Plastics – A sustainability story worth writing in our own country

Re-Imagining how we can manage Plastic Scrap formerly shipped overseas

Sunil Bagaria
ISRI: Chair Person of Plastics Division
Owner: GDB International Inc., New Jersey
A linear system consisting of

- Extracting petroleum resources
- Producing new plastics
- Using them briefly; and then
- Disposing them – (Often into the environment & landfills)
• Plastic Scrap is Valuable Raw Material

➢ If it is a raw material for China, then it is a raw material for USA as well. Why do we forget this.

• “Recycling at Source” : Society that produces it, must recycle it.

• Cannot depend on others to do recycling for us.

• Availability of Scrap will help in availability of PCR

➢ First China and now South East Asian countries.
Southeast Asian Countries: Is this Recycling?

Pictures of a Recycling Company in a Southeast Asian Country
Big Oil to invest $40 Billion in new Petrochemical Facilities in USA alone

<table>
<thead>
<tr>
<th>COMPANIES INVOLVED</th>
<th>PROJECTED COST</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sasol</td>
<td>$11.8 billion</td>
<td>Louisiana</td>
</tr>
<tr>
<td>Exxon, Sabic</td>
<td>$10 billion</td>
<td>Texas</td>
</tr>
<tr>
<td>Chevron Phillips, Qatar Petroleum</td>
<td>$8 billion</td>
<td>U.S. Gulf Coast</td>
</tr>
<tr>
<td>Dow</td>
<td>$6 billion</td>
<td>Texas, Louisiana</td>
</tr>
<tr>
<td>LyondellBasell Industries NV</td>
<td>$2.4 billion</td>
<td>Texas</td>
</tr>
<tr>
<td>Exxon</td>
<td>$2 billion</td>
<td>Texas</td>
</tr>
<tr>
<td>Total, Nova Chemicals, Borealis</td>
<td>$1.7 billion</td>
<td>Texas</td>
</tr>
</tbody>
</table>
• **PEPSICO** to sell water in Aluminum Cans. Will reduce 8000 tons of Virgin Plastic Use
  • Source: https://www.newsweek.com/pepsi-plastic-bottles-aquafina-aluminium-cans-1446817; Ewan Palmer; July 1st, 2019

• **Coke** will bottle Dasani Bottle Water in Aluminum Cans starting August 2019
Brand Owners have a Choice but not Producers

- Unilever to cut down Plastics use by 15% in line with “Sustainable Living plan” goals.

Brand Owners have a Choice but not Producers

• Nestle launches paper packaging for snack bars.

• New snack bar wrapper is composed of paper and water-based coating to guarantee same shelf life as plastic.

Source: https://www.reuters.com/article/us-nestle-packaging/nestle-launches-paper-packaging-for-snack-bars-idUSKCN1TX2W9; Silk Koltrowitz, Siddharth Cavale, July 2nd, 2019
Plastic Bag Ban

Paying with plastic
Plastic-bag bans

• ACC/WRAP: Collect 2 billion pounds of film by 2020 in USA (1 million Tons)

• 52% of the film was exported till 2016.

• After National Sword program: 1.007 billion pounds collected in 2017, down from 1.322 billion pounds in 2016

• Demand for PCR is key to Recycling Success.

• Create Demand for PCR by legislation for Recycling success.
GDB Movement toward true Circular Economy Business Model

Generators of Film

- Household
- Commercial Warehouses
- Retail Stores

Prior to 2017

- Film Bales
- Processed Clean Film Bales

Post 2017

- Recycled Pellets
- Green Recycling Bags
- Garbage Bags
- Grocery bags

2019 RAM/WWANA Conference
GDB’s Preparedness to handle China setback

- 3 Production Lines to make PCR
- 4200 lbs / hour
- 18 new employees
Recycling at Home: Creates more job opportunities

China Embargo: Setback or Opportunity
Different Grades of Film recycled at GDB Facility

Grade A

Grade B

Garment Bags

Color Film

Grocery Bags

Mattress Bags
• California
  • 10% in all trash can liners
  • Currently, 20% PCR content in plastic film bags labelled as reusable
  • By 2020, 40% PCR content in plastic film bags labelled as reusable

• Washington (still pending final approval)
  • By 2020, 40% PCR content in plastic film bags labelled as reusable

• Oregon + NY bag bans allow for reusable film bags, but don’t specify recycled content
Cost-Competitiveness of PCR PE

- Low pricing for virgin PE makes it difficult for PCR PE to compete
- Without demand from brands and/or governments, it will not be used
  - >70% of our customers are supplying the California market, which requires use of PCR PE film

Prime LLDPE Butene pricing dropped over the past 5 months to its lowest point in over 10 years. Chart shows Oct. 2014 – July 2019. The Plastics Exchange LLC.
Recyclable v/s Recycled

- Recycling is easier said than done
- Just because a product is recyclable doesn’t mean it will get recycled
- No business is worth doing at the cost of the environment
Minimum Recycled Content for Film Products

- Drafted a “call to action” describing the challenge & proposing solution
- Would like to see government legislation or procurement policy requiring PCR usage
- Focus on garbage bags and grocery bags

<table>
<thead>
<tr>
<th>Recommended Minimum PCR in Garbage Bags:</th>
<th>Recommended Minimum PCR in Retail Carryout Bags:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 10% by 2020</td>
<td>• 10% by 2021</td>
</tr>
<tr>
<td>• 15% by 2022</td>
<td>• 15% by 2023</td>
</tr>
<tr>
<td>• 20% by 2024</td>
<td>• 20% by 2025</td>
</tr>
</tbody>
</table>
Easy way to increase use of PCR Resin in Short-Term

- Black Garbage bags
- Contractor Bags
- Grocery Bags
- Pipes for various uses
- Lawn edging
- 20% PCR is easily achievable by all major plastic bag manufacturers at pricing comparable to 100% virgin
• Goals of this PCR mandate:

• **Lessen reliance on export markets** for recyclables produced in North America
• **Reduce plastic litter** by enhancing plastics’ value throughout its full life cycle
• **Reduce carbon emissions** by replacing the use of virgin plastic
• **Boost scale** allowing PCR resin to be more cost-competitive with prime resin
Signatories on Call-To-Action

- www.recyclemorebags.com
- Industry associations
- Plastic recyclers
- MRFs
- Municipalities
- Environmental non-profits
- Industry consultants
Challenges

- Inconsistency in Quality of Film scrap
- Maintaining the consistency in quality of pellets
- Labor intensive operation
- Maintaining a “safe” work environment
- Production inconsistency
- PCR Competing with virgin prices
- Create demand for PCR by Legislation;
- Voluntary efforts or mandatory regulations.
- Extreme low price PE Resin

Rewards

- Better Margins (on per pound basis)
- Bring Manufacturing back to USA
- Provide “Closed Loop Recycling Program” to the Generator
- Value Addition by making certified “Recycled Containing” products
- Transition from Trader to Manufacturer
About GDB International Inc.

- Provider of Recycling & Sustainability solutions since 1993
- Customer Base in over 65 countries
- 1,600,000 sq. ft. of company owned warehouses across 5 states in USA
- Markets “recyclables” and “recycled” products in Plastics, Paints, Metals & Paper
- Started “PCR” production in 2019
Thanks You