Challenges, Risks and Opportunities in Transition to Recyclable Multi-material Packaging

Plasticity 2017
Flexibles are dominating packaging

- $34 billion in annual sales in U.S. sales
- Boosts shelf visibility
- Lightweight
- Low GHG production profile...
- ...But Not recyclable
Trend towards non-recyclability
Lack of Pouch Recyclability Adds to Pollution Burden

• Growing threat to water quality, fish, birds
• High volume of plastics ocean dumping
• Potential transfer of toxics to fish tissue

Links to climate change -
• Plastic use of oil equivalent to aviation sector
• Plastic share of carbon budget 15% by 2050
**Plastics Production**
- 2014: 311 MT
- 2050: 1,124 MT

**Ratio of Plastics to Fish in the Ocean (by weight)**
- 2014: 1:5
- 2050: >1:1

**Plastics' Share of Global Oil Consumption**
- 2014: 6%
- 2050: 20%

**Plastics' Share of Carbon Budget**
- 2014: 1%
- 2050: 15%
Global Solutions

• Improved recycling systems globally – move U.S. from laggard to leader
• Develop solid waste systems in 5 key countries (60% of deposition): China, Indonesia, Philippines, Thailand, Vietnam
• Reduce plastic use, especially single use
• Decouple plastic from fossil feedstocks
Challenge: Lagging U.S. Rates
Figure 3. Recycling and Composting Rates of Selected Products, 2014*

<table>
<thead>
<tr>
<th>Product</th>
<th>Recycling and Composting Rate (Percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead-Acid Batteries</td>
<td>98.9</td>
</tr>
<tr>
<td>Corrugated Boxes</td>
<td>89.5</td>
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<tr>
<td>Steel Cans</td>
<td>70.7</td>
</tr>
<tr>
<td>Yard Trimmings</td>
<td>61.1</td>
</tr>
<tr>
<td>Aluminum Beer &amp; Soda Cans</td>
<td>55.1</td>
</tr>
<tr>
<td>Selected Consumer Electronics</td>
<td>41.7</td>
</tr>
<tr>
<td>Tires</td>
<td>40.5</td>
</tr>
<tr>
<td>Glass Containers</td>
<td>32.5</td>
</tr>
<tr>
<td>PET Bottles &amp; Jars</td>
<td>31.2</td>
</tr>
<tr>
<td>HDPE Natural (White Translucent) Bottles</td>
<td>29.5</td>
</tr>
</tbody>
</table>
Challenge: $1.5 Billion Investment Needed to Optimize Curbside Collection
Challenge: Rising NGO Activity

- Break Free From Plastic campaigns will evolve in 2017-2018

- Rise of Zero Waste cities and pressure to not burn waste
Challenges - Building waste systems in developing countries

• Traditional highly centralized systems or decentralized zero waste models?
• Making low value plastics valuable
• Who will finance systems in poor countries – tied to producer responsibility debate
• Can millions of waste pickers be transitioned into more formal systems?
Risk - Branded Pouches Become Ads for Lack of Corporate Responsibility
Opportunities

• More recyclable packaging
• Producer responsibility to fund recycling
• Priority on polystyrene foam phase out
• Redesign of non-recyclable pouches, sachets
• Transition to refillables, reusables
• Overall plastics use reduction
Colgate-Palmolive commitment

- Make packaging recyclable in 3 product categories by 2020
- Develop recyclable toothpaste tube
Recyclable Packaging - P&G Commitment

By 2020, make 90% of packaging recyclable or programs in place to create ability to recycle them
Honest Tea – Pouch to Aseptic
PS foam phase out focus
Phase Out Foam Packing Material
Walmart Leadership

- 100% recyclable packaging for private brands by 2025
- Sustainable Packaging playbook monitors recyclability, recycled content in supplier products
- Increase recycled plastic resin use 3 billion pounds by 2020
Three strategies to transform the global plastic packaging market

- **FUNDAMENTAL REDesign & INNOVATION**: 30%
- **REUSE**: 20%
- **RECYCLING WITH RADICALLY IMPROVED ECONOMICS & QUALITY**: 50%

World Economic Forum and Ellen MacArthur Foundation
Redesign of non-recyclables
Switch to reusables, refillables
Europe Moving Forward

- Recycling Goals Set in Packaging Directive
- Industry Cooperation Developed through Implementing EPR
- EU Circular Economy Proposal
- EU Plastics Strategy
- Ellen MacArthur – New Plastics Economy
U.S. Treading Water

- No Federal mandate or leadership
- Sporadic state efforts
- Rejection of EPR with no scalable alternative
- Inadequately funded municipal programs
- Disruptive packaging allowed without primary consideration of recyclability, impact on end markets
Opportunities for Solutions

• Companies willing to look beyond their own product impact
• Joint platform for solving waste issues
• Transparency on funding, commitments to meet goals
• Shared producer responsibility
• Culture change – sustainability vs. marketing
Upcoming Recycling Deadlines

50% beverage industry bottle/can recycling rate by 2018

60% PET plastic bottle recycling rate by 2018
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Thank you!