China Trade Barriers 2017
July 2017 China registered with World Trade Organization forbidding import of 24 kinds of solid waste by end of 2017 including:

- Plastics 3-7
- Mixed paper
- Cardboard
- Paperboard
China’s reasoning

- Protection of human health
- Safety and protection of the government
- Environmental health
- Reported large amounts of “dirty” and “hazardous” waste mixed in with imports
- Original target for ban September 2017 with .3% contamination
- New target for ban March 2018 with .5% contamination
What effects is the Ban having?

- Drastic cut in acceptance of contamination
- Ban on some materials for recycling
- Suspension of mills import licenses
- Stockpile of materials
- Increased recyclable processing fees (Labor on Lines)

Exporting Markets and China’s Import Restrictions

- Landfilled 46%
- Exported Recyclables 14%
- Compost/Mulch 12%
- Source Reduction and Recycling 18%
- ADC 5%
- Waste to Energy 1%
- Other Beneficial Reuse 4%
- Waste Tire-Derived Fuels <1%

Estimated 76.5 million tons generated in 2016 – AB 341
How to Cope

- Nationally
- In California
- In Culver City
“We need to work with the Chinese Government to develop a practical timeline for the proposed ban, while improving bale quality for material exported to China and other foreign markets.”

-David Biderman
SWANA Executive Director
CEO

SWANA and NWRA have sent correspondence to WTO advising of the effects on the US Economy as a result of the ban.
Recycling Task Force

SWANA formed a recycling task force to address ban

Developed correspondence to send to federal lawmakers requesting that funds be available in the Federal Infrastructure Bill for development of:

- Manufacturing and infrastructure to process banned materials
- Advanced technology processing facilities
- Marketing of education for source reduction
- Education and outreach to reduce contamination
- Increased use of recycle material in infrastructure products
- Grants to expand curbside recycling options and range of materials collected
California

In 2016 California exported 15 million tons of material.

59% of that material was mixed paper, cardboard, paperboard.

Cal Recycle Response:

- Established webpage as clearinghouse for information.
- Coordinating with local enforcement agencies on permit conditions for material storage.
- Coordinating with jurisdictions to share examples of local actions.
- Packaging reform.
- SB 1383 regulation development.
CalRecycle Programs

Market development opportunities:

- Greenhouse Gas grant and loan programs
- Recycling Market Development loan program
- Partnerships with GO-Biz, Treasurer’s Office, and tax incentive programs
- Require additional funding
Encourage source reduction

Hired Environmental Compliance Inspector to address contamination

Educate/Outreach about contamination

Support CalRecyle’s funding efforts for infrastructure both at manufacturing and processing facilities.

Use data from Waste Characterizing Analysis to implement new programs
Impacts of China’s National Sword: Additional Challenges in Recycling

Susan V. Collins, President
Container Recycling Institute
April 2018
Recycling is More Than Just Diversion From Disposal

- Upstream environmental benefit: 10 to 20 times greater than downcycled or disposal options.
- When a product is made from recycled material, the use of virgin materials is not required.
- Extraction, transport and processing of virgin materials is avoided.
- This avoids the upstream energy and associated environmental impacts.
- Weight is not an indication of environmental footprint.
US Greenhouse Gas Emissions Consumption View – Global

- Local Passenger Transport: 13%
- Non-local Passenger Transport: 9%
- Infrastructure: 1%
- Provision of Food: 12%
- Provision of Goods: 37%
- Building HVAC and Lighting: 21%
- Use of Appliances and Devices: 7%

Products & Packaging: 44%

Source: PPI 2009 – Joshuah Stolaroff
Energy Impacts of Wasting

In total, about 2.3 million American homes could have all their energy needs met (heating & cooling, cooking, utilities, etc.) with the amount of energy required to replace the containers wasted in 2010.

Energy Required to Replace Wasted Beverage Containers, 2010
(in U.S. household equivalents)

<table>
<thead>
<tr>
<th>Container Type</th>
<th>Number of U.S. Households</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum cans</td>
<td>1,248,490 (55%)</td>
</tr>
<tr>
<td>PET bottles</td>
<td>553,826 (24%)</td>
</tr>
<tr>
<td>HDPE bottles</td>
<td>246,404 (11%)</td>
</tr>
<tr>
<td>Glass bottles</td>
<td>146,960 (6%)</td>
</tr>
<tr>
<td>Cartons, Aseptic &amp;</td>
<td>70,384 (3%)</td>
</tr>
</tbody>
</table>

Assumes 89.6 MBtu per household per year. See further notes and sources in Appendix B.

© Container Recycling Institute, 2013
Contamination
Paper Mill – Incoming Material
Paper Mill - Contamination to Landfill
Glass: Deposit vs. Single Stream
Recent Challenges/Opportunities

- Declining prices for recyclables since peak in 2012/2013
- Until recently, China was the world’s largest importer of recyclables – paper and plastics
- China had low labor costs and shipping costs are low
- Opportunity: clean, container deposit glass, PET and aluminum in US
  - Sufficient capacity in US
  - Pricing is a struggle
China closes the door, prices crash

The average price paid to recyclers for a ton of mixed paper in the Pacific Northwest and across North America has plummeted in the last year.

$100 per ton of mixed paper

REGIONAL AVERAGE
$77.50
$75

NATIONAL AVERAGE

JULY 18
China announces new bans on imported recycling, including mixed paper.

JAN. 1
Import ban takes effect.

MARCH 1
0.5% contamination limit takes effect.

Source: RecyclingMarkets.net

EMILY M. ENG / THE SEATTLE TIMES
Scrap Values Trending Down Since 2012: All Three Major Container Materials

Statewide Average Monthly Scrap Values Reported by CalRecycle, July 2012 – May 2017

Cumulative Shortfalls, Last 5 Years

Cumulative Processing Payment Shortfalls, PET and Glass: July 2012 - June 2017

Notes: Shortfalls are additive from Jul '12 - June '17. Scrap values for June 2017 are not yet available from CalRecycle; we set them as equal those of May 2017. Monthly per ton shortfalls were multiplied by monthly tons recycled by recycling centers. Per ton shortfalls are the difference between fixed-period scrap values CalRecycle uses to calculate processing payments, and actual scrap values during the months the recycling took place. Monthly tonnages were derived by dividing CalRecycle’s reported units recycled by 12, and by multiplying by containers per pound and by recycling centers’ “participant share” (reported annually). Source: CalRecycle, 2012-2017.

© Container Recycling Institute, 2017
California glass tonnage collected at curbside, redemption centers, and in total

![Graph showing glass tonnage collected at curbside, redemption centers, and in total from 2012 to 2017.](image)

Source: CalRecycle, 2017.

© Container Recycling Institute, 2017
Dual-Stream Cart From Sunnyvale
Germany – Public Collection of Glass
Collecting glass: Recommendations

Drop-off points

- 1 per 20,000 residents
- Easily accessible
- Visible

www.rippleglass.com
Received RFP for processing

RFP 1836 Processing of Recyclable Materials

- Existing Contract Expired April 15, 2018
- Current Contractor Wanted Culver City to Pay $50/ton.
- RFP issued with 3 Proposals Received from:
  - Waste Management, Inc., CR&R; and Allan Company
<table>
<thead>
<tr>
<th></th>
<th>Allan Company</th>
<th>CR&amp;R</th>
<th>WM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contamination Level Penalty</td>
<td>28% &lt; $ 1.50/ton for each ton over</td>
<td>15 -19% &lt; 5% of processing fee</td>
<td>20% &lt; $ 100/ton for each ton over</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20% &lt; 10% of processing fee</td>
<td></td>
</tr>
<tr>
<td>Moisture Level Penalty</td>
<td>N/A</td>
<td>Same as contamination</td>
<td>N/A</td>
</tr>
<tr>
<td>Blended Value</td>
<td>$ 39.75/ton</td>
<td>$ 94.33/ton</td>
<td>$ 38.67/ton</td>
</tr>
<tr>
<td>Additional Costs</td>
<td>($ 69.75)/ton</td>
<td>($ 122.50)/ton</td>
<td>($ 137.96)/ton</td>
</tr>
<tr>
<td>Total Costs</td>
<td>($30.00)/ton</td>
<td>($ 28.17)/ton</td>
<td>( $ 99.20)/ton</td>
</tr>
<tr>
<td>Incentives</td>
<td>$ 70/ton &lt; cost share 50%</td>
<td>$ 122.50/ton &lt; cost share 65%/30%</td>
<td>$ 49.65/ton ( various based on commodity)</td>
</tr>
</tbody>
</table>
Performed waste characterization to assist in tackling contamination, source reduction, waste prevention and EPR

50 200-pound samples

<table>
<thead>
<tr>
<th>Material Stream</th>
<th>Total Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refuse</td>
<td>30</td>
</tr>
<tr>
<td>Recycling</td>
<td>10</td>
</tr>
<tr>
<td>Organics</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>50</strong></td>
</tr>
</tbody>
</table>
Steps to Waste Characterization Study
Commercial Refuse Results

- 41% Refuse
- 19% Recyclable
- 40% Organics
23% Refuse
74% Recyclable
3% Organics
Commercial Organics Results

- 8% Refuse
- 3% Recyclable
- 89% Organics
Additional Findings
PRODUCER RESPONSIBILITY FOR PRODUCT WASTE
Why do I care?

As a local government, we are held responsible by the State of California for keeping Hazardous products out of landfills in California.

Things like batteries, Mercury switches, electronic equipment, and fluorescent lighting, needles, and other items are banned from landfill disposal in California.

Momentum for pharmaceuticals is building….and more and more products are likely to be banned from the trash and landfilling.

A Better Way -- Producer Responsibility
What is EPR?

A Better Way – Producer Responsibility

Producer Responsibility means whoever designs, produces, sells, or uses a product takes responsibility for minimizing the product’s environmental impact throughout all stages of the products’ life cycle. And the party having the greatest ability to minimize impacts is the producer.

Businesses can do a better and more cost-effective job than government at managing their own products – the distribution systems are already in place.

The concept is that product recycling can be an extension of the product marketing system; and mirror the production and distribution process in a “reverse retail” process managed through commercial arrangements – all as part of excellent customer service.

This idea is taking hold across the worlds. We don’t necessarily have to haul to landfills. There is a better way in addition to current recycling program
The System

Producers

Local Government
City Council could sign a resolution in support of EPR efforts.

Culver City can join other municipalities and become a member of CPSC to have breaking news in this field and policy making information.

Educational outreach to the community.

A Better Way -- Producer Responsibility
Educational Outreach

Outreach will include a campaign designed to reach individuals thru a variety of mediums. Including social media, webpages, and press releases.

Ongoing education of passing of new bills and related programs to help consumers be informed on how best to dispose or return products at end of life.
Next Steps: Marketing on Contamination

- Inspection
- Outreach
- Education
- Rate study as a result of cost increases for processing recyclable materials
Questions?

Contact:
Kim Braun
Environmental Programs and Operations Manager
310.253.6421
kim.braun@culvercity.org