Plastic Paradox

How do we balance our love/hate relationship with plastic for a sustainable future?

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Who We Are

MORE Recycling conducts research and develops information technology to drive more sustainable use of resources.

Our technology and deep understanding of the plastics recycling landscape have made MORE the trusted organization to deliver the annual plastic recycling reports for the U.S. and Canada for more than 10 years.
We unlock the true potential of plastic with designs that combine its value as a **durable**, **waterproof**, **lightweight** and **efficient package** with the ability to be **captured**, **sorted**, and **recycled**.
Have to be mindful not to devolve to less efficient or less effective packages simply to move away from plastics.
Examples of Plastic Packaging Innovation

**Beef Packaging**
- **Original**: Polyester foam tray with cling wrap
- **New**: Vacuum packing in oxygen barrier film
- **Result**: Shelf life extended from 4 days up to 30 days

**Grapes Packaging**
- **Original**: Sold loose
- **New**: Perforated plastic bags
- **Result**: Bagging leads to 20% reduction in in-store waste

*Source: 2016 American Chemical Society*
DANGER IN SWAPPING OUT PLASTIC MATERIALS

**DAMAGE TO THE HEALTH OF HUMANS AND ECOSYSTEMS**

- Business as usual plastic: $63 billion
- Alternatives to plastic: $343 billion

**CLIMATE CHANGE**

- Business as usual plastic: $71 billion
- Alternatives to plastic: $183 billion

**DAMAGE TO THE OCEANS**

- Business as usual plastic: $5 billion
- Alternatives to plastic: $7 billion

*Source: Trucost, 2016*
Dependence on plastic over time

Figure 10. Plastics Generation and Recycling, 1960 to 2015

Source: U.S. EPA
For recycling to work, system must have:

**Supply**
Resident and business participation in the act of recycling to generate adequate supply of recyclables

**Demand**
Demand to stimulate the necessary investment in collection, sorting, and processing of material into valuable feedstock
Elements of Recyclability

**Material Flow**
- Chemical Recycling
- Mechanical Recycling
- Recycling Sortation & Consolidation
- Resin Production
- Design & Conversion

**Generation & Market Compatibility**
- How much is produced?
- What is its make-up?
- Is it compatible with a recycling stream that has a market?
- Are others like it compatible?

**Consolidation for Market**
- Can it be consolidated for market through sorting at a MRF or other collection and consolidation network?
- Does the material meet demand specs?

**Recycling Program Availability**
- Does 60% of the US population have a recycling program available to them to recycle it?
PCR vs. Virgin
(Pellet Price & Cost Associated to Process PCR, per pound)

Note: extreme variation based on quality & processing levels

* Color Sorted  ** Food Grade
Should **source reduction of all packaging and single use items** be our ultimate goal, regardless of material?
How to elicit consumer behavior change along with policy and more industry/brand stewardship?

What incentives are needed?
# A Little Demand Goes a Long Way

## 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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</thead>
<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>
</tr>
<tr>
<td>30 percent</td>
<td>1.8 billion</td>
<td>95 percent</td>
<td>810,828 (equal to 173,000 cars)</td>
</tr>
<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>
</tr>
</tbody>
</table>

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
Reduce.

Reuse.

Recycle right.

Prevent litter.

Buy recycled.
Thank You!

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