

Plastics Market Update

Michigan Recycling Coalition
Tonya Randell
May 18, 2017





The Next Generation of Moore Recycling Associates Inc.

More Recycling is the Next Generation of Moore Recycling Associates

- Have nearly 20 years of research and consulting experience in the recycling of postconsumer materials, specifically plastics.
- Offer a deep understanding of the complex and ever-changing lifecycle of plastic packaging
- Serve as a liaison between industry, public agencies, and NGOs and prioritize accurate information and neutrality in the marketplace.

Overview

Introduction

Market Drivers & Influences

Specific Commodities

Resources

The Evolution of Packaging:



Pharma /
Over-the-counter

Baby Food & Formula



Cookies /
Crackers

Coffee



Nuts



Shopping



Personal
Care



Pet Food

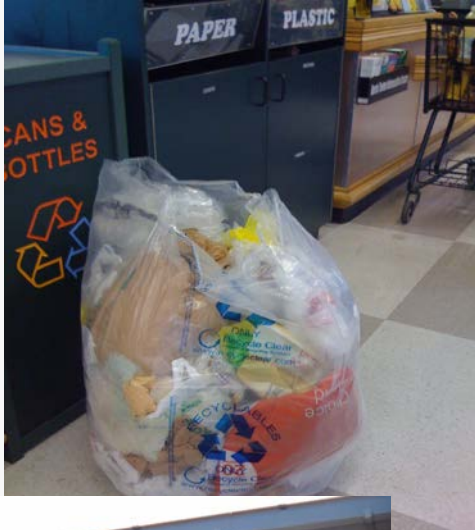


Juice



Plastic Value Chain

Collection/Sortation/Consolidation
Reclamation
End Use



Plastics Market Drivers

- General economic conditions
- Price of natural gas, petroleum & derivatives
- Virgin resin production capacity relative to demand
- Industrial scrap & off-spec supplies
- Supply and demand of recycled feedstock
 - Goals for recycled content

Current Economic Conditions

Strong Dollar

- + Excess Production of Crude & Other Commodities
- + Changes in China/Asia
- + Increased Processing Costs

Down Market

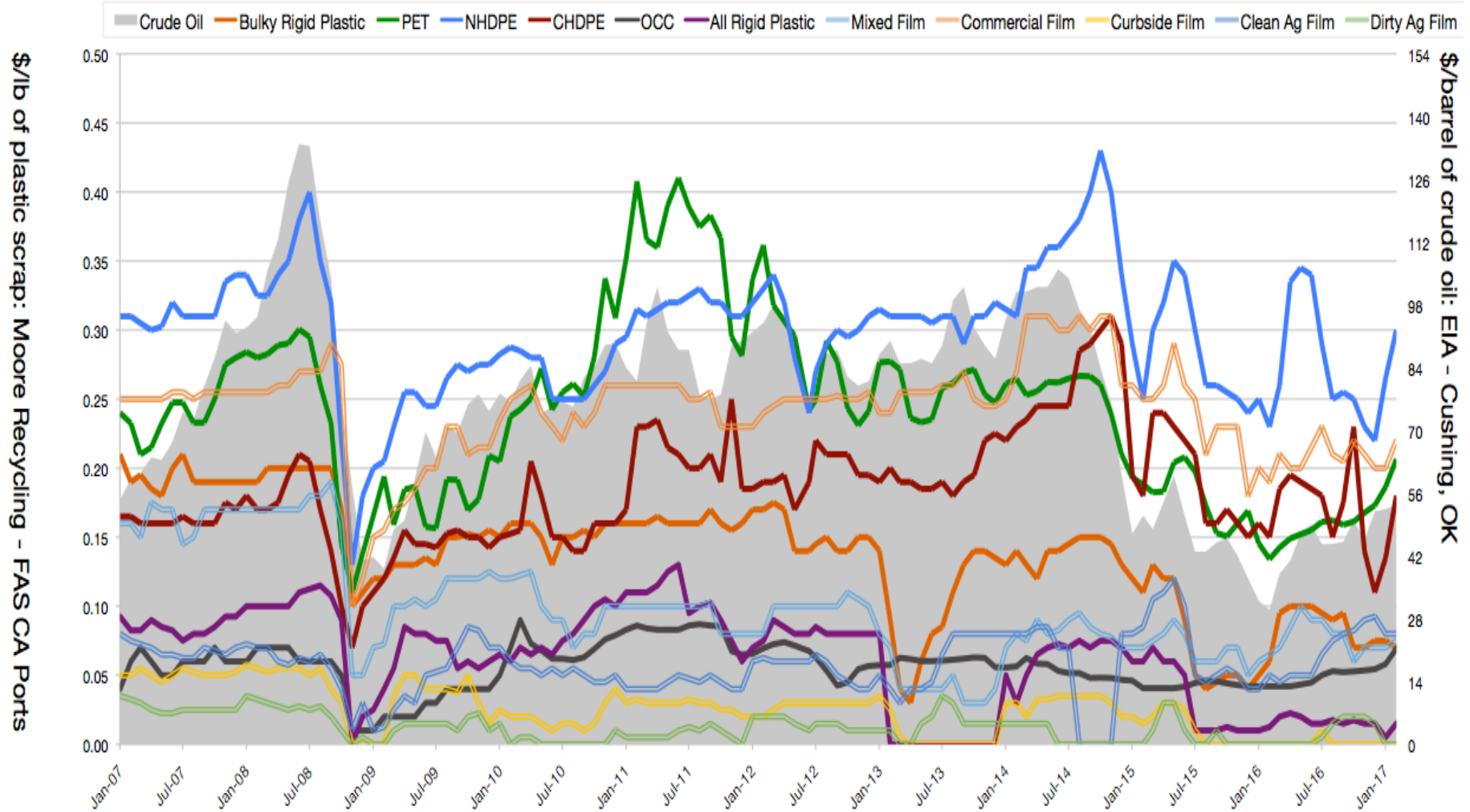
Tight Margins

Industry Pains/Constraints

Quality sells

Rigid Plastic Scrap Price vs Oil

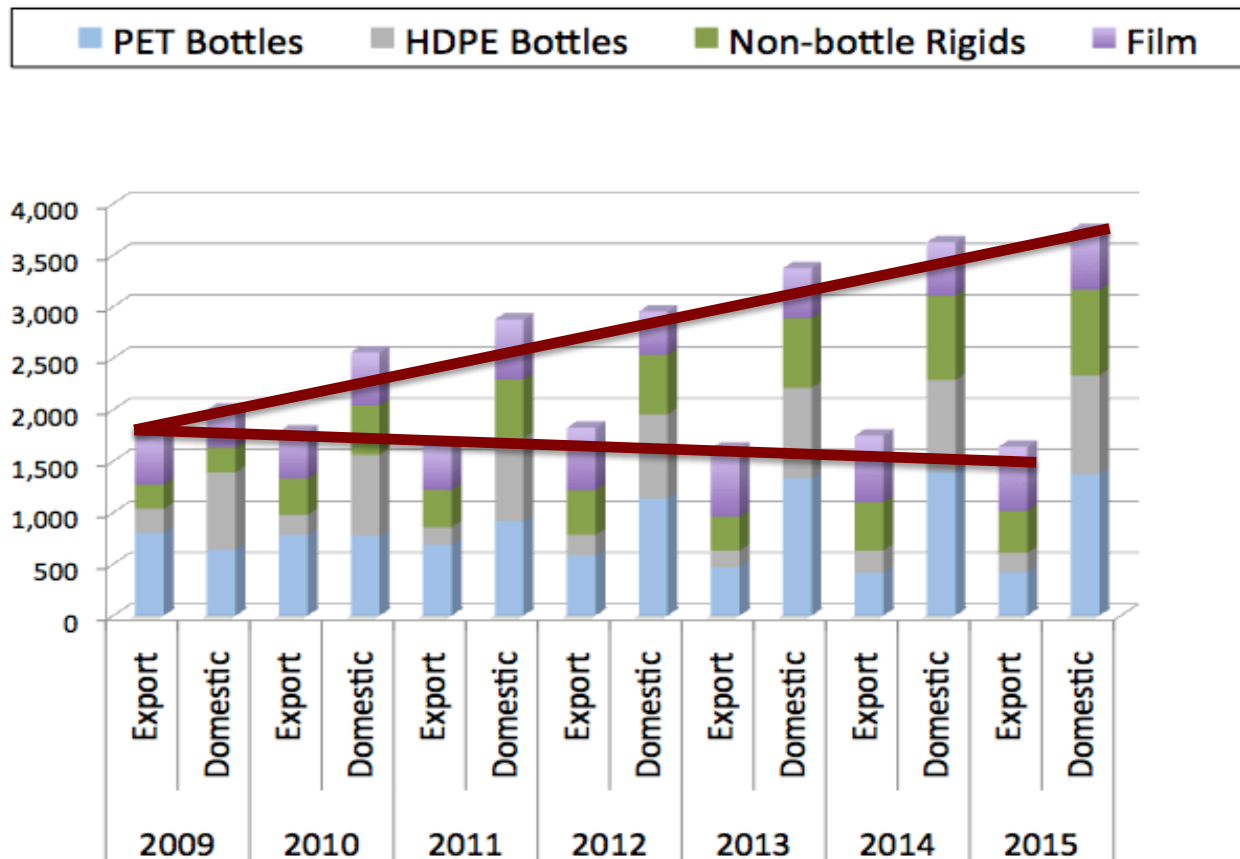
Scrap Price History vs Oil: 2007 to-date



Domestic vs Export

U.S. Postconsumer Plastic Recycling

in millions of pounds



National Sword 2017

China's newest import crackdown:

- No unprocessed/mixed scrap, including plastics and paper.
- Protects domestic scrap prices in China.
- Less pressure on domestic virgin resin industry in China.

Specific Commodities

PET Bottles & Thermoforms

HDPE Bottles

Non-Bottle Rigid Plastic

Polypropylene Bottles & Containers

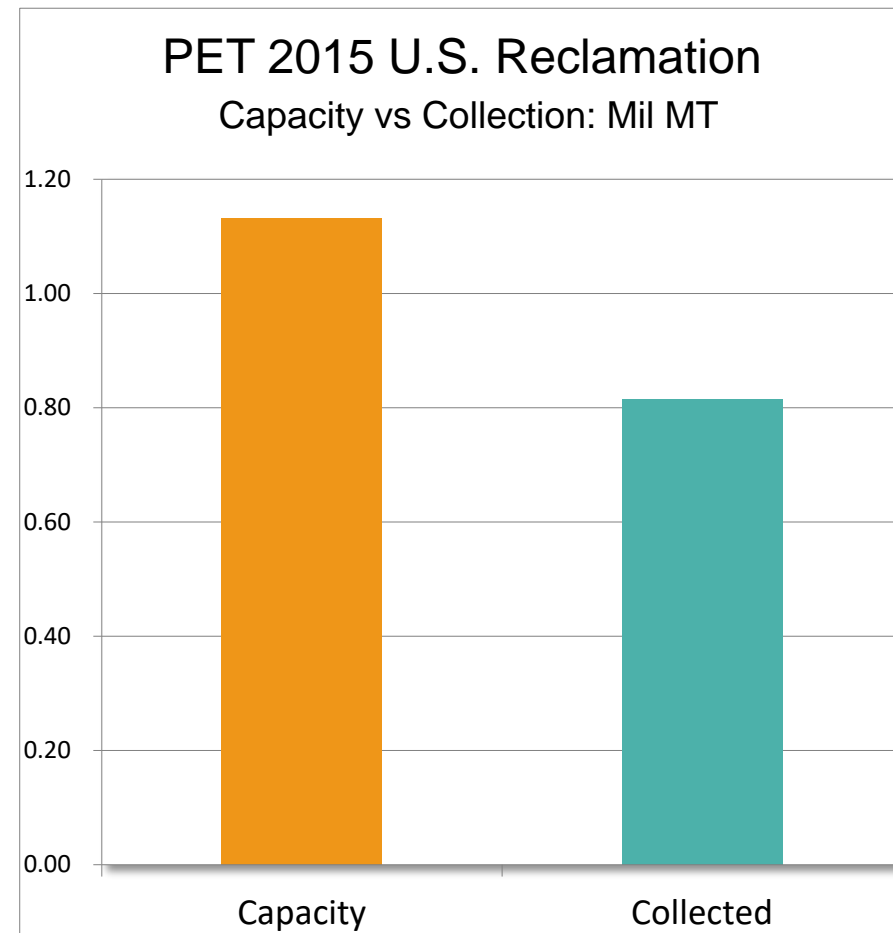
Polystyrene

Bags & Film

PET Recycling

Key Dividends

- 2015 Recycling Rate: 30.1%
- Light-weighting affects yields
- Bale yield mid-60% to mid-70%
- Flattening bottle demand
- Lower PCR demand
- Virgin resin capacity



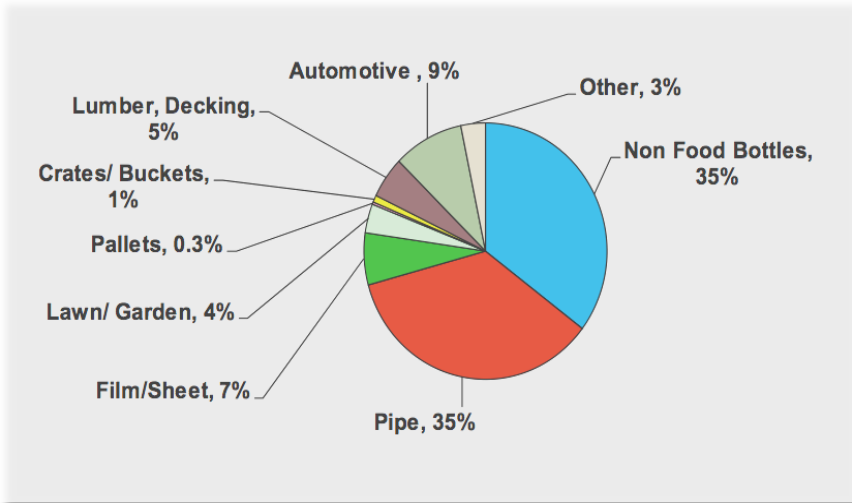
PET Thermoform Challenges

- Intrinsic property differences
- Aggressive labels, inks, glues
- Sorting difficulties
- Black plastic
- Not all haulers / MRFs / reclaimers want them

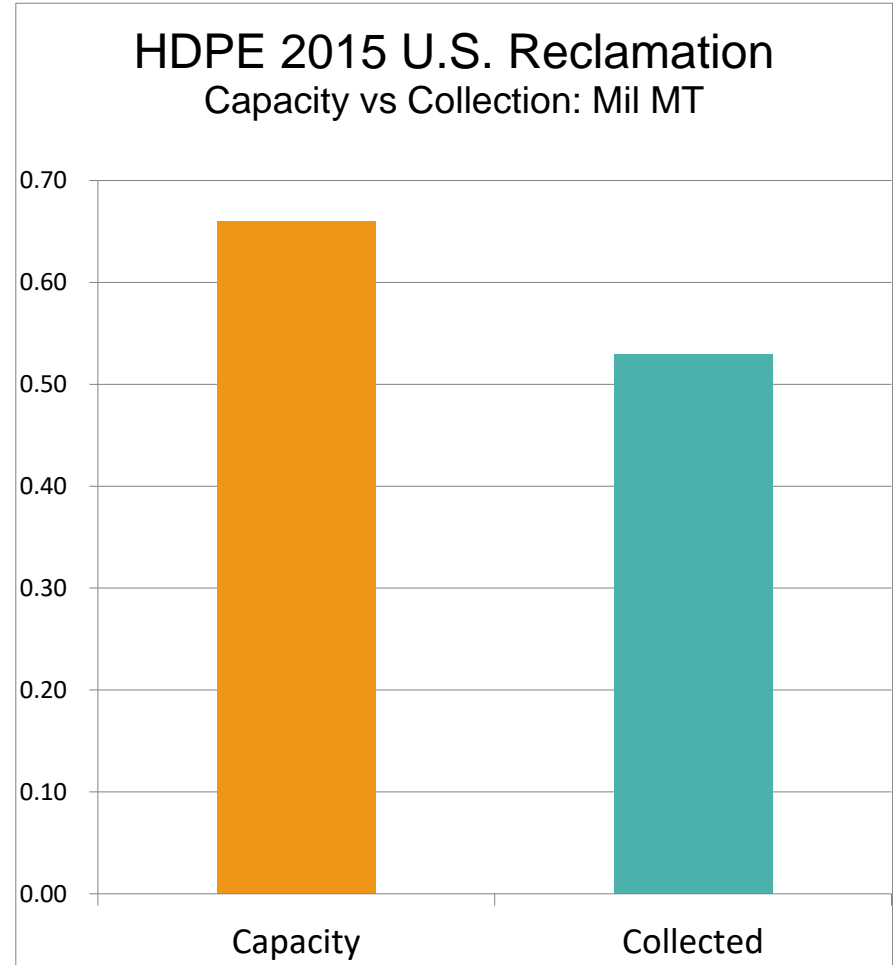


HDPE Bottles

- Recycling Rate 34.6% in 2015
- Static sales
- Bale yield at nearly 82%



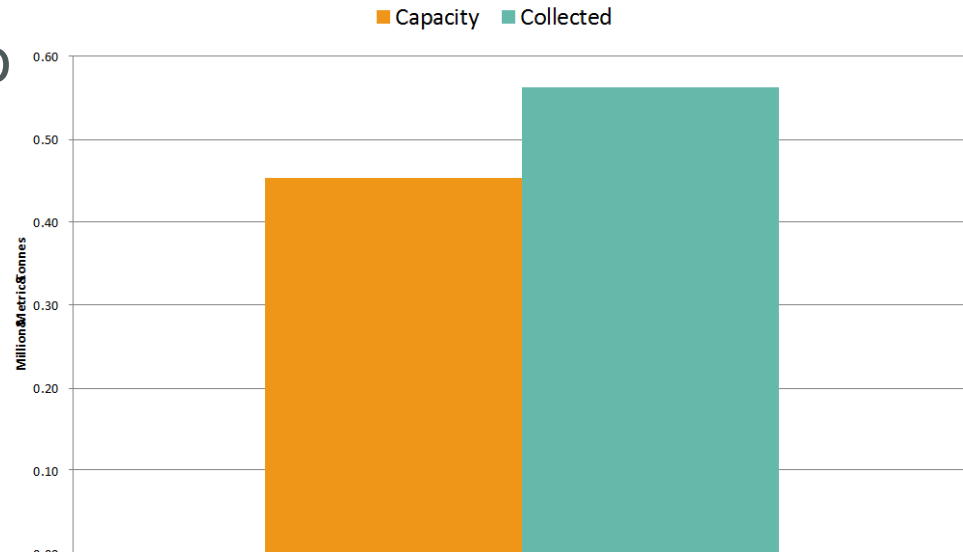
End uses of HDPE bottles



Non-Bottle

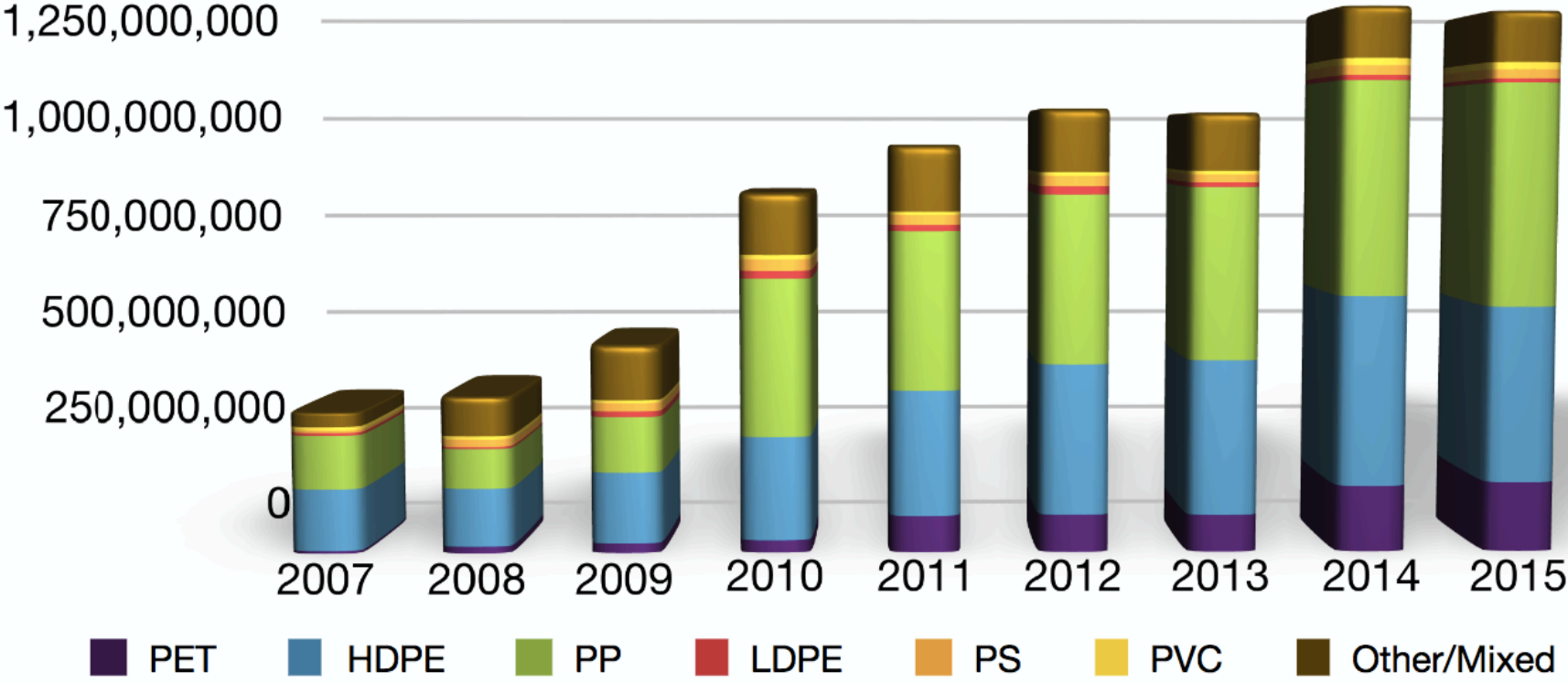
- Collection growth is dropping
- Most capacity is for segregated, need capacity for mixed streams
- Lack of separation capacity resulting in lack of reclamation
- Need for secondary sorting

Non-Bottle U.S. Reclamation:
Capacity vs Collection: Mil MT



Non-Bottle Rigid Plastic

U.S. Non-Bottle Rigid Plastic Recovered Year to Year by Resin² (pounds)



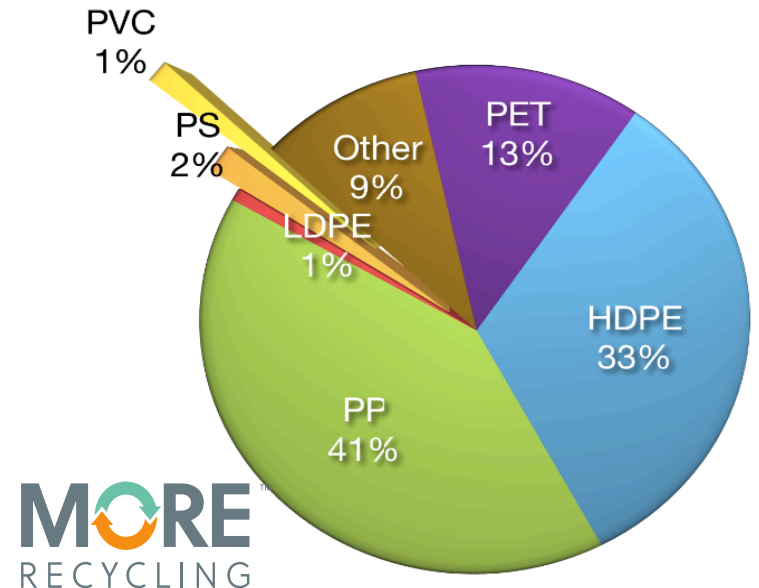
Polypropylene

- Recycling rate is growing for both bottles and containers/caps
- Opportunity to expand collection?
- Demand for material continues to grow
- **PRFs / Secondary MRFs support growth of processing**



U.S. Post-Consumer Non-Bottle Rigid Plastic Recovered in 2015 by Resin

RESIN	POUNDS
PET	159,730,000
HDPE	405,258,000
PP	511,054,000
LDPE	9,109,000
PS	20,987,000
PVC	16,666,000
Other Mixed/ Unknown	116,581,786

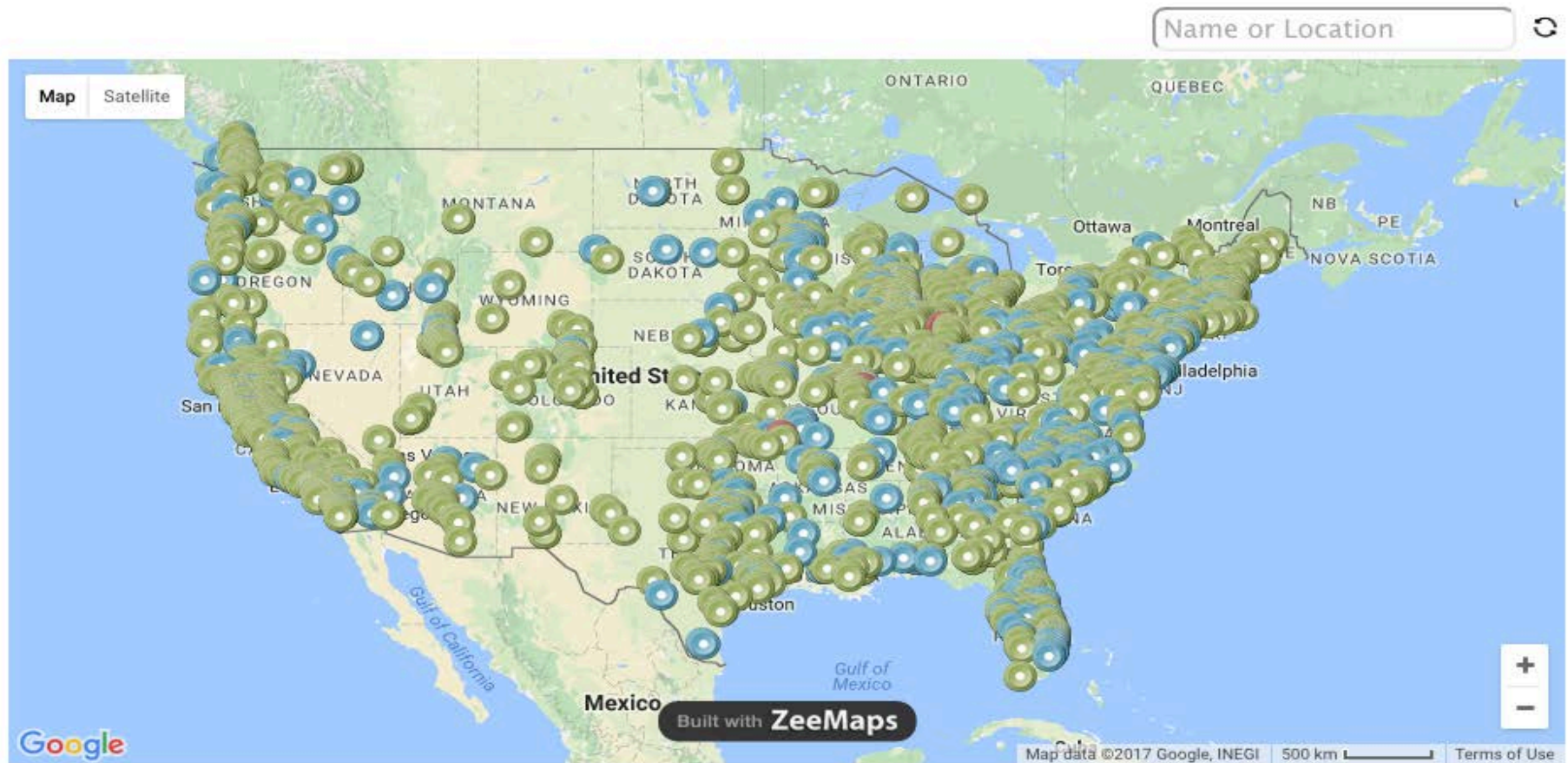


Polypropylene Map

www.RecycleMorePlastic.org/plastics/map.html

● PP Bottle & Non-Bottle ● PP Bottle ● PP Non-Bottle

("Non-Bottle" includes containers and/or larger bulky items, but not film.)



Polystyrene

- Domestic Markets exist
- Growing potential for mixed rigid/foam
- Rigid mixed with “3-7” bales
 - Need secondary MRF / PRF infrastructure to spur reclamation capacity
- Separated Foam PS
 - Densification is essential
 - Easily identifiable
 - Grants available from [Foodservice Packaging Institute](#)



Foam Polystyrene

Case Studies and Map:
www.RecycleMorePlastic.org



Case Studies on Foam Polystyrene Recycling

Check out these successful foam polystyrene programs.

FOAM POLYSTYRENE RECYCLING CASE STUDY

Foam PS Drop-off Recycling

Drop-off Foam PS Recycling Best Practices

Each municipality, city, or county can set its own rules for how to accept foam PS. However, there are some best practices that can help you get started.

Spotlight: Uniek Inc. & City of Madison, WI

RECYCLING FOAM PS WORKS

Uniek Inc. has been recycling foam PS for over 20 years. The company has a long history of working with municipalities to help them set up successful recycling programs. Uniek Inc. has a number of different recycling programs that can be tailored to meet the needs of any municipality. The City of Madison has been working with Uniek Inc. to set up a successful foam PS recycling program. The City of Madison has a number of different recycling programs that can be tailored to meet the needs of any municipality.

Spotlight on Uniek Inc.

FOAM POLYSTYRENE RECYCLING CASE STUDY

Foam PS Recycling Works at MRFs

Curbside Recycling Foam PS Best Practices

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Spotlight: EDCO Disposal

WHY RECYCLING FOAM PS WORKS

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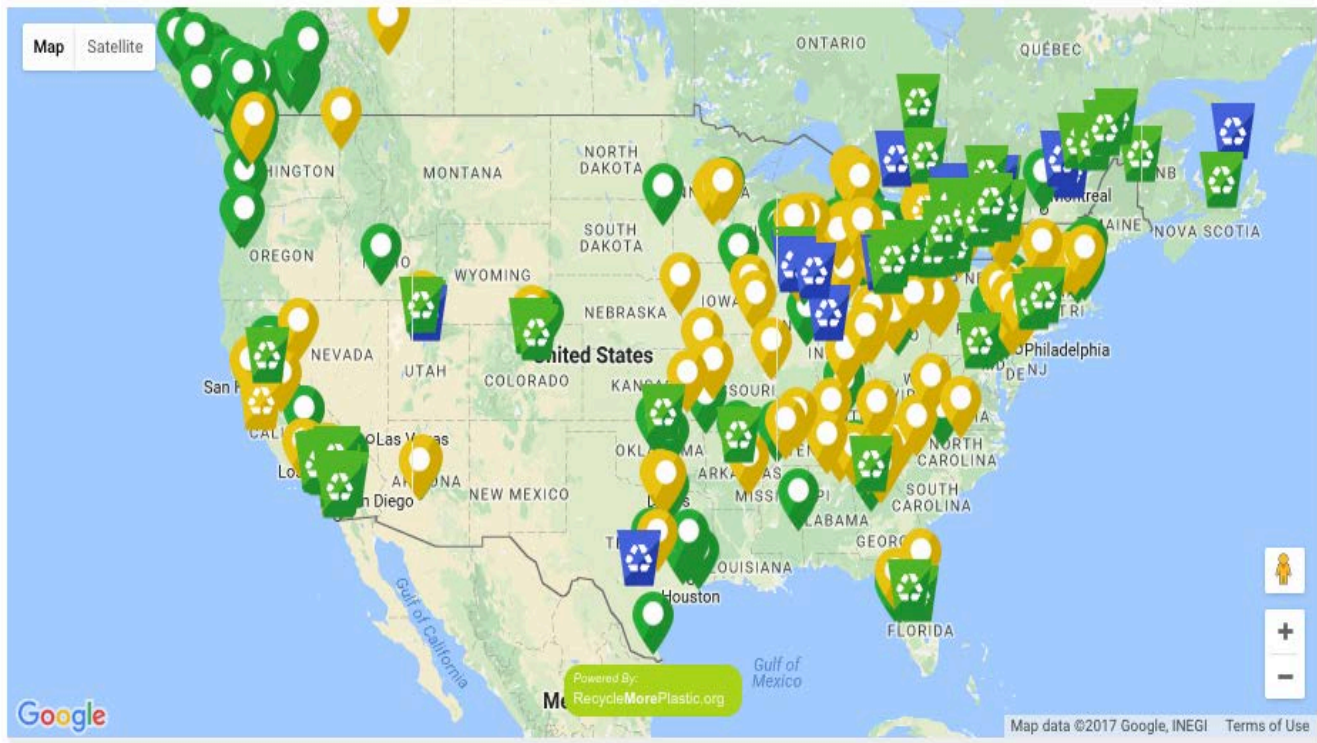
Spotlight: Burttec Waste

WHY RECYCLING FOAM PS WORKS

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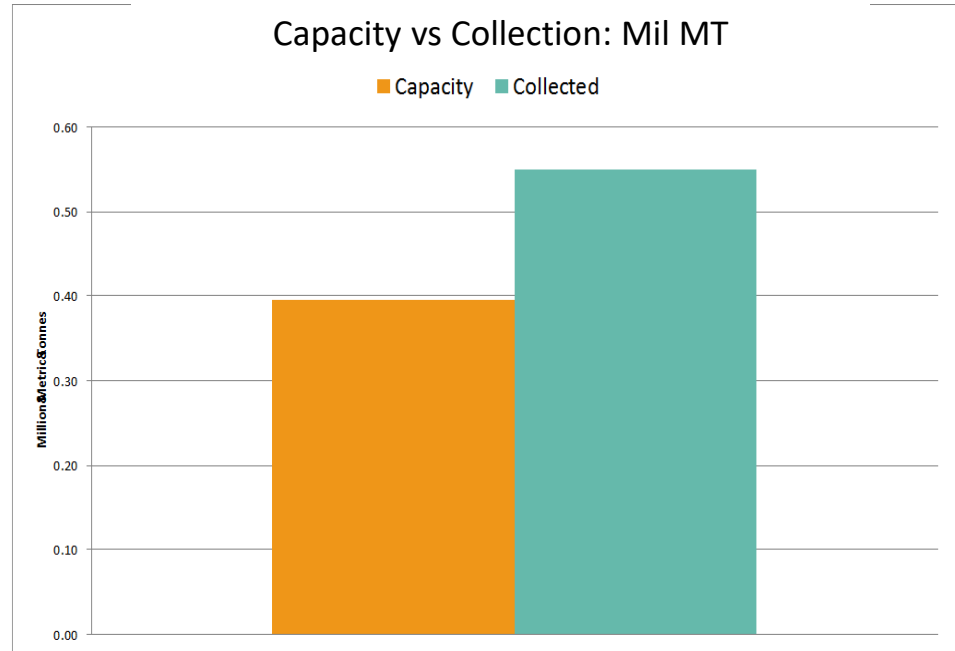
- Curbside Transportation Packaging
- Curbside Food Packaging
- Curbside Both
- Drop-off Transportation Packaging
- Drop-off Food Packaging
- Drop-off Both



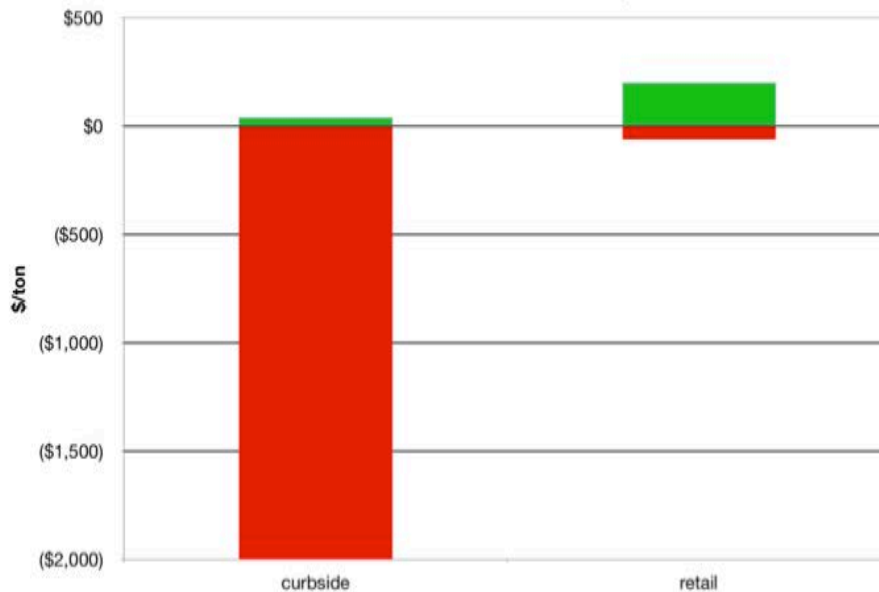
Film

- More than 18,000 drop off locations
- Many opportunities to improve commercial collection
- Discourage curbside

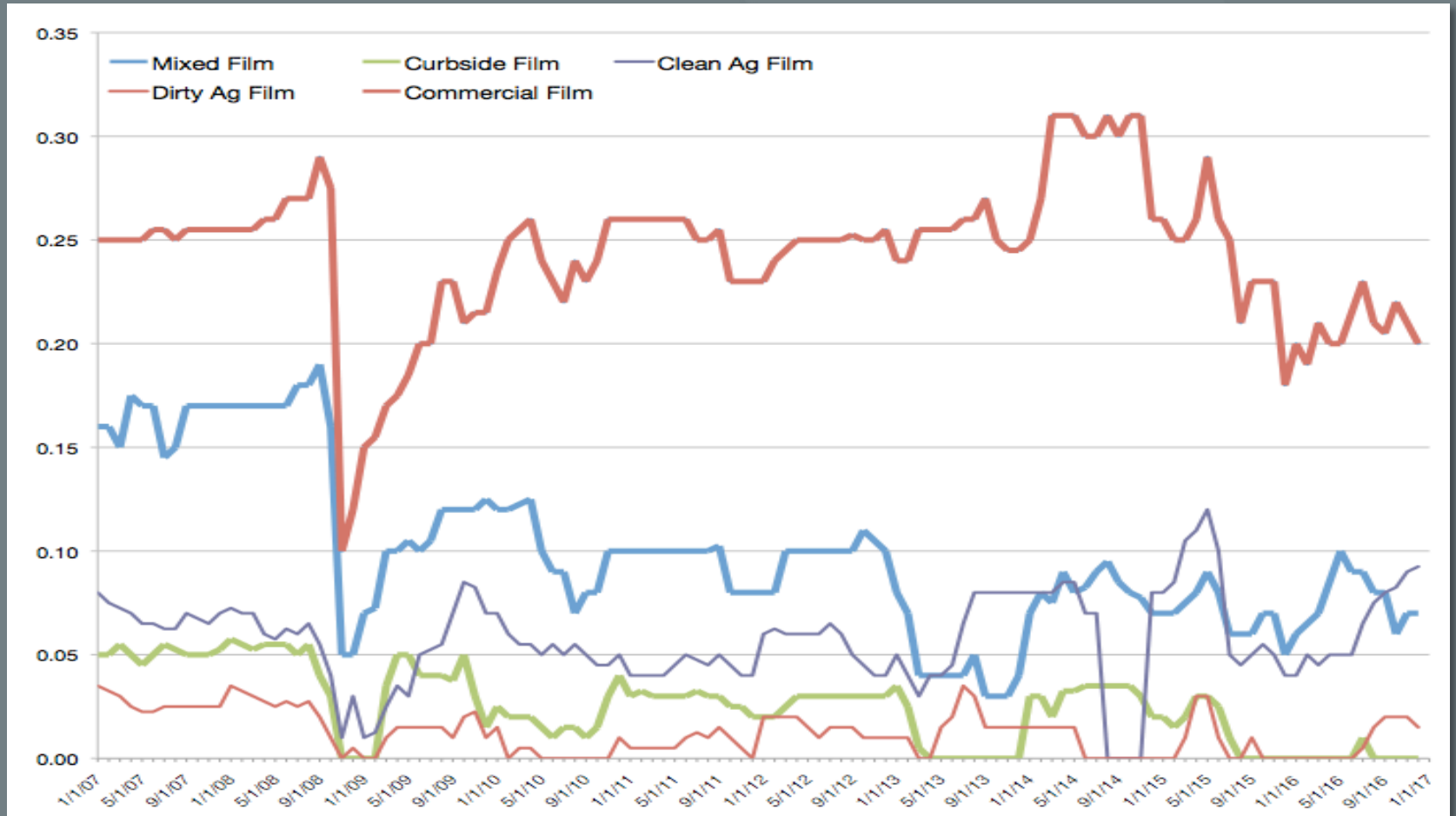
Film U.S. Reclamation:
Capacity vs Collection: Mil MT



Cost/Benefit of Film Recovery



Plastic Film Scrap Prices



Resources

Directories

Tools

Tips

Links

Directories



[PlasticFilmRecycling.org](https://www.PlasticFilmRecycling.org)



[PlasticsMarkets.org](https://www.PlasticsMarkets.org)

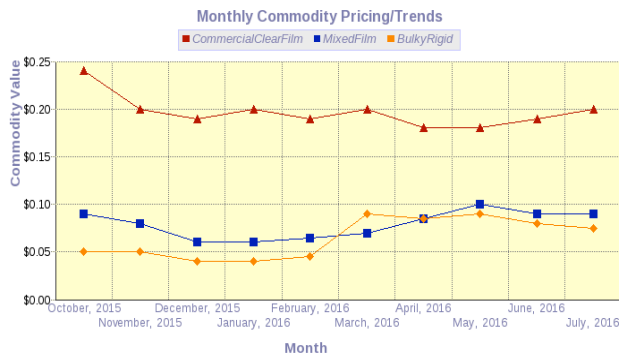


[PlasticFilmRecycling.org](https://www.PlasticFilmRecycling.org)

PlasticsMarkets.org

- Recycler Database:
 - List in Directory
 - Search for buyers
- Scrap Pricing
- Export Procedures
- National Recycling Reports

Scrap Plastic Pricing



Company Search Form

Clear form

Please select a load size:

Truckload Quantity



Less Than Truckload Quantity



Select Buyer/Supplier

Search for Buyers

Search for Suppliers

Select a material form.

Baled

Dirty Regrind/Shred

Clean Flake or Regrind

Loose

Densified

Pellet

Select a Material Product Type.

Bottles Container & Bulky

- Bottles
- Non-bottle Containers
- Thermoforms/Clamshells
- Tubs and Lids
- Bulky Rigid Plastic
- Buckets
- Bottles and Containers
- Bottles, Containers, and Bulky (All Rigid Plastic)
- Pre-picked Rigid Plastic: No Bulky (No PET & HDPE Bottles)
- Pre-picked Rigid Plastic: with Bulky (No PET & HDPE Bottles)

Film & Foam

- Ag Film (see Ag Plastic to the right)
- Film
- Mixed Retail Bags/Wraps Film
- MRF Film
- Film and Cardboard
- Multi-layer/Laminate Film
- Foam (Flexible)
- Foam (Rigid)

Other Commodities

- Ag Plastic
- Auto Plastic Scrap
- Battery Casings
- Boat Wrap
- Caps (bottle caps)
- Carpet Trim Scrap
- CDs
- Construction and Demolition Scrap
- Drums
- Electronic Scrap Plastic
- Hangers
- Manufacturing Scrap
- Pallets
- Sheeting
- Strapping
- Super Sacks
- Other



WRAP Tools



out of plastic film →
plasticfilmrecycling.org
wrap



Terms and Tools

Goal: Increase the quality and quantity of plastics collected and to facilitate better tracking.

Outreach Terms: Common terminology and simple tools for community recycling programs in the US and Canada to help these programs communicate more effectively to residents about plastic recycling.

Commodity Terms: Streamline communications about buying and selling plastics that have been collected in the plastics value chain.



Outreach Terms:

4 easy steps to build your program with Images and Tool to build program flyer.



RecycleYourPlastics.org



Terms and Tools

[Terms & Tools Home](#) | [Feedback](#) | [login](#)



Plastics Recycling Terms & Tools

Better Communication... Better Recycling

This resource provides common terminology to help streamline communications for community recycling programs throughout the U.S. and Canada. Its goals are to strengthen consumer education and increase the quantity and quality of plastics recycled.

Click each section below in succession to learn more

Overview

1	What are the Terms & Tools?	+
2	Who created the Terms & Tools?	+
3	Why every community should use the Terms & Tools	+

How to Use the Outreach Terms

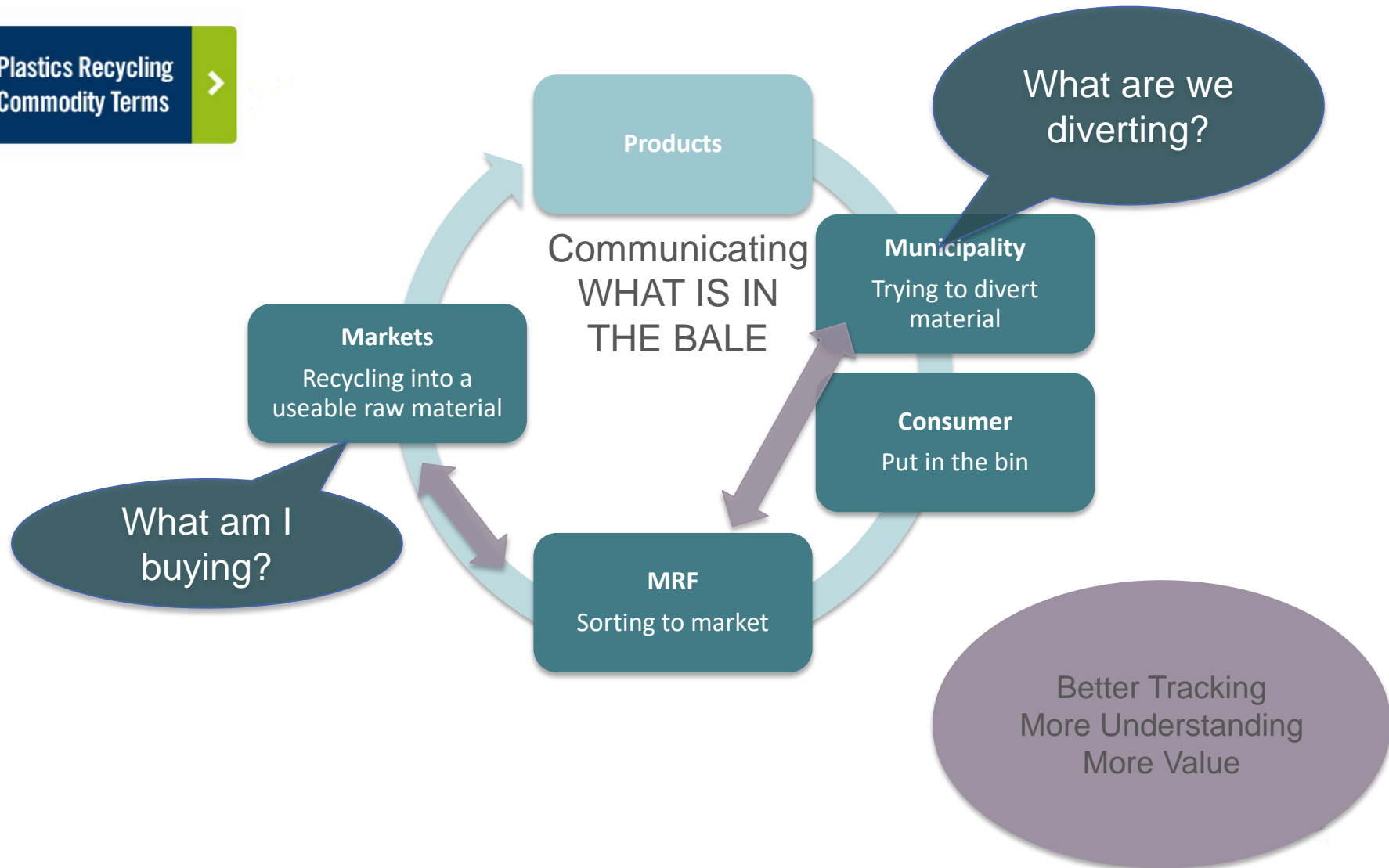
4	Before/After Example Using the Outreach Terms	+
5	Tool: Use the New Outreach Terms	+
6	The Plastics Recycling Outreach Terms (complete list)	+

Additional Outreach Resources/Tools

7	Image Gallery: A picture is worth a thousand words	+
8	Further Your Outreach with Re-TRAC	+
9	Plastic Film & Bag Recycling	+

Commodity Terms: Communications with MRFs and Markets

Plastics Recycling
Commodity Terms >



Resource Links

- **ISRI Bale Specs**

www.isri.org/docs/default-source/commodities/specsupdate.pdf?sfvrsn=2

- **APR Bale Specs**

www.plasticsrecycling.org/markets/model-bale-specs

- **PlasticsMarkets.org**

Connect suppliers and buyers of all types of scrap plastic

- **PlasticFilmRecycling.org**

Resources for plastic film recycling

- **RecycleMorePlastic.org**

Resources for PP and Foam PS

- **RecycleYourPlastics.com**

Resources for common terminology and collection tips



Thank You!

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