Sonoco is a global provider of a variety of consumer packaging, industrial products, protective packaging and packaging supply chain services.

Segments

**Consumer Packaging**

*Products and Services*
Round composite cans, shaped rigid paperboard containers, fiber culvнструvse tubes; aluminum, steel and peetable membrane easy-open closures for composite and metal cans; plastic boxes, jars, jars, cups and trays; printed flexible packaging, rotogravure cylinder engraving, global brand management.

**Display and Packaging**

*Products and Services*
Point-of-purchase displays, retail security, custom packaging, fulfillment, primary package lining, supply chain management, paperboard specialties.

**Paper and Industrial Converted**

*Products and Services*
Recycled paperboard, chipboard, tubeboard, light-weight corestock, boxboard, linerboard, corrugated medium, specialty grades; paperboard tubes and cores, molded plugs, reels; collection, processing and recycling of old corrugated containers, paper, plastics, metal, glass and other recyclable materials.

**Protective Solutions**

*Products and Services*
Highly engineered, custom-designed protective and temperature-assurance packaging solutions.
Sonoco’s Global Presence

Founded in 1899
$5 Billion in Net Sales
>325 Operations
34 Countries
21,000 Employees

Countries with Sonoco operations
Recycling at Sonoco

- Sonoco – Recovered Fiber in 1920’s
- Sonoco Recycling
  - 1970’s – Paper Stock Dealers Acquisition
  - 1980’s – Southeast Expansion (12 Facilities)
  - Focused on Recover for Paper Mills
  - 1995 – First MRF in Columbia, SC
  - 2000’s to Today – Addition and Expansion of MRF’s
Residential Recycling Programs

![Graph showing the relationship between Collection Costs and Processing Costs for different recycling programs: Source Separated, Dual Stream, and Single Stream. The graph indicates that Source Separated has the highest Collection Costs and lowest Processing Costs, while Single Stream has the lowest Collection Costs and highest Processing Costs.](image-url)
### Residential Recycling Programs

<table>
<thead>
<tr>
<th>Collection Costs</th>
<th>(Mostly) Fixed Costs</th>
<th>Variable Costs/Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Trucks</td>
<td></td>
<td>• Diesel Fuel</td>
</tr>
<tr>
<td>• Bins/Carts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Labor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Processing Costs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Processing Equipment</td>
<td></td>
<td>• Commodity Prices</td>
</tr>
<tr>
<td>• Labor</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Commodity Prices

- **Definition (Oxford Dictionary)**
  “A raw material or primary agricultural product that can be bought and sold, such as copper or coffee”

- **Influences on Commodity Prices**
  - Supply/Demand – Domestic and Global
  - Liquidity
  - Alternatives/Substitutes
  - Quality
  - Currency
  - Location/Logistics
  - Seasonality/Timing
  - etc.
Fiber Commodities

![Graph showing the price trends of OCC, News, and Mixed Paper from January 2011 to November 2017.](chart.png)
Plastic Commodities

![Graph showing the price trends of HDPE Natural, HDPE Color, and PET from 1-Jan-11 to 5-Nov-17.](image-url)
Metal Commodities

Graph showing the price percentage changes for Aluminum and Steel from 1-Jan-11 to 5-Nov-17.
Recyclable Composition

- **Seasonal Changes**
  - Summer – increased beverage containers (PET, Aluminum, Glass)
  - Thanksgiving/Christmas
    - increased at home consumption
    - Internet shopping

- **Contamination**
  - Education
  - Roll Carts

- **Theoretical Example**
  - Mixed Paper @ 35%
  - Glass @ 20%
  - Newspaper @15%
  - Residue @ 10%
  - OCC @ 10%
  - PET @ 5%
  - HDPE Color @ 2%
  - HDPE Natural @ 1%
  - Steel Cans @ 1%
  - Aluminum @ 1%
## Commodity Price Influence

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Mixed Paper</td>
<td>35%</td>
<td>$43.75</td>
<td>$26.25</td>
<td>$24.50</td>
<td>$19.25</td>
<td>$19.25</td>
<td>$17.50</td>
<td>$15.75</td>
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<tr>
<td>Glass</td>
<td>20%</td>
<td>$1.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>($2.00)</td>
<td>($3.50)</td>
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<tr>
<td>Newspaper</td>
<td>15%</td>
<td>$18.75</td>
<td>$10.50</td>
<td>$11.25</td>
<td>$9.00</td>
<td>$9.00</td>
<td>$8.25</td>
<td>$8.25</td>
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<tr>
<td>Residue</td>
<td>10%</td>
<td>($6.00)</td>
<td>($6.00)</td>
<td>($6.00)</td>
<td>($6.00)</td>
<td>($6.00)</td>
<td>($6.00)</td>
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<tr>
<td>OCC</td>
<td>10%</td>
<td>$15.00</td>
<td>$11.00</td>
<td>$11.00</td>
<td>$10.00</td>
<td>$9.00</td>
<td>$9.50</td>
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<tr>
<td>PET</td>
<td>5%</td>
<td>$27.75</td>
<td>$21.50</td>
<td>$17.50</td>
<td>$17.00</td>
<td>$14.50</td>
<td>$13.25</td>
<td>$7.75</td>
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<tr>
<td>HDPE Color</td>
<td>2%</td>
<td>$9.60</td>
<td>$10.00</td>
<td>$6.80</td>
<td>$10.70</td>
<td>$9.00</td>
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<tr>
<td>HDPE Natural</td>
<td>1%</td>
<td>$6.90</td>
<td>$6.40</td>
<td>$5.40</td>
<td>$7.20</td>
<td>$6.10</td>
<td>$7.20</td>
<td>$5.75</td>
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<tr>
<td>Steel</td>
<td>1%</td>
<td>$1.18</td>
<td>$1.25</td>
<td>$1.15</td>
<td>$1.15</td>
<td>$0.60</td>
<td>$0.25</td>
<td>$0.95</td>
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<tr>
<td>Aluminum</td>
<td>1%</td>
<td>$17.10</td>
<td>$16.50</td>
<td>$15.90</td>
<td>$13.50</td>
<td>$15.70</td>
<td>$11.00</td>
<td>$11.00</td>
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<tr>
<td>TOTAL</td>
<td>100%</td>
<td>$135.03</td>
<td>$97.40</td>
<td>$87.50</td>
<td>$79.80</td>
<td>$74.20</td>
<td>$67.80</td>
<td>$58.05</td>
</tr>
</tbody>
</table>

Total Disposal Cost for Residue @ $60/ton

43% of the value of Jan. 2011!!

57%
Commodity Price Influence

- Dec 2015: $77/ton “LOST” vs. January 2011
- Where does this fall?
  - Ownership/Contract Structure
  - Risk/Reward
  - Ongoing Viability
  - Return on Investment(s)
  - Reinvestment

- Total System Focus – Municipalities/Haulers/Processors
  - Contamination
  - Residue Disposal
  - Volume
Thank you and any Questions?

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