E-commerce Packaging: Planning for Policy Shifts
Ecommerce = New Distribution Paradigm
Packaging and the Waste Stream is Evolving

Image Courtesy RRS, 2018
### Cardboard recycling down as online sales rise

- **Cardboard recovery rate**
- **E-commerce rate**

**1999**
- Cardboard recovery rate: 65.7%
- E-commerce rate: 0.6%

**2008**
- Cardboard recovery rate: 8.9%
- E-commerce rate: 92.9%

**2017**
- Cardboard recovery rate: 88.8%

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1 – as a percentage of total U.S. retail sales

SOURCE U.S. Census, American Forest & Paper Association

Karl Gelles/USA TODAY
Protective Cushioning Data

Includes air pillows, paper fill, foams, labels. Our definition excludes corrugate.

- Anticipate ~ 4-9% growth/year until 2025
- Retailers noting a 30-50% increase in past five years but anticipate that should drop as new technology to help right-size transit packaging reduces needs
- Desire to shift from foams but widely recognized as most effective material for heavy use items.

Source: FMI, Market Research Future and Freedonia, AMERIPEN retailer survey
Mailer Bags/Envelopes

- Anticipated to be one of the fastest growing packaging materials due to dim weight. Some shifting from corrugate to mailers.
- Predominately used with fashion (largest sales category) or light weight items.
- Can be single PE materials or multi-material. PE mailers can be recycled via store drop off. Multi-material are not recoverable.

Sources: Freedonia, AMERIPEN Retailer Survey
PolyBags

- Required for liquids and rigid protection.
- Used with clothing.
- Helps with bar code identification.
- Retailers reporting a shortage—sometimes needing to substitute PE bags with multi-material alternatives.
Increased Flexible and Multi-Material Formats: Primary Packaging
Leading Product Sales in US (2017)

Products purchased online in the past 12 months by US consumers

- Clothing: 57%
- Electronics: 44%
- Footwear and accessories: 39%
- Beauty and personal care items: 38%
- Toys: 28%
- Home décor: 26%
- Household products: 22%
- Food & grocery items: 22%
- Sporting goods: 19%
- Furniture: 14%
- Alcohol*: 8%
- Items through a subscription: 7%

Source: Lightspeed/Mintel
Base: 1,905 internet users who have shopped online in the last 12 months
Rise of Grocery
Convenience is King
Logistics Cost Key to Ecommerce Success
Unboxing Experience
In Summary
# E-Commerce Policy Options

<table>
<thead>
<tr>
<th>Ecommerce Trend</th>
<th>Impact</th>
<th>Potential Policy/Program Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased corrugate in curbside</td>
<td>Ease of recovery</td>
<td>Increased need for carts</td>
</tr>
<tr>
<td>Increased Flexible Films (poly bags, mailers etc.)</td>
<td>Access to recycling</td>
<td>Mono materials accepted at store drop off but usage is low ~4%</td>
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<tr>
<td></td>
<td></td>
<td>Do we need to explore chemical recycling or other options?</td>
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<tr>
<td></td>
<td>Research &amp; Development</td>
<td>Investment needed to help create end markets and reprocessing technologies.</td>
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<td></td>
<td>Bans</td>
<td>If bag ban extend to other loose films, what is the impact for protection?</td>
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<tr>
<td></td>
<td>Supply Challenges</td>
<td>Retailers noting restricted supply. Can recycled credit help? Need innovation but also need quality</td>
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<td>Reuse</td>
<td>Goal Setting</td>
<td>Do we need to find better ways to recognize source reduction in state recovery goals?</td>
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<td></td>
<td>Design</td>
<td>How could system be designed for reusable totes or other formats? How does this work for multiple/cart products?</td>
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<tr>
<td>Increased use of RFID and QR codes</td>
<td>Contamination</td>
<td>Impact of embedded small electronics on material stream?</td>
</tr>
<tr>
<td>Sachets or sampling pouches</td>
<td>Small sized formats. Multi-materials</td>
<td>End Market R&amp;D sortation investment or need to explore alternative collection ad recovery formats?</td>
</tr>
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<td>Grab &amp; Go stores or restaurants</td>
<td>Increased on the go packaging and food service packaging in curbside</td>
<td>Role for composting? Consumer education to reduce contamination.</td>
</tr>
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</table>
Questions?

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