Plastic Markets: The Bigger Picture

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Estimated Breakout of Curbside Collected Plastic

Within 3-7 Rigid & Small Rigid Segment:
- 33% PP containers
- 17% Thermoform containers
- 14% Missed PET/HDPE bottles
Plastic Scrap Market Drivers

1- International Policies

2- Material Quality

3- Oil Prices

4- Consumer Demand
Current Market Conditions

- Oil Prices Steady (potentially rising?)
- Export Markets Weak (non-existent?)
- Domestic Reclamation Capacity Saturated
- Economy is Growing
- Growing Brand Commitments/Long-term Sustainability Goals

Equals: a lot of uncertainty in plastic recycling markets at the moment.
International Policies

• Mid-2017: China starts to limit imported scrap materials, reducing import licenses, etc.
• January 1, 2018: Ban on post-consumer scrap plastic and other materials.
• March 2018: Other materials have to meet stringent contamination levels to be imported (effectively banning them).
• Throughout 2018: Other SE Asia countries limiting imports of scrap materials.
Unequal Dependence on Export Market*

*Roughly 28% of all plastics exported in 2016
2016 Plastic Recycling Survey Results
Bottle Recycling Rates Fell in 2016:

PET down to 29.7%
HPDE down to 33.3%

What role do deposits play?
Avg redemption rate is over 70% in 10 states with deposits.
Need for More Bottle Collection Infrastructure

PET Materials Flows in the US

http://www.napcor.com/PET/pet_reports.html

Promoting and Protecting the PET Package
Plastic water bottles and clamshell containers are now trash.

In addition, plastic water bottles and plastic hinged-lid (clamshell) containers must now go into the trash cart. The local sorting facility doesn't have the equipment to process these items properly. Water bottles and clamshell containers flatten in the sorting process and end up in the paper stream lowering the quality of recycled paper and making it harder to sell.
Need Domestic Capacity for *Mixed* Rigid Material
Low Domestic Capacity for Non-Bottle Rigid and Film

2016 U.S. Reclamation Capacity vs Collection

- PET
- HDPE Bottles
- Non-Bottle Rigid
- Film

[Bar chart showing capacity vs collected pounds for each category]
Now What?
Focus Education on Marketable Materials

Curbside- PET, HDPE, PP:
Bottles and Containers
Tubs and Lids

Non-Curbside Collection:
PS Foam
Commercial or Consumer Bags and Film
Recycle Your Plastics.org

Increase Demand for Recycled Products
A Little Demand Goes a Long Way

**DATA SORT**

**IMPACTS OF BOOSTING PCR IN TRASH BAGS**

The largest environmental benefit from plastics recycling comes when post-consumer resin (PCR) is incorporated into a new product, displacing virgin resin that would otherwise be used. To bring that somewhat abstract concept into real-world terms, we analyzed the effects of increasing PCR in one specific everyday item: plastic trash bags.

In the U.S. trash bag market, approximately 6 billion pounds of PE resin is used annually. The table below shows the details on what would happen if different levels of PCR usage were achieved in the production of these products. Note that 10 percent PCR is currently required in trash bags sold in California and one company, Revolution Bag, currently has a product line featuring 97 percent PCR.

6 BILLION POUNDS: TOTAL WEIGHT OF PE USED ANNUALLY IN U.S. TRASH BAG PRODUCTION

The impact if different levels of PCR were used in the sector:

<table>
<thead>
<tr>
<th>PCR level</th>
<th>Pounds of recycled resin needed</th>
<th>Portion of total volume of PE currently reclaimed in U.S.</th>
<th>Metric tons of CO2 equivalent avoided</th>
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<tbody>
<tr>
<td>10 percent</td>
<td>600 million</td>
<td>32 percent</td>
<td>270,276 (equal to emissions of roughly 58,000 cars in one year)</td>
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<tr>
<td>30 percent</td>
<td>1.8 billion</td>
<td>96 percent</td>
<td>810,828 (equal to 173,000 cars)</td>
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<tr>
<td>70 percent</td>
<td>4.2 billion</td>
<td>222 percent</td>
<td>1,891,831 (equal to 403,000 cars)</td>
</tr>
<tr>
<td>97 percent</td>
<td>5.8 billion</td>
<td>308 percent</td>
<td>2,621,277 (equal to 558,000 cars)</td>
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Numbers were tabulated by More Recycling using information from several private reports as well as the U.S. EPA’s WARM calculator and extrapolation of California’s most recent waste characterization study.

Data sort is produced each quarter by More Recycling. For additional information, go to morerecycling.com.
Our goal is to increase the recovery of all types of postconsumer plastic.
Ideas to Drive More Demand for Recycled Content

- Investments in processing
- Tax rebate for measurable contributions to CO2 savings (PCR use one option)
- Grants for innovation
- Verification of PCR claims
- Companies pledge to use PCR
- Policy that requires PCR in high volume, technically feasible applications
- Inspire consumers to create demand for PCR products
- Development of new end markets/products
Other Resources
PlasticsMarkets.org

Resource managed by More Recycling to track:

Who is accepting and purchasing commodities, including lower grades, in a rapidly changing market?
PlasticFilmRecycling.org