



Patty Moore, Moore Recycling Associates Inc

PLASTIC MARKET UPDATE



OVERVIEW

PET Packaging

HDPE Bottles

Non-Bottle Rigid Plastic

Foam (& PS)

Film & Bags

Terminology – Gaps - Trends



PET

- Demand outpaces supply: US reclamation capacity growing
- Bale quality is (was?) dropping: ability to enforce bale specifications
- Thermoforms may provide relief: issues need addressing
 - ✧ Look-alike containers
 - ✧ Size, shape
 - ✧ Labels, inks, glues



HDPE Bottles

- Potential supply dropping
- US supply vs reclamation capacity in balance
- Fracking may lead to abundant natural gas and a drop in value

	Resin Sales B lbs	Bottles Recycled B lbs	Recycling Rate
2006	3.5	.92	26%
2007	3.5	.92	26%
2008	3.2	.94	29%
2009	3.4	.98	29%
2010	3.3	.98	30%
2011	3.2	.98	30%
2012	3.2	1.02	32%

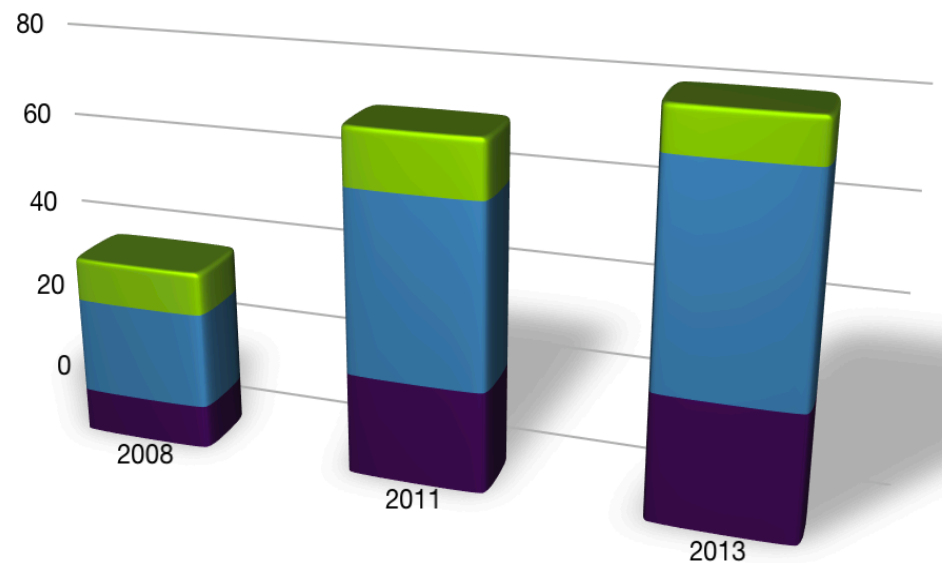


Non-Bottle Rigid Plastic

- Collection growing
- Urgent need to expand domestic sortation and reclamation

Unknown efficacy and economics of “PRF” operations

100 Most Populous Cities:
Plastic Collection Programs



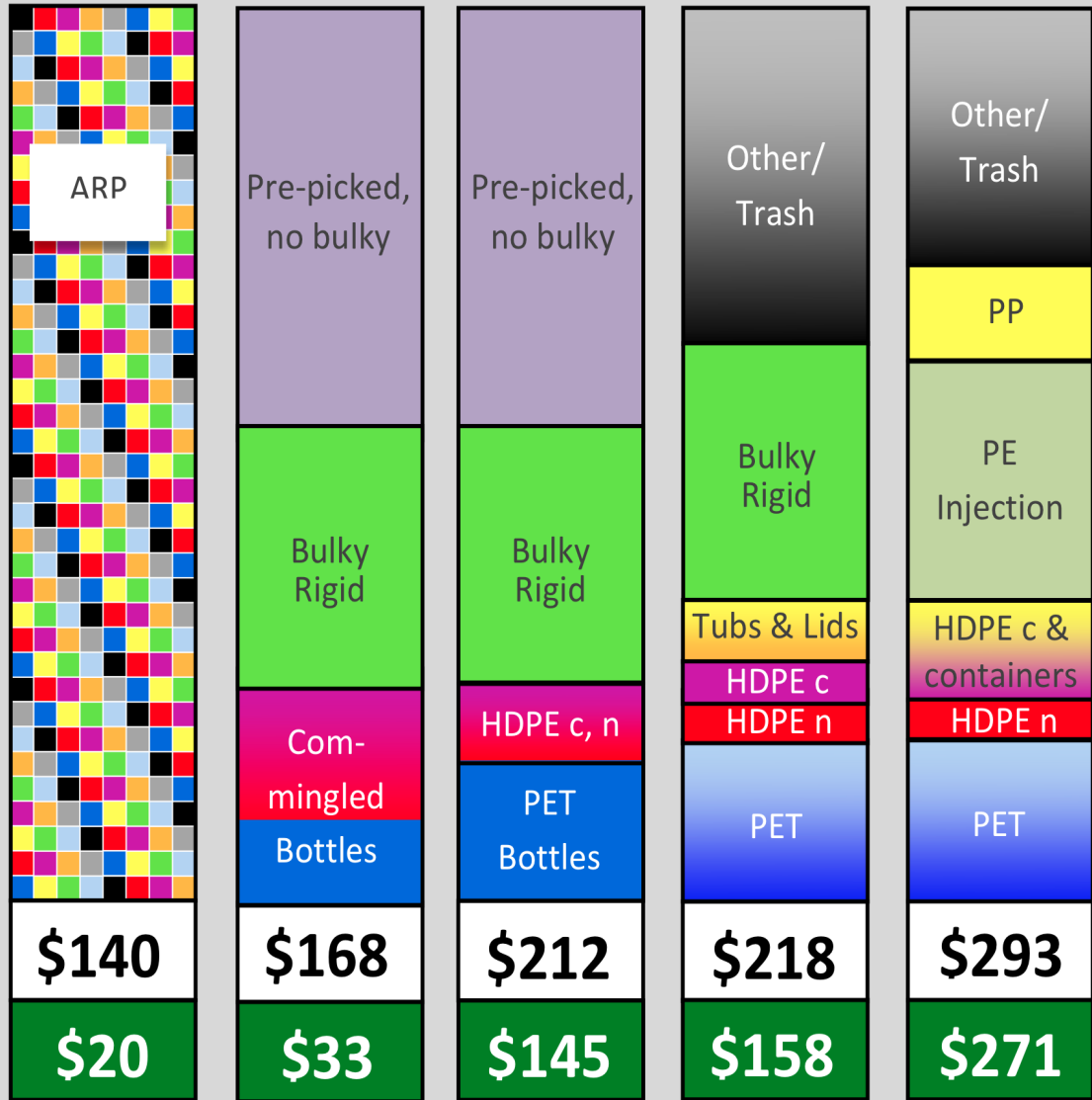
■ All Bottles ■ Bottles & Containers ■ All Rigid Plastic



SORT FOR VALUE

Increasing degree of separation

Material	% in bale
PET Bottles	16
HDPE N Bottles	3.51
HDPE C Bottles	4.22
PP	15.9
Bulky	29.9
PET Thermoforms	2



Total value per ton

January 2013

May 2013

\$140

\$168

\$212

\$218

\$293

\$20

\$33

\$145

\$158

\$271



Non-Bottle Rigid Plastic

- Domestic markets exist:
primarily for olefin plastic [PE – PP]
...Others emerging
- Unknown depth of demand



Foam & PS

- Domestic markets exist primarily for EPS, some PU
- Collection is key: high volume, commercial or special collection
- EPS may work curbside: clear, easily identifiable
- May be able to use autosort (“PRF”) for EPS and PS



Film & Bags

plasticfilmrecycling.org

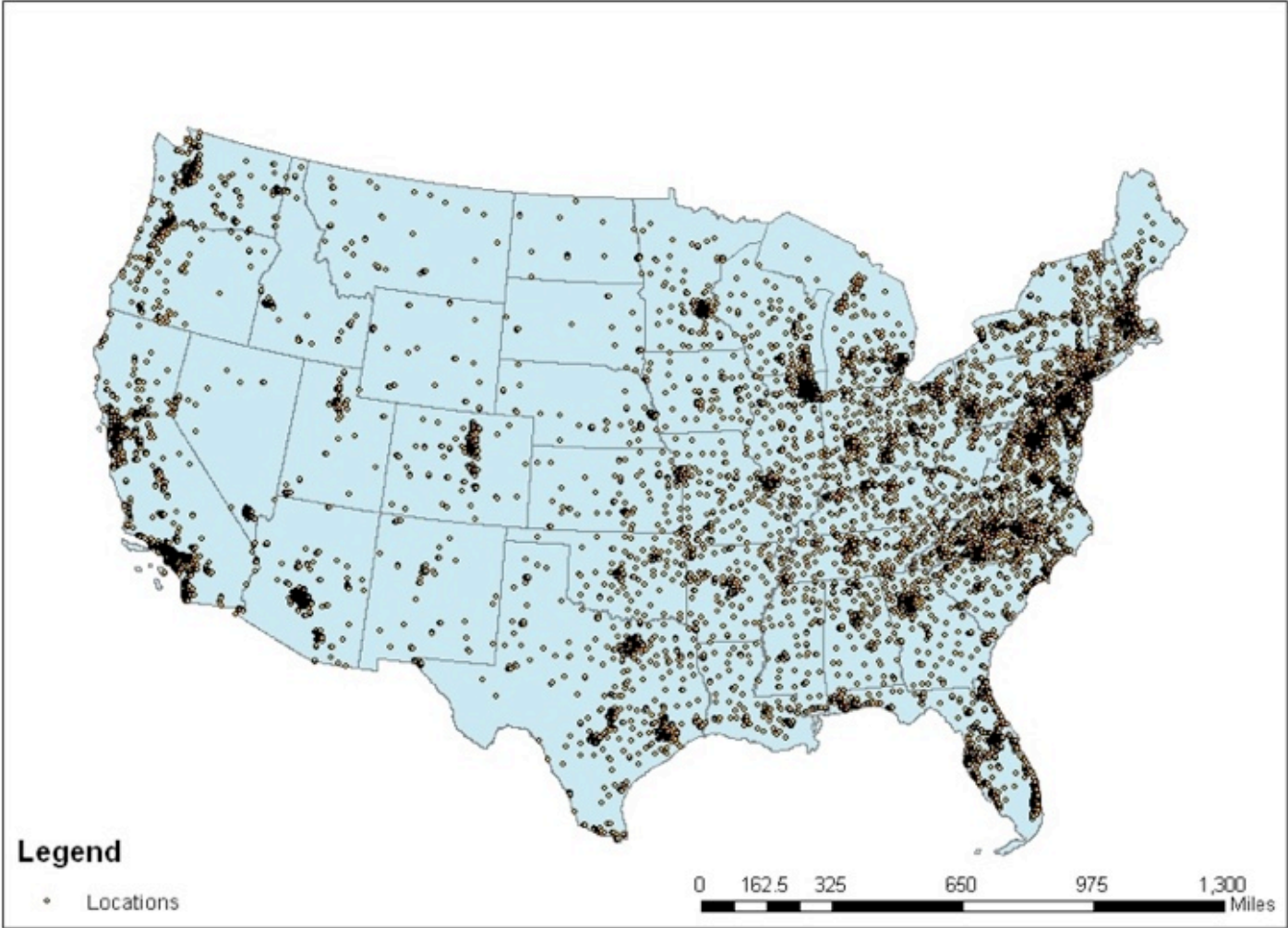


- Tremendous opportunity for growth
- Discourage Curbside at this time
 - MRF Difficulties
 - Low Value
- Widespread Access to Recycling:
15,000 Drop-off Locations Nationwide



Film & Bags

United States Map of All Drop-Off Facilities





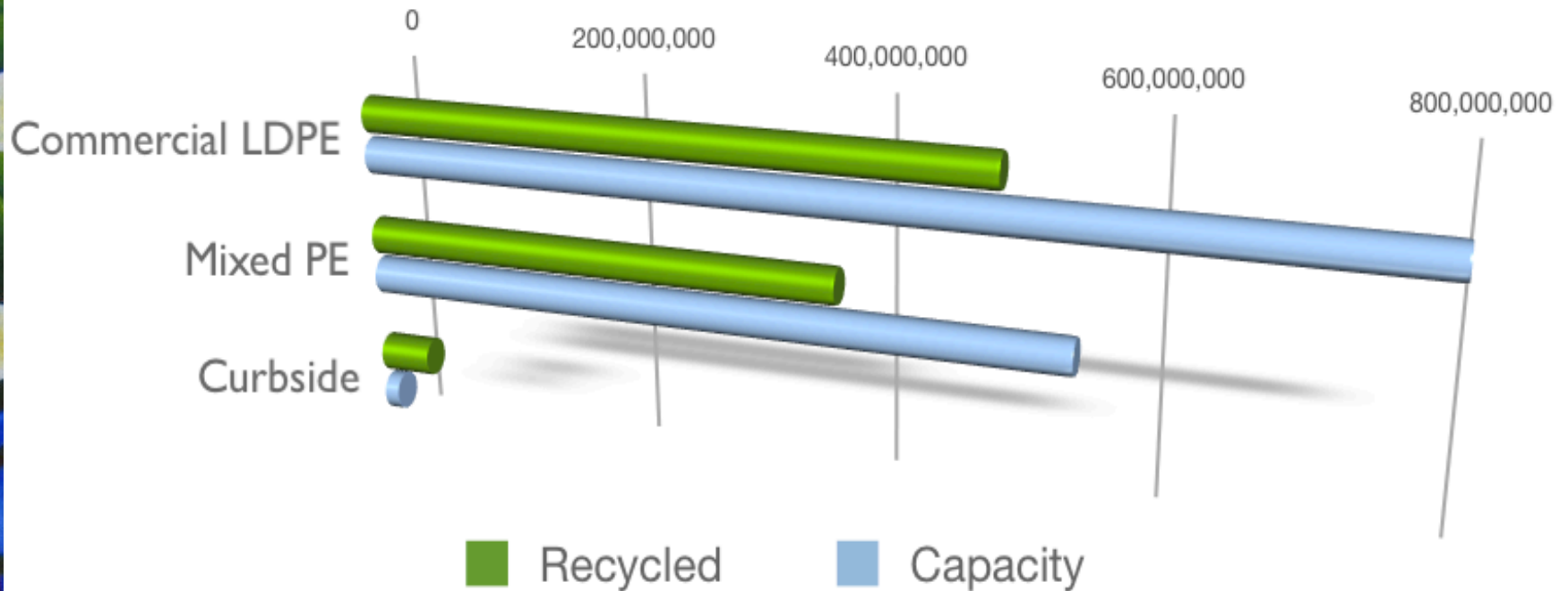
Film & Bags

plasticfilmrecycling.org



- Tremendous opportunity for growth
- Discourage Curbside at this time
 - MRF Difficulties
 - Low Value
- Widespread Access to Recycling:
15,000 Drop-off Locations Nationwide
- Primarily Retail
- Commercial Collection is Key

2011 North America Supply/Demand (pounds)





Trends

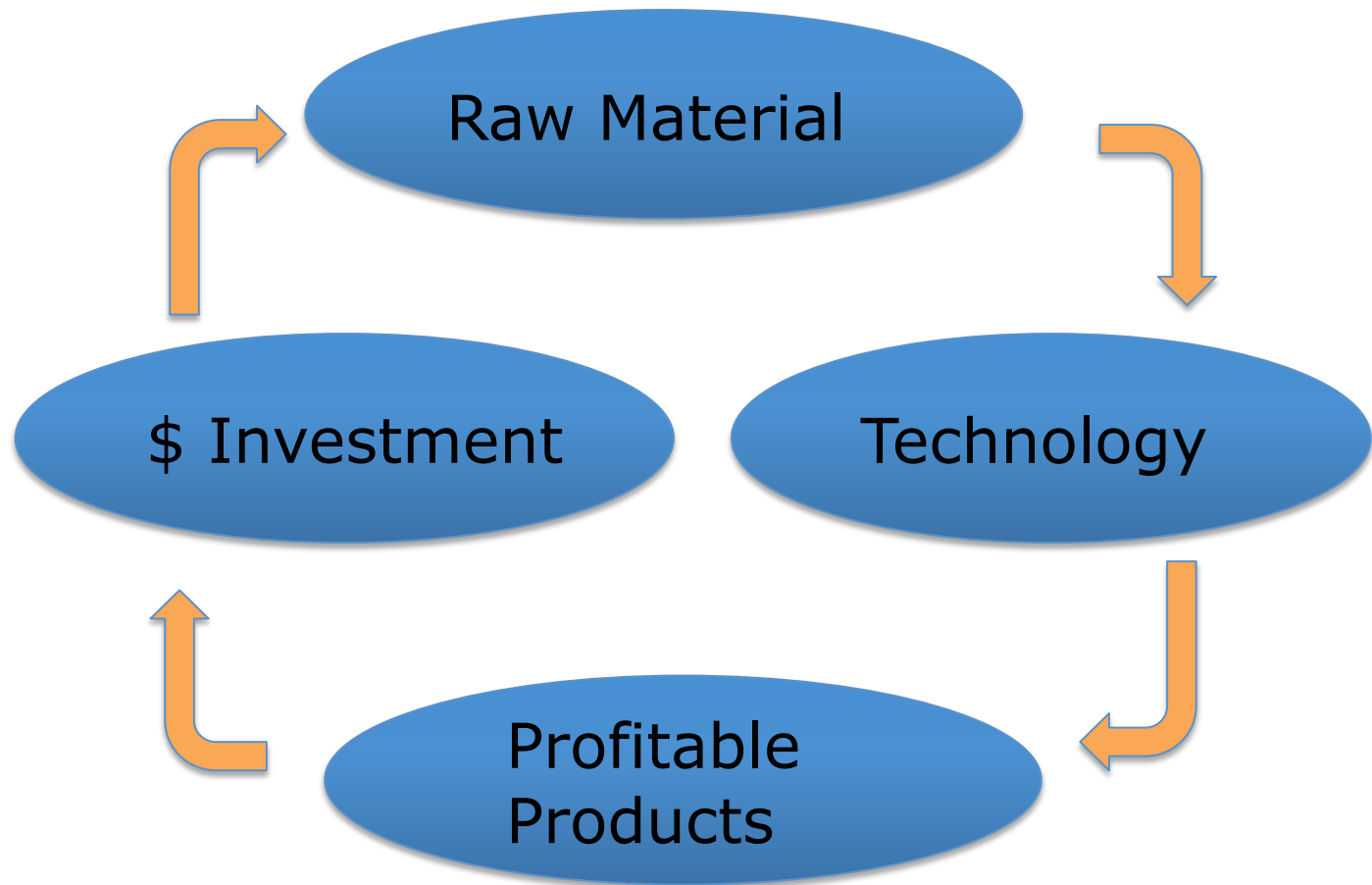
- Labels tied to Design Guidelines

How2Recycle.org

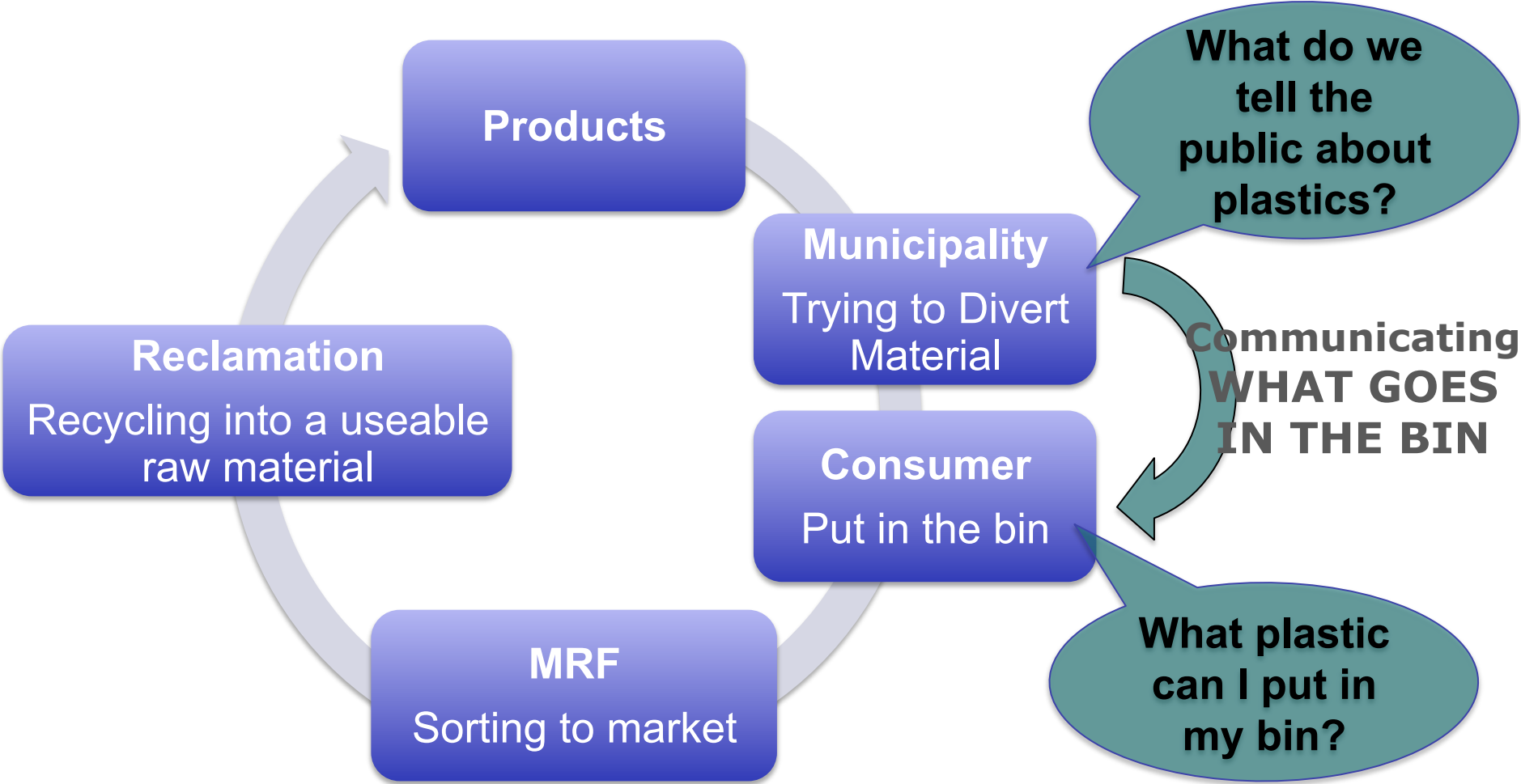




What is needed for success?



Communicating to Residents – Is It Working?





People are Confused

- If they have access to plastic recycling
Why isn't more plastic in the bin?
- Confusion/Overwhelm
 - *All Plastic 1-7 – which ones are those again?*
 - *All Plastic 1-9 – hmm, which one is #9*
 - *All plastic jugs - is my soda bottle a jug?*
...I don't get it, so forget it, or
...I will just put whatever I want in
- Need to use meaningful terms that effectively communicate what residents should put in their bin

BASE PROGRAM:

Main Categories → Subcategories → Definitions

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ADDITIONS

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OPTIONAL NOTES

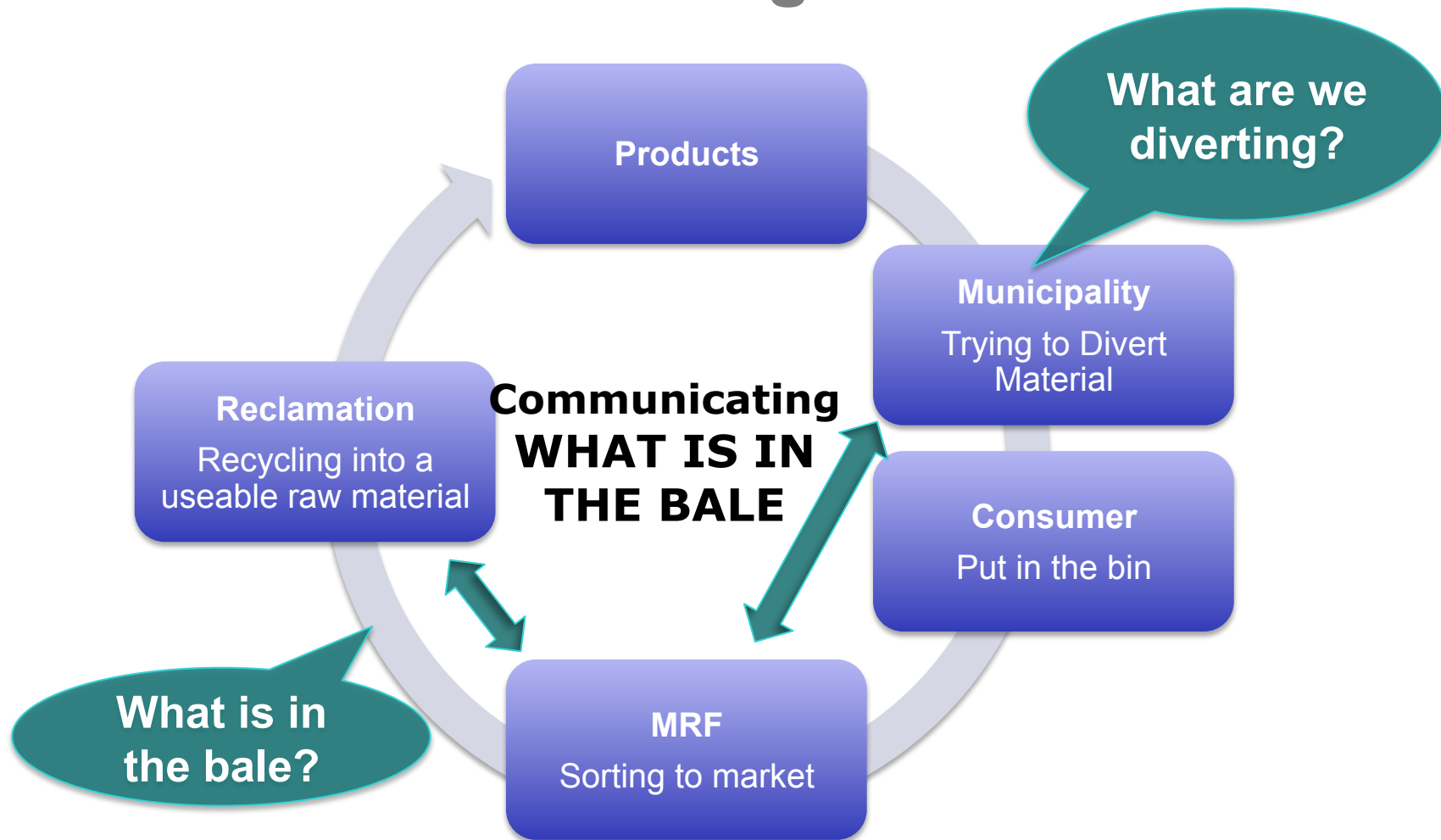
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EXCLUSIONS



YOUR COMMUNITY'S PROGRAM

Communication Among Value Chain – Is It Working?





What kind of bale is it, really?

- Let's get away from
 - Mixed Rigid Plastic
 - 1-7 bale – everything?
 - 3-7 bale – no PET and HDPE containers?
- Always nuances, but we can do better
 - In line with APR Bale Specs
- Streamline buyer/seller communication and remove misunderstanding
- Improve data tracking – Industry, Communities, State, National

Recycling Tracking Categories

Mixed Resin Rigid Plastic

- PET & HDPE Bottles
- HDPE Bottles - Colored & PE/PP Containers
- Commingled Plastic Bottles (all plastic bottles)
- Tubs & Lids (PE & PP containers)
- PE/PP Bottles, Containers & Bulky (PE and PP bottles, containers and bulky items)
- Mixed Clamshells (PET, PS, PVC, PLA thermoformed containers: trays, cups, clamshells, clamshells, boxes)
- Bulky Rigid Plastic (Buckets, totes, crates, lawn furniture, carts, storage bins)
- Pre-picked Rigid Plastic: No Bulky (bottles and containers with PET & HDPE bottles removed)
- Pre-picked Rigid Plastic: with Bulky (all rigid plastic with PET and HDPE bottles removed)
- All Rigid Plastic: No Bulky (Mixed Bottles and Containers)
- All Rigid Plastic: with Bulky (all mixed rigid plastic, excludes film and foam)



Support the Progress

- Use the terms
- Help spread the message
- Stay informed:
email me your contact info

Patty@MooreRecycling.com



More Gaps

- Most scrap plastic is sold on a spot-market basis
- Need for converter modifications to accommodate postconsumer resins, which tend to have less consistent properties



Other Gaps

- Incentives for MRFs to “divert” materials as inexpensively as possible coupled with their ability to export low-quality, mixed resin bales
- Lack of adherence to Design for Recyclability Guidelines



Trends

- Waste to Oil technology expands market potential for very specific lower value streams



The Future?





Resources

PlasticsMarkets.org

[connect suppliers and buyers of all types of scrap plastic]

PlasticFilmRecycling.org

[connect suppliers and buyers of all types of scrap plastic]

MooreRecycling.com

[Publications]

PlasticRecycling.org

[Association of PostConsumer Plastic Recyclers]

RecycleYourPlastic.org

Plastics.AmericanChemistry.com



Questions?

Recycling Implementation Specialists



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