Partnerships in Materials Management

ECOS Fall Meeting
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Opportunities going to waste

460 million metric tons of plastics are produced globally

353 million metric tons of plastics are disposed

2019 figures
Source: OECD.org Global Plastics Outlook

*After collected residues from recycling collection
Mechanical recycling is not enough to solve the plastic waste problem.

<table>
<thead>
<tr>
<th>Common Uses</th>
<th>Share of Plastic Waste Generated</th>
<th>Mechanically Recycled?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bottles</strong></td>
<td>14%</td>
<td><strong>Yes (clear) ~ 30% recycle rate</strong></td>
</tr>
<tr>
<td><strong>Films, Forms, Other</strong></td>
<td></td>
<td><strong>Yes ~ 9% recycle rate</strong></td>
</tr>
<tr>
<td><strong>Textiles</strong></td>
<td>N/A</td>
<td><strong>Very Little</strong></td>
</tr>
<tr>
<td><strong>Carpet</strong></td>
<td>N/A</td>
<td><strong>Very Little</strong></td>
</tr>
<tr>
<td><strong>High Density Polyethylene</strong></td>
<td>17%</td>
<td></td>
</tr>
<tr>
<td><strong>Polyvinyl Chloride</strong></td>
<td>3%</td>
<td></td>
</tr>
<tr>
<td><strong>Low Density Polyethylene</strong></td>
<td>23%</td>
<td><strong>Very Little</strong></td>
</tr>
<tr>
<td><strong>Polypropylene</strong></td>
<td>23%</td>
<td></td>
</tr>
<tr>
<td><strong>Polystyrene</strong></td>
<td>7%</td>
<td></td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td>13%</td>
<td></td>
</tr>
</tbody>
</table>

Most mechanical recycling results in **downcycling** into lower value products that eventually are landfilled.

Generated share & recycled share of material sent to US Municipal Solid Waste in 2017 reported as recycled by US EPA. "Combusted" materials not considered recycled. Total of 32,120,000 MT discarded. Recyclability from OurWorldinData.org.
Eastman follows six key principles:

1. **Reduce, Reuse, Recycle**
   - We prioritize the reduction, reuse, and recycling of plastics packaging.

2. **Material to Material**
   - Plastics are recovered using high yield, material-to-material recycling.

3. **Quality of Life**
   - Demonstrate lower GHG’s vs. virgin; meet/exceed regulations to improve quality of life for employees & communities.

4. **Complementary**
   - We enable a waste ecosystem where mechanical & molecular recycling are complementary.

5. **Economical**
   - Technologies are economically efficient for long-term success.

6. **Transparent**
   - Claims are clear, transparent & accountable with 3rd-party certifications.

**Fully circular plastics value chain without using virgin fossil feedstocks**

To turn this vision into reality...
How can we renew the recycling system?

The critical connection between public policy, advanced technologies, and recycling capacity