



# **PET Recycling Report**

## **Long-Term Trends and New Initiatives**

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# Summary

- Introduction to NAPCOR
- The Supply Problem
- Exploring New Feedstocks
  - Non-clear PET containers
  - PET Thermoforms

# Introduction to NAPCOR

- NAPCOR is the trade association for the PET packaging industry in the United States and Canada
- 53 members encompass all parts of the PET value chain from resin production to end of life/recycling
- NAPCOR's priorities are to:
  - Promote the introduction and use of PET packaging
  - Facilitate PET recycling
  - Communicate the attributes of the PET container as an environmentally sustainable package

# NAPCOR Membership 2014

## PET Container Manufacturers

Amcor Rigid Plastics  
Plastipak Packaging, Inc.  
Yoshino America Corporation

## PET Sheet / Thermoformers

Dart Container Corp.  
Direct Pack, Inc.  
Earthbound Farm  
Genpak LLC  
Global PET  
Nu-B, Inc.  
Octal Extrusion Corporation  
Par-Pak, Ltd.  
Peninsula Packaging Company  
Plastic Ingenuity, Inc

## PET Resin Manufacturers

DAK Americas LLC  
Indorama Ventures USA Inc  
Nan Ya Plastics Corporation

## PET Industry Suppliers

AMUT N.A.	National Recovery Technology
Blue Mountain Plastics	Nissei ASB Company
BP	Parallel Products
Buhler	Penn Color
CarbonLite Industries	Peninsula Plastics Recycling
Clear Path Recycling	Perpetual Recycling Solutions
ColorMatrix	Plastic Technologies, Inc.
Custom Polymers PET	Plastrec
Erema North America	Polyquest, Inc
Evergreen Plastics	REPI
Husky Injection Molding	Reterra
Krones	Sidel
MHT USA	Signode
Marglen Industries	Sorema Plastic Recycling Systems
MicroGREEN	Starlinger and Co. GmbH
Midwest Exchange	TABB Packaging Solutions
Mohawk Industries	TOMRA North America
Muehlstein	UltrePet LLC
	Uniform Color Company

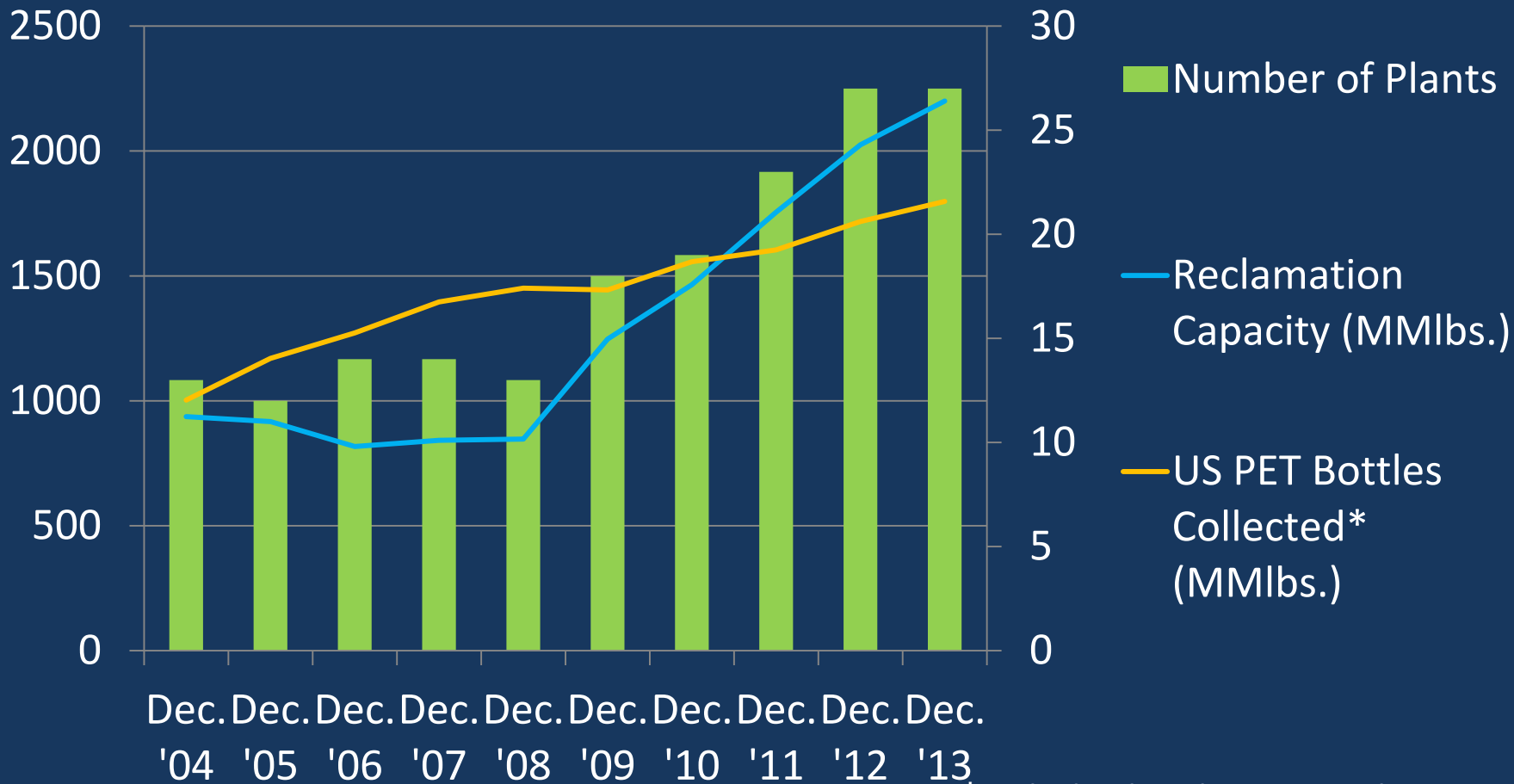
# THE SUPPLY PROBLEM

# The Problem: Demand for rPET Content & Reclamation Capacity Exceeds Supply

	Number of Plants in the US	Reclamation Capacity (Billion Lbs)	US PET Bottles Collected* (Billion Lbs)
2009	18	1.247	1.444
2010	19	1.465	1.557
2011	23	1.755	1.604
2012	27	2.025	1.718
2013	27	2.200	1.798

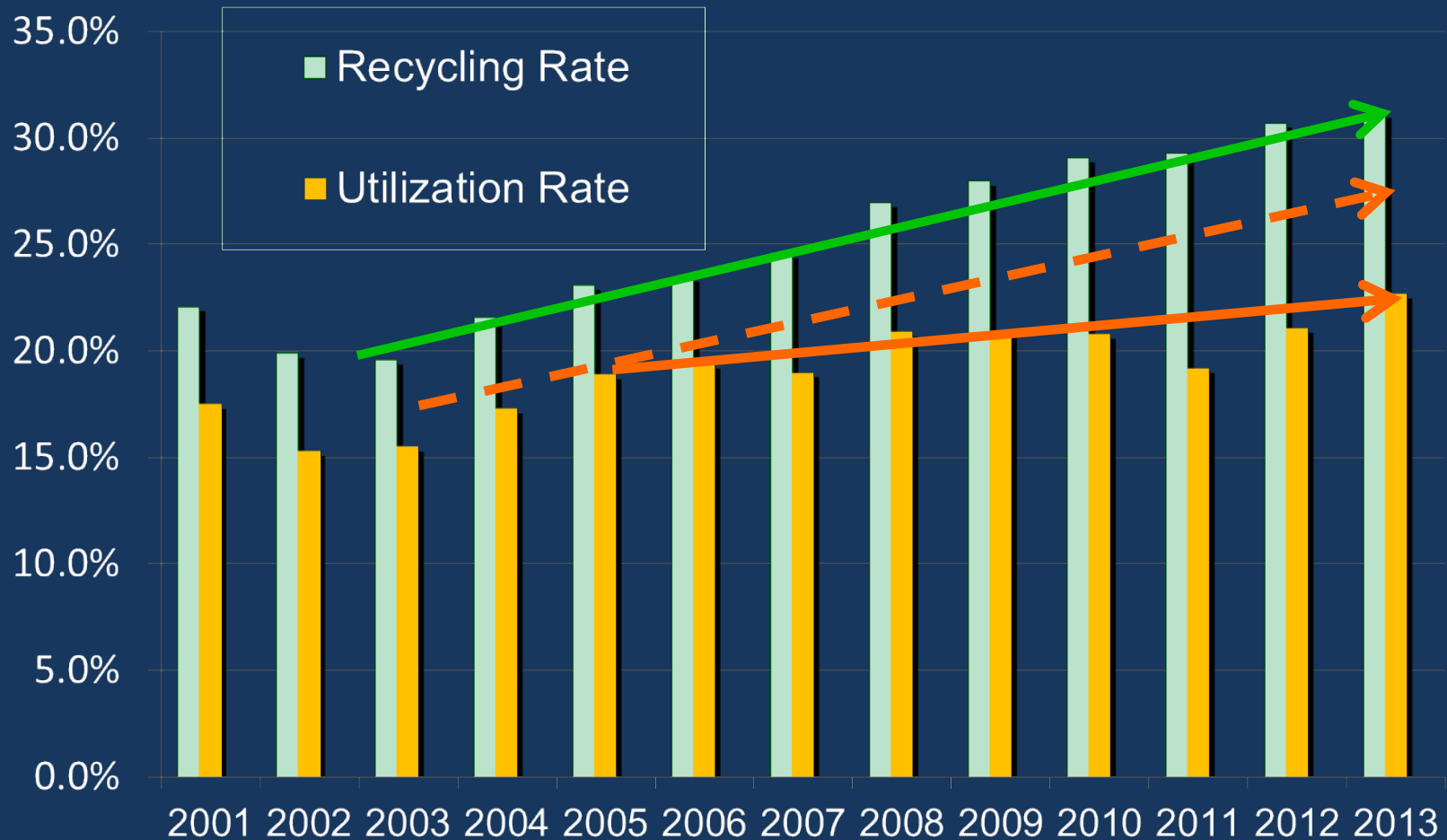
\*Includes bottles currently exported

# Reclamation Capacity 2013 – Major Assets USA



\*Includes bottles currently exported

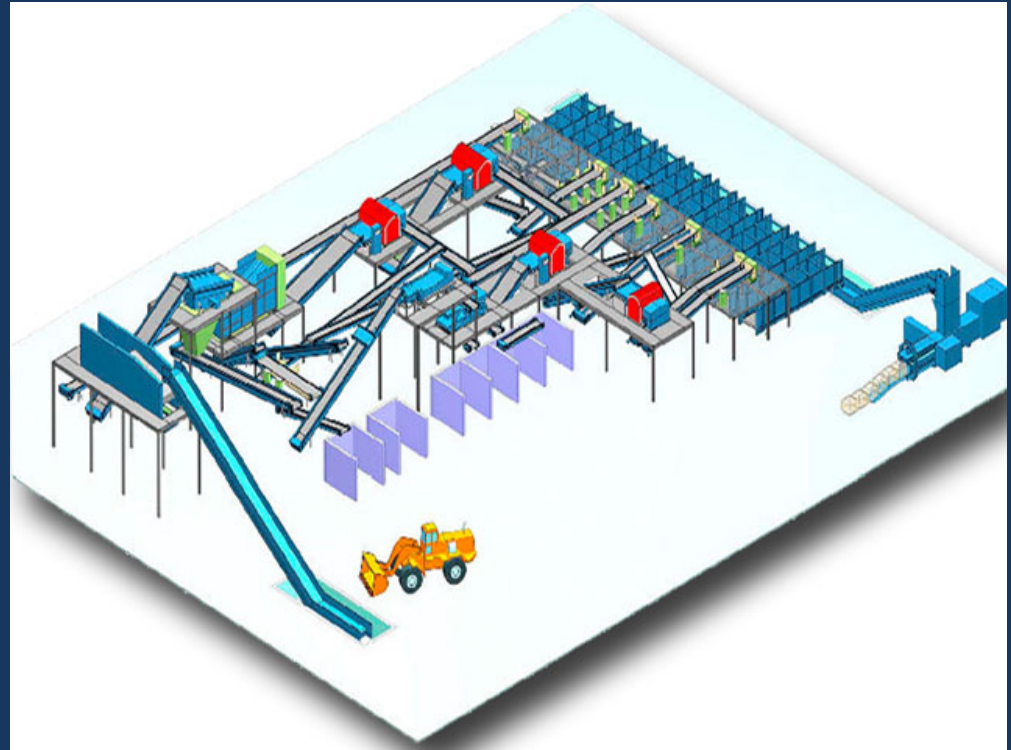
# The Problem: PET Recycling & Utilization Rates Illustrate Declining Quality





# The Problem: Material Loss

- Not all the PET in the curbside mix gets to the PET Bale
  - Flat or light weight containers in single stream systems can travel with paper stream (not containers)
- Not all the material in the bale is PET
  - Increasing levels of contamination, particularly in curbside bales, adds costs and loss to the system

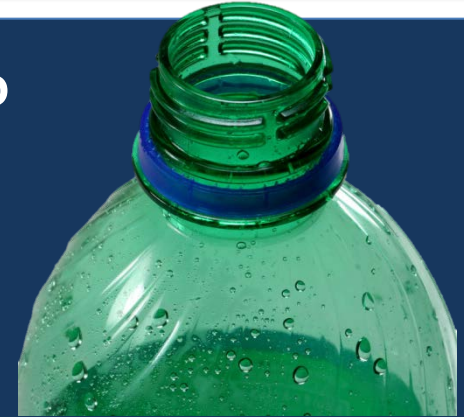


Source: Mid-Atlantic Waste Systems

# EXPLORING NEW FEEDSTOCKS

# Non-clear PET Packaging Recycling Initiative

- What are non-clear PET packages?



# Non-clear PET Packaging Recycling Initiative

- **Goal: Increase recycling and develop additional sustainable markets for non-clear PET containers**
- **Objectives:**
  - Identify existing and potential end-markets for “non clear” PET
  - Identify and overcome obstacles to sustainable markets

# Non-clear PET Packaging Recycling Initiative

- Gather data on current presence in the marketplace and future projections
- Evaluate markets that may be able to absorb non-clear PET containers
  - Identify appropriate color spectrum for each end use
- Develop “best practices” for collection and sorting, based on priority end-use markets



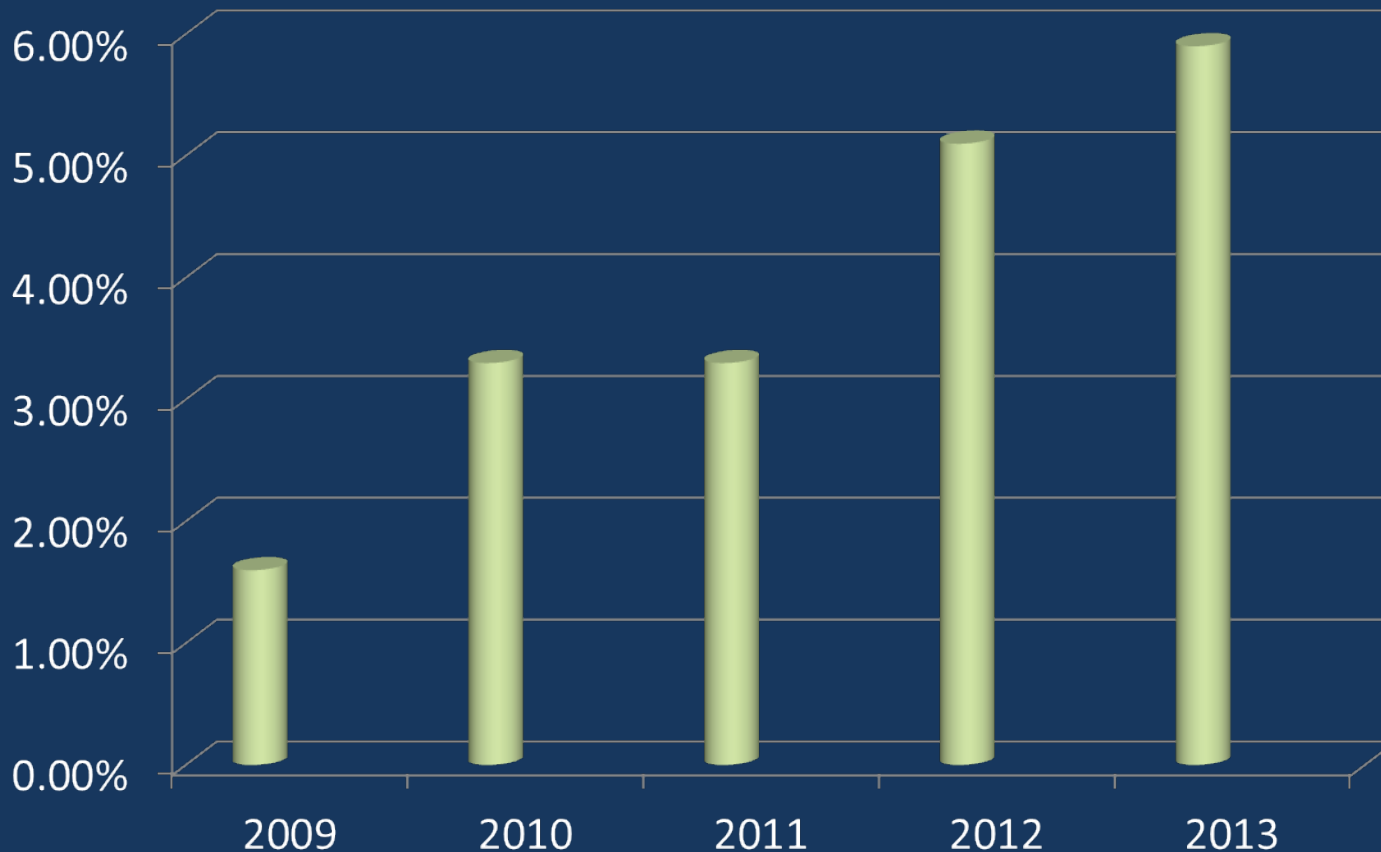
# PET Thermoform Recycling

What are thermoformed packages?



# PET Thermoforms in Bottle Bales are Increasing

## % Thermoforms by Weight, Curbside/Drop-off Bales



*Source:*  
NAPCOR  
commissioned  
bale analyses,  
conducted by  
Moore Recycling  
Associates

# PET Thermoform Recycling

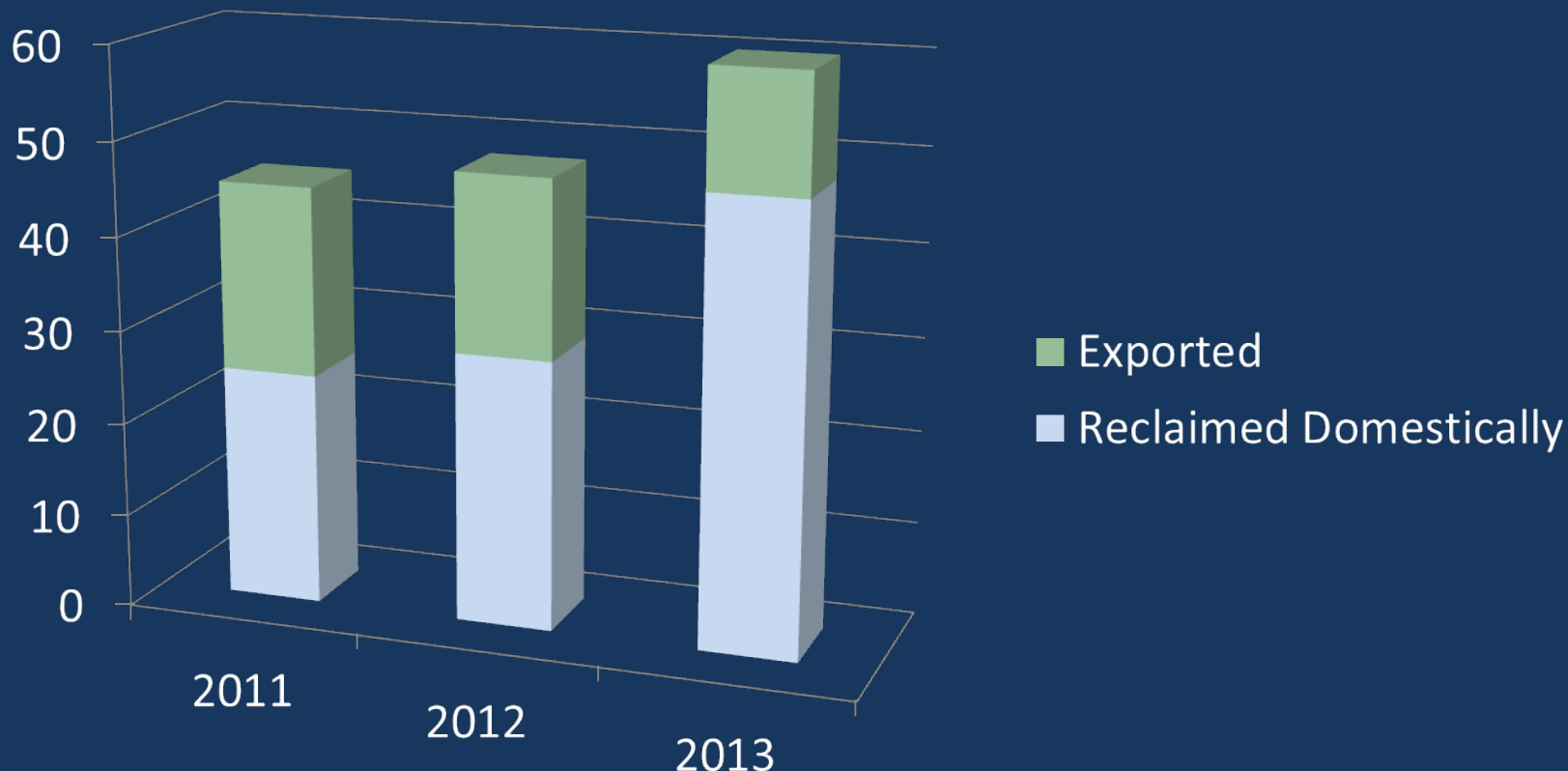
- Goal: To make recycling PET thermoforms as easy as recycling PET bottles, without harming bottle recycling infrastructure
- Objectives
  - Achieve broad acceptance of PET thermoforms by PET reclaimers
  - Broadcast consistent pro-PET recycling message to communities and MRF operators



# PET Thermoform Recycling Workplan

- Perform trials to address key reclaimer concerns
- Undertake trials with converter and end users, as necessary and appropriate
- Implement Design for Recyclability initiatives, as warranted and depending on trial results
- Develop best practices for collection & sorting

# Thermoform Recovery in U.S. & Canada (MMlbs)



# Thank you!

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