Is Curbside Recycling in Jeopardy due to:
Increased Contamination, and
China’s Import Restrictions?

Myles Cohen - April 3, 2018
Recycling: the early Years
Today’s Topics

• Pratt Overview
• Top Trends and factors in Recycling
• Focus on Contamination
• Update on China’s Restrictions
• How to keep Curbside Recycling Alive
About Pratt
Pratt Industries Overview

- $2.0+ Billion fully integrated, privately-held (family) packaging company
- Recycle 2.4 million tons of recycled materials annually
- 5th Largest U.S. paper and packaging company – 8,000 employees
- Largest 100% Recycled corrugated packaging company in North America
Pratt Industries Overview

- 4 – 100% Recycled Paper Mills
  - Soon to be 5… Wapakoneta, Ohio!
  - Mainly use RESIDENTIAL Mixed Paper and OCC
  - Mills CONSUME ~10 million pounds/day of recycled paper

- 68 factories in North America

- 17 Material Recovery facilities (MRFs)
Close-the-Loop Integrated
Pratt...a true “Circular Economy” company
PRATT INDUSTRIES OUR FOOTPRINT

Next Paper Mill
Pratt in the Northeast

• NYC Paper Mill

• 4 NE Box Factories
  – Staten Island, NY
  – Allentown, PA
  – Reading, PA
  – New Windsor, NY
Recently, Anthony Pratt Committed to Invest and ADDITIONAL $2 Billion in Pratt U.S.A
Presentation Mainly Focuses on Paper!

Why?

• After “low-value” commodities and residue removed form single-stream, 70-90% of what's left is paper

• Paper is driving tonnage, economics, and China issues
But...

First some high-level info on non-paper Commodities
Headlines of Major Non-Paper Commodities

Plastics

**ISRI:**
- With China situation some infrastructure investments are occurring in low-cost labor markets in SE Asia

**Myles Input:**
- PET & HDPE “relatively healthy” markets.
- #3 - 7s...tough to move to China; a few minimal export markets...WtE possible with “tip fee”
- Lots of negative “P.R.” about plastic in ocean, etc.
Manta Point, Nusa Penida, Bali
3rd of March, 2018
Plastic is getting a really bad rap right now
Brands Aggressive about Packaging Recyclability

Converting 1 Billion Cups—from Foam, to Paper, by 2020

McDonald's pledges to recycle its packaging worldwide by 2025

Starbucks committing $10M for work on recyclable, compostable cups
Headlines of Major Non-Paper Commodities

Non-Ferrous Metals

**ISRI:**
- Increased Consumer spending drove several non-ferrous metals up during 2017
- Electric Vehicle batteries has driven up demand for Cobalt

**Myles Input:**
- Result of China’s new import tariffs on aluminum? Too early to tell......uncertainty.
- However MRF aluminum and steel volume too insignificant to really move the needle on the total recycling infrastructure for residential.
Headlines of Major Non-Paper Commodities

Electronics

**ISRI:**
- EPR programs is the major topic of discussion these days.

**Myles Input:**
- Profitability of Electronics Recycling always a consideration...who pays if collection and processing costs are greater than revenue
- Increasing number of MRF fires due to presence of lithium-ion batteries in single-stream
Factors/Trends in Recycling

GLASS

Very recyclable, but is single-stream the best solution?
Factors/Trend in Recycling

GLASS

Recycling Rates (USA vs. Europe)

CDL States = 63%
Non-Deposit States = 24%

Sweden 95%+

That’s a big difference – What can we learn?
Factors/Trend in Recycling

GLASS

USA

2 Primary Methods

Europe

Source Separation
The Glass Industry is working aggressively to increase glass recycling rates

- GRC formed
- Pratt involved with GRC

Stay tuned
Factors and Trends that may affect the current market for Recycled Material
Factors/Trends in Recycling

• Recycling Rate Obscurity – Fuzzy Math
  • Unclear
  • Opaque
  • Mysterious

• No harm intended, but industry/gov’t has done a poor job standardizing definitions and calculations

• Has lead to recovery rate-itis, recovery rate envy, recovery rate exaggeration

• Truth is...RESIDENTIAL MATERIALS recycling rate = 10 to 15% maximum
Factors/Trends in Recycling

Where Materials Recovery is Generated*


- Important because if residential stream too contaminated, there will be no market for it!
Factors/Trend in Recycling

Materials Manufacturers and Trade Orgs want to “HELP”

• “Wish-cycling” or “Wishful Recycling”

• Everybody wants to be seen as “sustainable”

• Big push to put more “in the bin”
Many Brands “making their case” to be included in curbside recycling.

Proper Due Diligence Required
Recent Brands/Trade Org
Taking Recyclability Initiatives

Foodservice Packaging

Flexible Packaging

Keurig K-Cups

Multi Wall Bags

Ziploc Bags

Work with your local Recycler!!
Factors/Trends in Recycling

Not “Helping” but “Hurting”

WISHFUL RECYCLING
Factors/Trends in Recycling

Single-Stream Distress

For example...many cities see DECLINING recycling rates; especially within single-stream, even though rates initially INCREASE.

Major Midwest City Residential Single-Stream Recycling Rate:

<table>
<thead>
<tr>
<th>Year</th>
<th>Recycling Rate*</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>11.08%</td>
</tr>
<tr>
<td>2015</td>
<td>10.23%</td>
</tr>
<tr>
<td>2016</td>
<td>9.09%</td>
</tr>
<tr>
<td>2017</td>
<td>9.14%</td>
</tr>
</tbody>
</table>

*Includes their contamination and residue
Factors/Trends in Recycling

The NET Result: Contamination!!

• Most cities report 15% to 20%+ contamination
  – But many cities report higher rates
• Ruins good commodities - devaluation
• Adds unnecessary expense/processing costs/energy use
• Takes a much longer, costlier trip to landfill
• Distorts Recycling Rate
• China now says...”Enough is Enough”
Major (Top 10) USA City Recyclables Characterization

**Major City Recyclables Characterization**

- Residue: 26%
- Paper: 38%
- Glass: 26%
- Plastic: 7%
- Metal: 3%

**Major City Recyclables Characterization**

- Paper: 79%
- Plastic: 15%
- Metal: 6%
- Residue: 26% of tons, NET of glass and residue

[Pratt 100% Recycled] [NERC - Northeast Recycling Council]
China

So, as our recyclables have become more contaminated, China has said:
Factors/Trend in Recycling

China and Export

China...Self-Sufficiency and Pollution Control
China's Environmental Challenge

“The modernization that we pursue is one characterized by harmonious co-existence between man and nature...We will launch initiatives to make the party and government offices do better when it comes to conservation, and develop eco-friendly families, schools, communities and transport services.”

Xi Jinping
19th Party Congress
October 18, 2017

Reduce carbon intensity 40-45% below 2005 by 2020

Make 90% of farmland safe, return 13k km² of polluted land to forest and grassland, and self-sustainability in recycling by 2020

 Improve quality of >70% of seven key river basins and the amount of foul water in urban areas not to exceed 10% by 2020

Source: Ministry of Environmental Protection of the People’s Republic of China
President Xi Jinping’s Recent Speech

‘...What we now face is the contradiction between unbalanced and inadequate development and the people’s ever growing needs for a better life”, Mr. Xi said. He added “improving people’s lives included reducing pollution....
Factors/Trend in Recycling

China

• China Ban...Never an issue of “IF” it would happen, but “when”

• Ministry Enviro Protection driven, not economic
  – No longer wants our garbage
  – Goal to improve “local” China collections

• **BAN** Mixed Paper
  – All other grades = 0.5% Prohibitives
The Future of Paper Grades

2. Export/Asia = Biggest factor...and still unpredictable
   ...but eventually (around 2018)
   Asia will become self-sufficient
China Matters – U.S. Recovered Paper Stats*

*AF&PA and Numera Analytics

52.6 Million Tons Collected

- ~31mm+ Tons or 58% For U.S.A. Mills
- ~15mm Tons or 28% To China
- ~7mm Tons or 14% To ROW

52.6 Million Tons Collected
When China Sneezes; the U.S.A. gets Pneumonia!!
Some Seattle-area recycling dumped in landfills as China’s restrictions kick in
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.

-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
“China’s Cascading Effect”

China has pulled back on buying secondary Fiber from the U.S., causing a stir and leading to plummeting prices.

“We’re only buying the cleanest of the clean,” says a paper mill source who is buying mixed paper and other grades of recovered fiber. “We are demanding that MRFs (material recovery facilities) and brokers sell us only the highest quality paper that they can get because the market demands that right now. Any mixed paper below specification grade is simply not marketable, so any recovered fiber that has excess contamination, prohibitives or outthrows must be put in storage, go to landfill or [be] used as waste to energy.”

Another source who works on the East Coast adds, “We are losing tons to the landfill.”
January Numbers for China are in Total Recovered Fiber Imports

Can We Fix This?

Yes!
Things to do Now
1. Forget about TONS and PERCENTAGES FOR NOW.

Focus on ONE thing only for RESIDENTIAL recycling:

QUALITY

High recycling rates, with low quality could result in demise of programs
2. Tackle Contamination Head-on

Work with your recycling processor, and DO WHAT THEY RECOMMEND

• Removal of low value items?
• Inspection of carts at the curb?
• Etc.
3.

Promote QUALITY and no tolerance for contamination aggressively:

- Press Releases
- Local media interviews with Mayors, or other City Officials with Recycling Processor
- Mailers
- Education

Get out in front of it. Don’t let the media “one-up” you. Control the message so residents don’t lose faith in the program.
e-Commerce Cardboard (OCC) recycling requires much education.

In many instances, OCC left OUTSIDE the bin does NOT get picked up by the recycling truck.
5.

If possible, focus on under-served small and medium Commercial recycling for core items... paper and plastic
Bottom-Line ..... 
Back to Basics
Thank You

Myles Cohen
mcohen@prattindustres.com