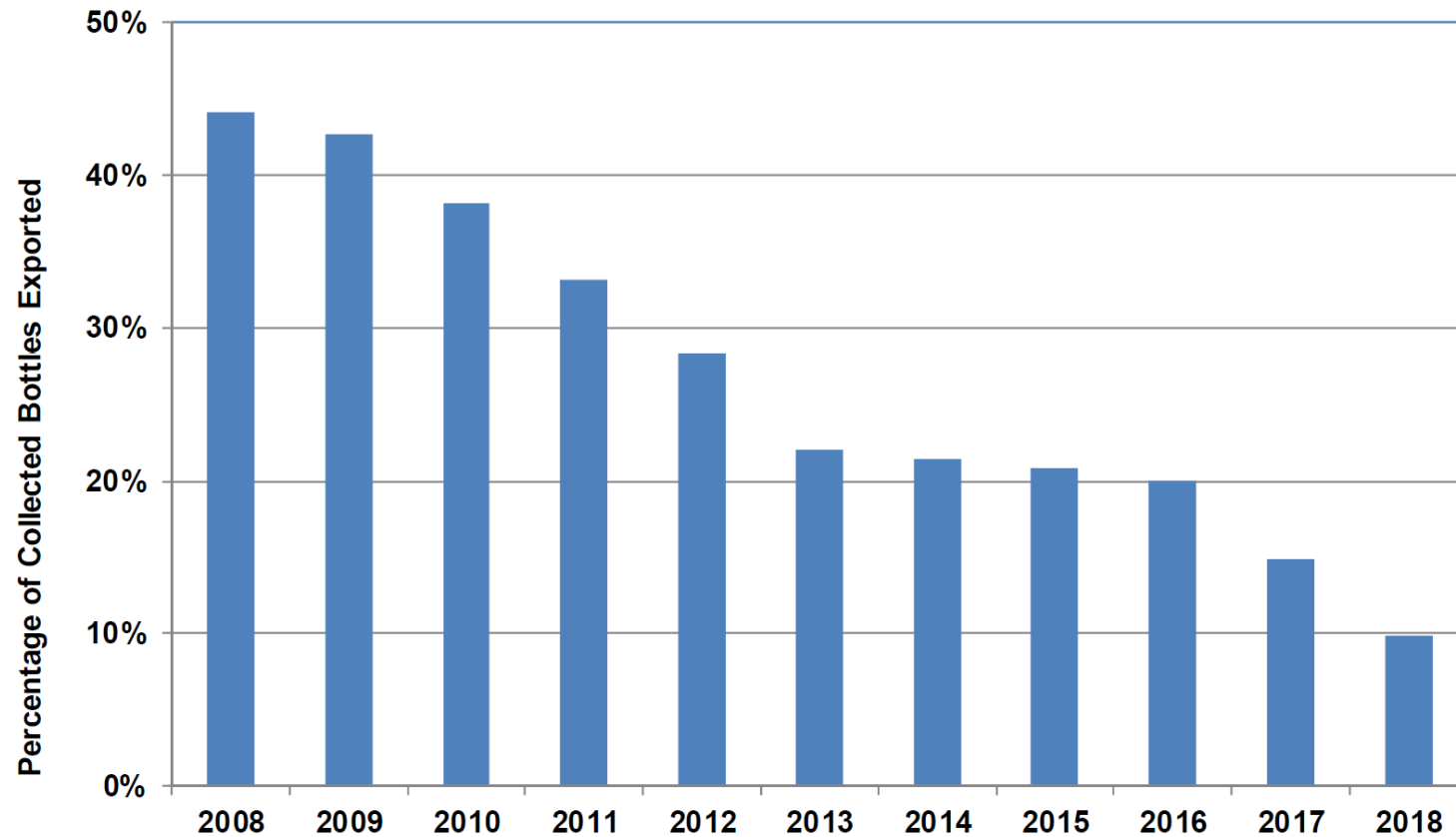




Over \$4.4 BN
in investments
+ 8 MM tons of
annual
consumption
+ over 3,800
jobs created
or maintained

Reduced Exports of Recovered Plastic

Exports of Postconsumer Bottles From the United States
2018



2018 U.S. National Postconsumer Plastic Bottle Recycling
Report
*Association of Plastics Recyclers and American Chemistry
Council*



North American Plastic Recycling Investments

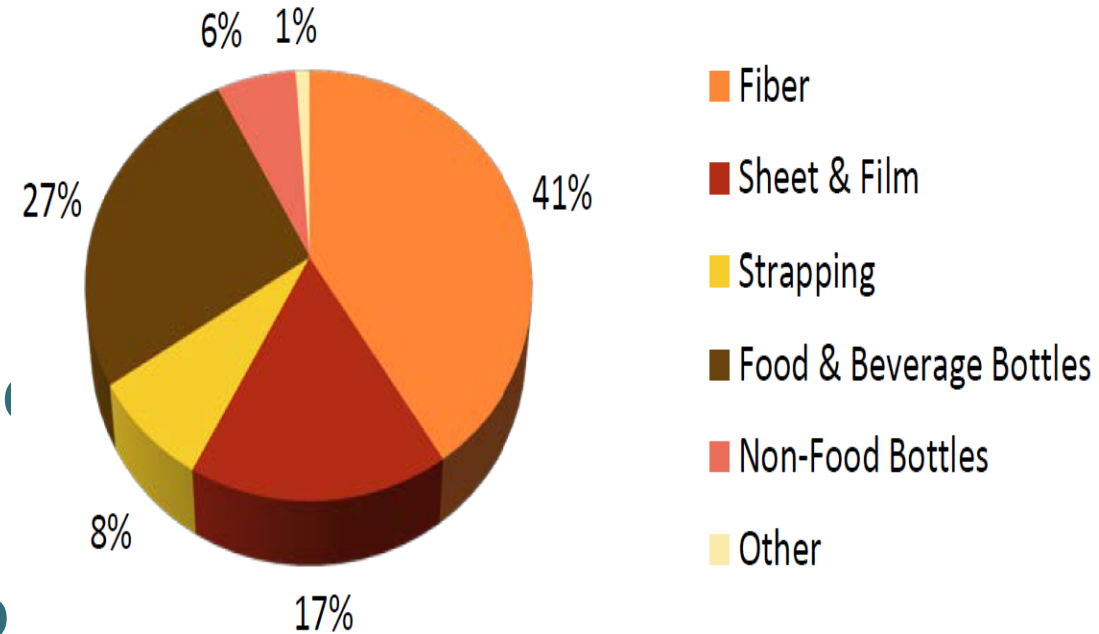




\$633 MM in
investments +
over 625,000 tons
of annual
consumption +
849 jobs created
or maintained

PET Overview

- Domestic markets strong, capacity growing
- Prices low, reflecting cheap virgin competition
- COVID disruptions in both demand and supply
- General demand high and expected to grow, especially from Brand commitments



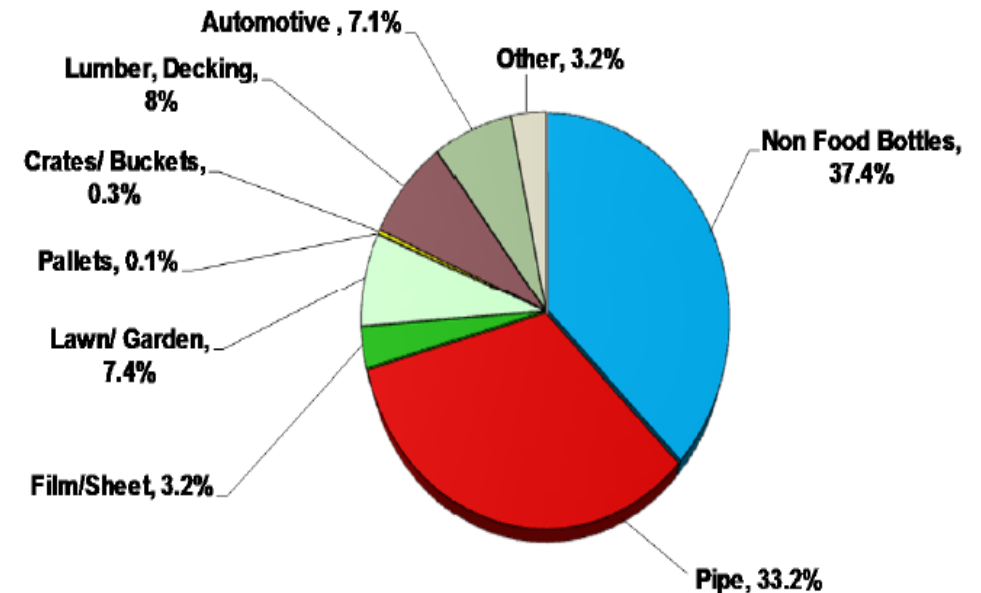
NAPCOR 2018 PET Recycling Report

PET Reclaimer in *Recycling Today*, 8/10/2020: "Demand continues to remain robust. Both brands and retailers are holding steadfast in their sustainability commitments. Sustainability is no longer an option but a requirement for companies as consumers demand products that are sustainably sourced and made."

HDPE Overview

- Divided into two main grades:
 - Natural and Colored
- Natural prices very robust – very easy to use back into packaging
- Colored prices less robust but strong
- General demand expected to grow because of Brand goals

Domestic Recycled HDPE Bottle End Uses
2018

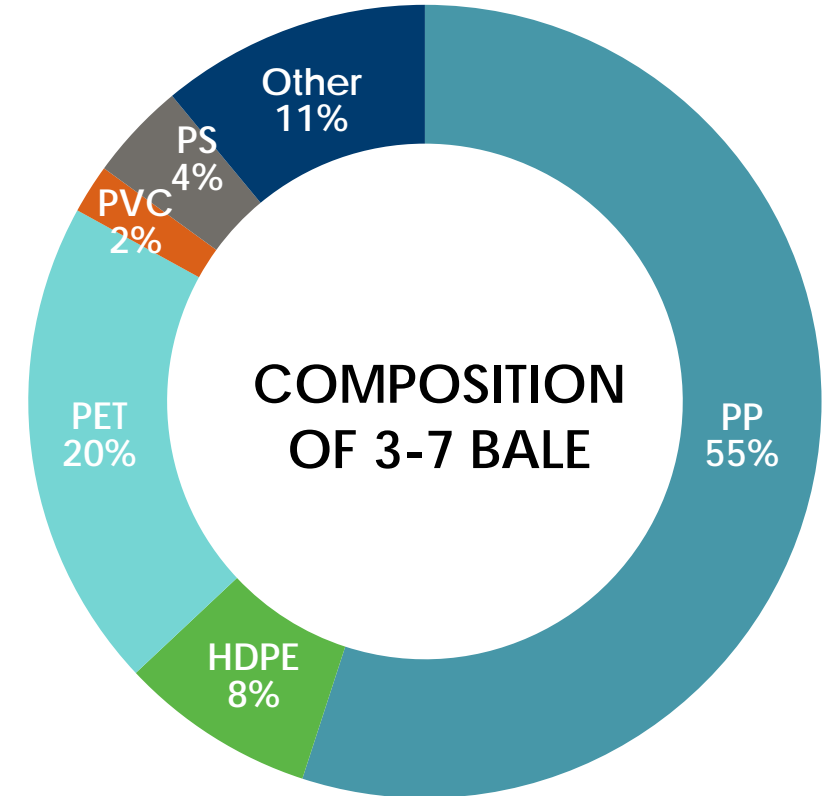


Source: More Recycling, 2018.

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PP Overview

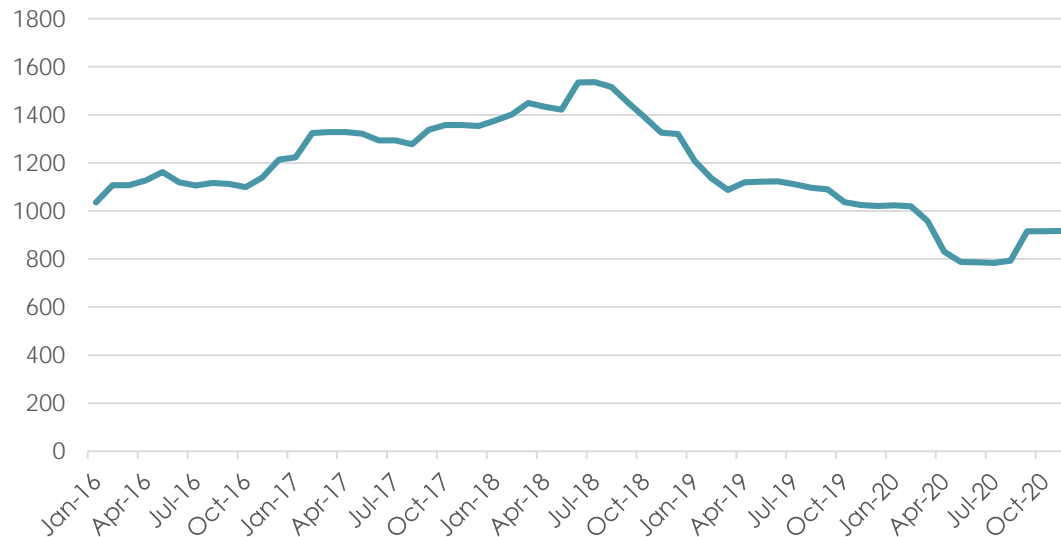
- Historically connected to 3-7 plastics grade
- Affected by export impacts to 3-7s, but more viable now as separated resin
- Largest markets include automotive, building products, paint buckets
- Increasingly common resin for consumer packaging
- Strong interest in advancing packaging end-uses
- Polypropylene Coalition building access and MRF capacity



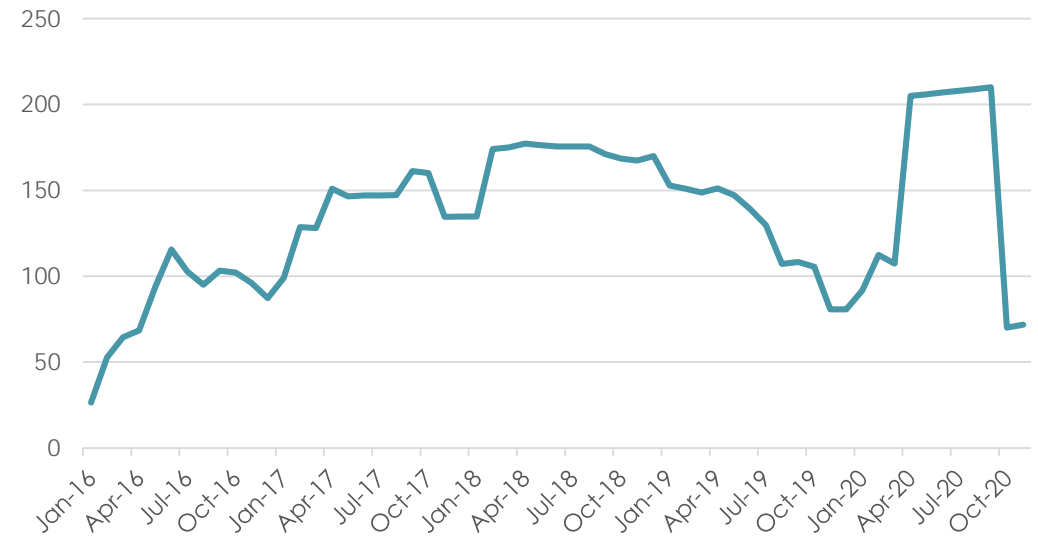
Aluminum and Steel Cans

- Steady, domestic demand
- Aluminum prices affected by global glut and changes in U.S. industry
- Steel cans follow general ferrous prices

Aluminum Can prices per ton

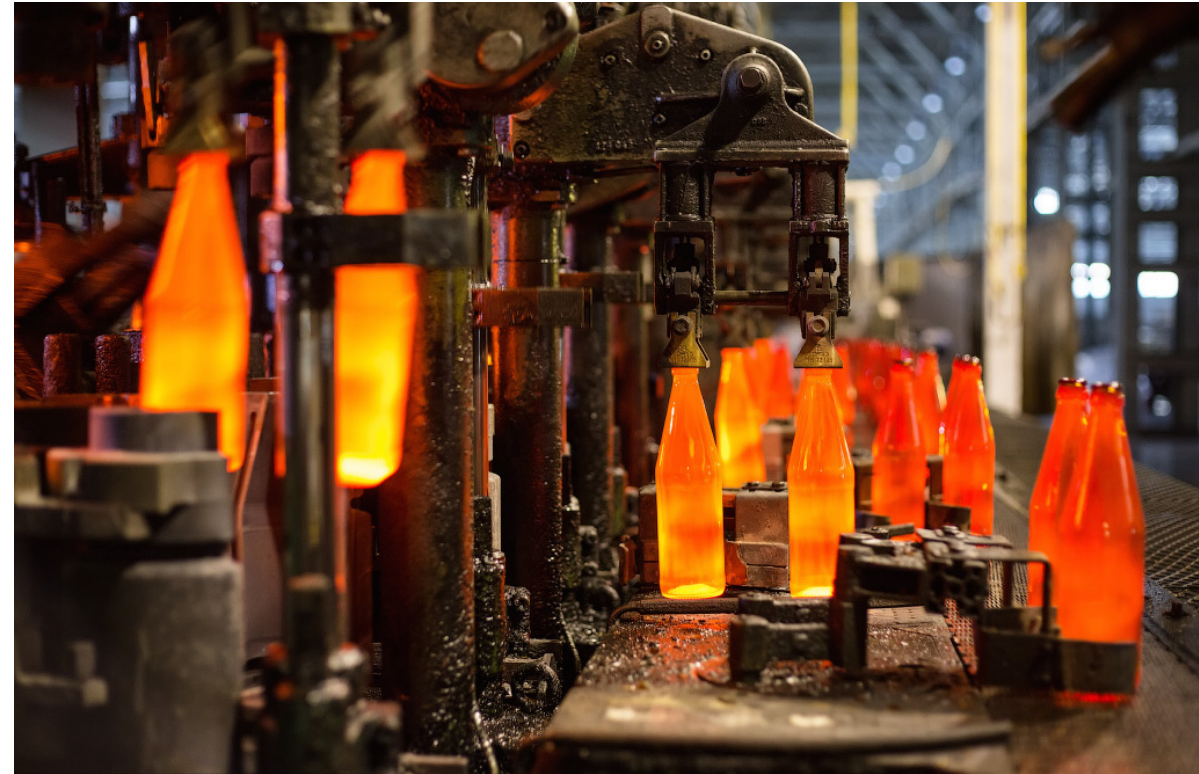


Steel Can prices per ton



Glass

- Steady, domestic demand in many regions
- MRF glass recyclability dependent on access to beneficiator (sorting plant)
- Low virgin material prices and necessary secondary processing “cap” the value of glass
- Big tonnage; strong household capture behavior
- High degree of circularity in packaging
- Very positive GHG benefits from potential use in concrete



Contaminants

Contaminants are a negatively priced “commodity” – reducing them improves blended value

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Steel cans	1.90%	\$71.70	\$1.36
Glass	16.80%	(\$27.50)	(\$4.62)
PET	5.10%	\$126.80	\$6.47
HDPE Natural	1.30%	\$1,242.60	\$16.15
HDPE Colored	1.10%	\$317.60	\$3.49
3-7 Plastics	1.10%	\$6.88	\$0.08
Mixed Rigid Plastics	0.50%	\$48.80	\$0.24
Residue	12.00%	(\$50.00)	(\$6.00)
	100.00%		\$53.97
		Processing Cost	\$90.00
		Profit (Loss)	(\$36.03)



Thank You!

Contact Info:

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