



PET PLASTICS: STATE OF MARKETS AND EMERGING TRENDS

Sandi Childs
Recycling Projects Director



Presentation Topics

1. Status of Markets for Post-consumer PET Bottles
2. Increasing Recovery – Two Programs
3. Emerging Issues in PET Recycling



Basics on Bottles

- PET Bottles ARE, and ALWAYS HAVE BEEN, 100% Recyclable
- PET is #1 plastic; PET bottles are #1 plastic in bottle form
- PET #1 plastic can also be formed into many other shapes and products
- This has caused much of the confusion over PET recycling



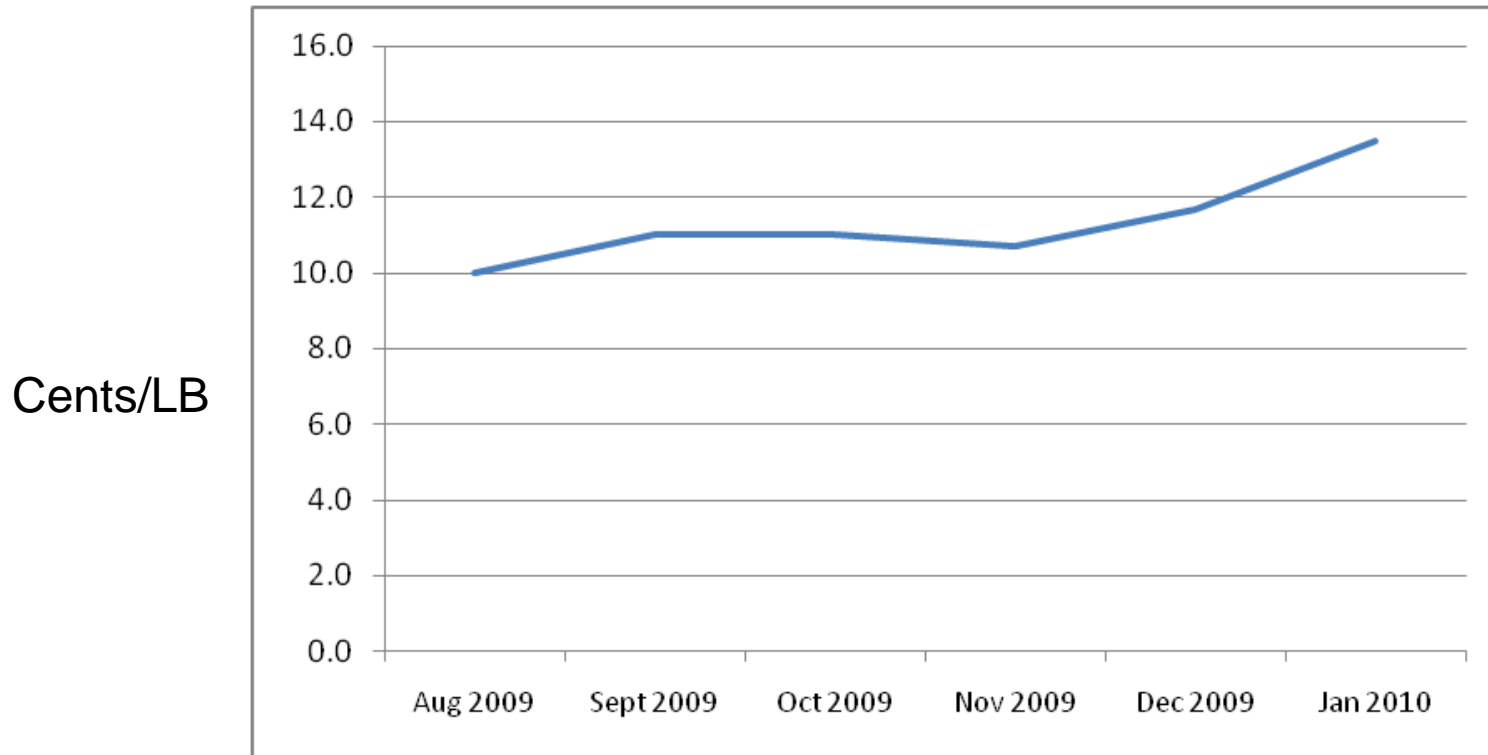
PET Markets

- Selling baled PET bottles to PET end-users has always provided a positive benefit to processors' bottom line
- The southeast has a significant concentration of PET end-users
 - S.C. – NURRC
 - N.C. – Clear Path
 - GA – Mohawk



PET Markets

Regional Ave PET Price, Atlanta



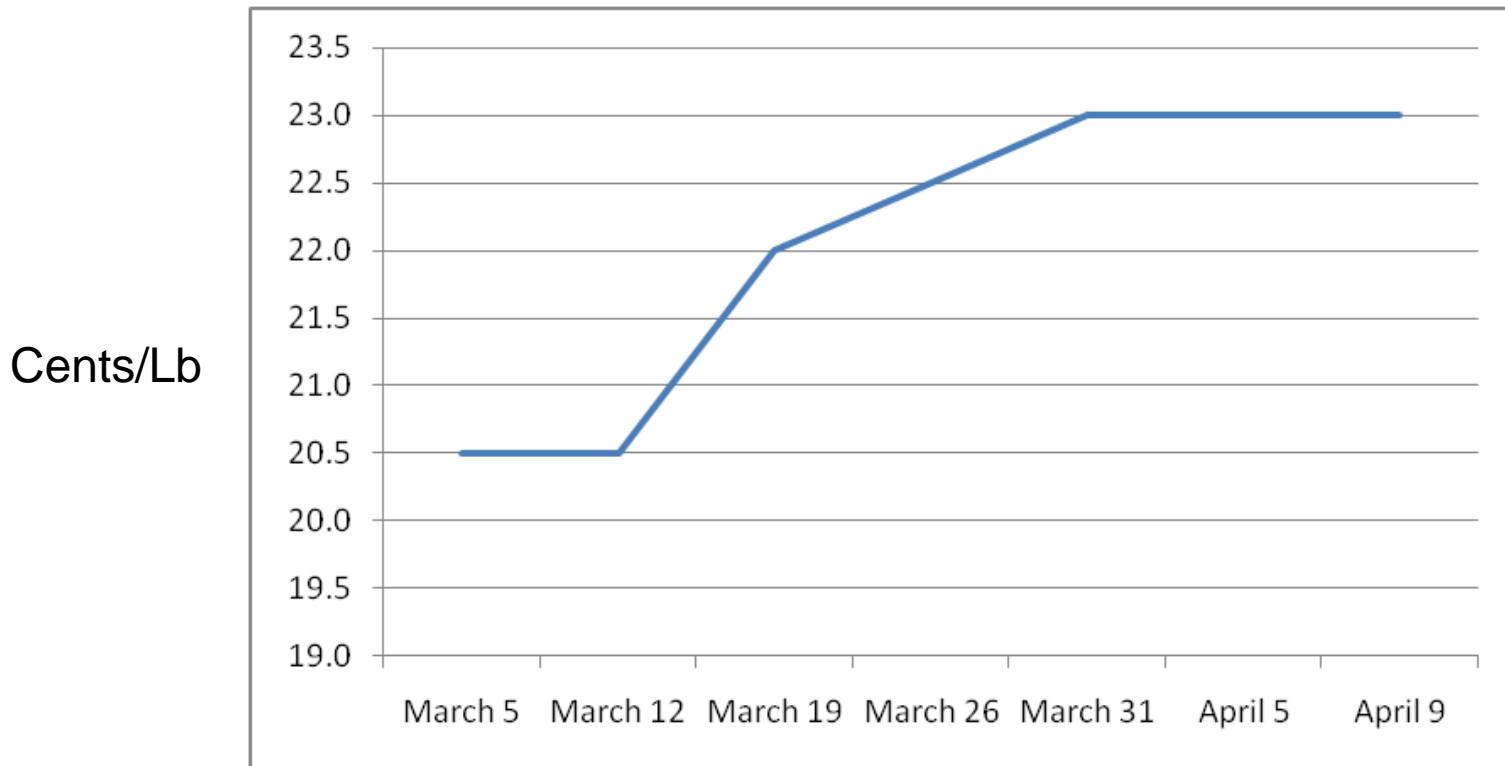
Source: Waste News Commodity Pricing Service

Coca-Cola Recycling LLC



PET Markets

Regional Ave PET Price, Atlanta





PET Markets

In October, 2009, a 35,000 lb truckload of baled PET would have been worth \$3,850.

In March, 2010, a 35,000 lb truckload of baled PET would have been worth \$7,700.

PET Markets

- A clear incentive: North Carolina's plastic bottle disposal ban
 - Will it increase supply?
 - What can we do to motivate more recovery?





Recovery: Incentive Programs

- Recycle and Win: Mecklenburg County and City of Raleigh
- Coca-Cola Consolidated and Harris Teeter

REFRESH. RECYCLE. REPEAT.

Congratulations, the Recycling Prize Patrol caught you recycling properly! Please call **1-866-961-2367** to get rewarded for recycling and claim your **\$50 HARRIS TEETER** gift card. Don't delay--you have until _____ to call.

Need more information?
Visit www.cokecharlotte.com.

©2009 The Coca-Cola Company. "Coca-Cola", the Contour Bottle design and the Dynamic Ribbon are trademarks of The Coca-Cola Company. Recycle & Win promotion is open only to residents of Charlotte, North Carolina, and Mecklenburg County, North Carolina, who are 18 years of age or older with valid identification as of 2/1/09. Void where prohibited by law. Promotion ends 1/31/10. Subject to Official Rules at www.recycle-win.com.

©2009 The Coca-Cola Company. All rights reserved.

The advertisement features a green \$50 Harris Teeter gift card, a classic glass Coca-Cola bottle, and a red recycling bin with a white recycling symbol and the text "give it back". The background is a blue sky with a green grassy foreground.



Recycle and Win



Recycle and Win





Recycling at NASCAR





Recycling at NASCAR





Recycling at NASCAR





PET Trends You Might Hear About

“Rigid” PET Containers - THERMOFORMS
Are they Recyclable?



(Show and Tell)



“Rigid” PET Containers

- *Consumers want to recycle more plastics AND*
- *a wide variety of industries want more plastics recycled*



“Rigid” PET Containers

- ***American Chemistry Council’s (ACC) 2007 Non-Bottle Rigid Plastics Recycling Report***
 - *Approximately 325 million pounds of rigids were recovered in 2007*
 - *Two-thirds of the material was exported*
 - *Type of material –55% Oversized items (buckets, pails, crates, toys, electronic housing)*
 - *45% Packaging applications (tubs, cups, pots, trays, etc.)*
 - *Highest Value Resin Type –HDPE –44% PP –38%*



“Rigid” PET Containers

- ***What are the barriers to PET thermoform recycling?***
 - Look alike contaminants, particularly OPS, PLA as well as PVC.
 - Wide variability in Intrinsic Viscosity.
 - Package shapes
 - Direct printing
 - Different adhesives
 - Different additives
 - Flake geometry



“Rigid” PET Containers

- ***What is required for successful PET thermoform recycling?***
 - Adequate supply, enough good raw material
 - Proven technology
 - Good demand, profitable products
 - Investment
 - Create recycling opportunities for the package that complements, not jeopardizes, the existing bottle infrastructure.



“Rigid” PET Containers

- For business **profitability**, there needs to be 400 million pounds of consistent, clean supply of rigids
- Consistent **consumer education** is needed to increase recycling and minimize contamination
- Mixed rigids **separation technology** is needed to obtain highest value material



PET Trends You Might Hear About

“Biodegradable” PET Bottles
Silver Bullet Solution?



Issues with Biodegradable Bottles

- *Biodegradability is accomplished in two ways*
 - Adding an additive that reacts to light, moisture, heat, and other inputs and causes the plastic to convert to carbon dioxide and/or methane
 - Creating a new plastic resin from lactic acid (corn or sugar cane)



Issues with Biodegradable Bottles

- *Issues with recycling degradable bottles*
 - They look just like regular bottles, and bottles with additives cannot be detected by machine
 - The plastic item will “fall apart” at some point
 - Recycled plastic is used to make durable goods such as carpet, strapping, and pipe
 - What happens when these products “fall apart”
 - Who is liable?



Issues with Biodegradable Bottles

- *What is the value to society of this technology?*
 - Save landfill space?
 - Unwanted methane generation
 - Potential destabilization impacts
 - Facilitate composting?
 - Impractical for backyard composters
 - Few large-scale municipal compost programs
 - Sorting logistics



Issues with Biodegradable Bottles

- *What is the value to society of this technology?*
 - Litter reduction?
 - The implication is that we litter with impunity?
 - Increase “sustainability”?
 - All the energy and material value “disappears” and is not recovered for any purpose
 - Does not even contribute any value to compost



Issues with Biodegradable Bottles

- There is no sustainability with regard to plastic packaging without recycling
- There is no such thing as a plastic so “green” that it can just be thrown away



Issues with Biodegradable Bottles

- *Recycling company responses*
 - Plastic recycling trade associations have issued public positions calling for restraint in the use of degradable additives in PET bottles
 - Associations have requested data on impacts on quality of RPET stream, and true service life of products made from such RPET



Issues with Biodegradable Bottles

- *Recycling Program Managers Beware*
 - Until complete testing shows “no harm done” recycling managers should be very cautious about including bottles labeled as degradable
 - Develop responses to the public who ask questions by researching trade association web sites
 - Follow up on local merchants who sell or advertise their products and packaging as “green” or “sustainable” due to degradability

- Contact me:

Sandi Childs

Director of Recycling
Projects

sandichilds1@gmail.com

828-231-1873

