Mixed Waste Processing

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Agenda

• **About Pratt**
  – North America
  – In New York

• **Industry Dynamics**
  – The markets
  – Relationship between paper grades

• **Mixed Waste Processing**
  – Why Quality in Paramount
  – Issues, Myths, Facts

• **Conclusions**
About Pratt
-North America
-In New York
Pratt Industries Overview

- 2+ Billion fully integrated, privately-held packaging company
- Recycle 2 million tons of recycled materials annually
  - ~30 million trees saved annually
- 5th Largest U.S. paper and packaging company – 5,100 employees
- Largest 100% Recycled corrugated packaging company in North America
- State-of-the-art Waste-to-Clean Energy Plant
- 4 – 100% Recycled Paper Mills
  - 1 of which NYC – only paper mill in NYC
  - Largest user of RESIDENTIAL mixed paper in North America
  - Mills CONSUME ~10 million pounds/day of recycled paper
- 40+ Converting plants and factories in North America
  - 2 in N.Y. (NYC and New Windsor, NY)
- 17 Material Recovery facilities (MRFs)
Pratt – Largest North America Consumer of Residential Mixed Paper (RMP)

- Process through OUR MRFs, or purchase from 3rd parties, RMP from the following cities:

<table>
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<tr>
<th>New York City, NY</th>
<th>Atlanta, GA</th>
<th>Dallas, TX</th>
<th>Houston, TX</th>
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<td>San Antonio, TX</td>
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<td>Columbus, GA</td>
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<td>Flint, MI</td>
<td>Texarkana, TX</td>
<td>Spartanburg, SC</td>
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<td>Lakeland, FL</td>
<td>Anderson County, SC</td>
<td>Plus Over 75 Other Cities &amp; Towns</td>
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Close-the-Loop Integrated
Pratt...a true “Circular Economy” company

Fully Integrated
Close-the-Loop
Our Customers

Pratt Industries is known by the companies we keep
Pratt in New York
Really...a paper mill in NYC??
Pratt in New York

- **NYC – Staten Island Mill**
  - Only paper mill in NYC
  - 100% Recycled
  - 2.5 Million pounds of paper needed **PER DAY**
    - Significant % from Dept. of Sanitation N.Y.
  - Has produced 6 million tons new paper (DSNY) since 1998
    - Saved 102 million trees
  - Huge NYC “Circular Economy” economic engine

- **Pratt Staten Island Box Factory**
  - Opened in 2008

- **Pratt Staten Island Recycling Division**
  - Procures 2.5 million pound of recycled paper per day

- **Total Jobs: 295 Direct + over 600 indirect**

- **Quality Carton – New Windsor, NY – Purchased company in 2012**
  - 70 employees
  - Makes boxes for L'Oréal, Tiffany, etc.
102 Million Trees Saved in Staten Island
That’s an entire forest...16 times the size of Manhattan
Environmental Benefits of using only 100% Recycled Content

In New York .....EVERYDAY....PRATT SAVES!

7 Million Gallons of Water

17,000 Trees

4,000 Tons of CO₂ prevented

4,000,000 kilowatt hours of power saved

3,300 Cubic Yards diverted from landfills
Industry Dynamics
Historical Paper Recovery Trend

U.S. Paper Recovery Rate 1990-2014

Source: AF&PA
North America – Recovered Fiber COLLECTIONS

WHERE IT COMES FROM

- Retail/Commercial/Industrial: 81%
- Residential: 19%

WHERE IT GOES

- North American Paper Mills (31 million tons): 60%
- Export: 40%

51.8 Million Tons
North America – Recovered Fiber Consumption

31 million tons

- 13% Residential Mixed Paper
- 13% Other Grades
- ~68% OCC = Cardboard
- 6% Newspaper

RESIDENTIAL MIXED PAPER (RMP)

- Virtually 100% from Dual-stream or single-stream MRFs
- ~4,000,000 tons RMP Consumed in N.A. year
  - Pratt = #1 mill group consuming RMP
  - 1+ million tons/year
- Pratt = Largest RMP MRF processor in N.A. amongst all paper mill groups
Old Newspaper (ONP) – It’s NOT Coming Back...ever

Tons-Millions – North American Consumption

---|---|---|---|---|---|---|---
2008 | 6.4 | 5.0 | 4.5 | 3.8 | 3.0 | 2.7 | 2.2 | 1.8
Recycling Industry Distress

- **5 Key Drivers**
  1. Export Down – mainly due to China – Green Fence
  2. “Residue” (non-recyclables) increasing – MRF cost and higher carbon footprint on MSW
  3. Low commodity prices – single stream processing now costs more than the value of the material
  4. Declining volumes – light weighting and less print media
  5. Glass

*The Washington Post* April 21, 2018

American recycling is stalling, and the big blue bin is one reason why

> We all screwed it up, this is a crisis.”

- David Steiner
  WM / CEO
Global Paper Mill Requirements - Clean, Contaminant Free Recovered Fiber

~ 20 Million Tons

~ 31 Million Tons

N.A. Paper Mill Consumption

32%
ONP, Mixed Paper, High Grades, etc.

68%
OCC

The need is Quality, Quality, Quality
Hierarchy of Recovered Material Value – “Bulk” Grades

- DLK
- Corrugated
- Pre-Consumer
- Corrugated
- Grocery
- Corrugated C&I
- Off-Shore Corrugated
- Over-Issue Newspaper
- Dual Stream Newspaper/Mixed Paper
- Single-Stream Newspaper/Mixed Paper
- Mixed Waste Processing Paper
DLK vs. Residential Mixed Paper - Yellow Sheet Buffalo
Price per Ton - 5 year avg. - 2011 - 2015

DLK: $130
Residential Mixed Paper: $49
Mixed Waste Processing
AF&PA Study on MWP found...

- Recovered Paper Quality and Quantity concerns justified
- Usually produces lower quality paper fiber
  - Contamination is a big issue for the paper industry
- Sometimes fail to separate paper fiber
- Recovers a lower percentage of paper fiber
- MWP depend more on revenue from plastics and metals
- Soiled paper may be used for Waste-to-Energy
• **Residential mixed waste processing facilities**: these facilities are designed to process waste generated from residential sources, including single and multi-family housing. This feedstock is considered a “wet” stream because it consists of raw garbage including wet putrescibles such as food waste, diapers, etc., mixed with recyclable materials. Generators are given no instructions on how to prepare their recyclables for processing. This feedstock poses unique processing challenges.

• Residential mixed waste processing facilities have also been in existence for more than two decades. Their history, however, has been marked by more failures than successes.
Residential mixed waste is the most challenging feedstock because residential mixed waste processing facilities must be able to separate the recyclables from the mixed waste and ensure they are clean and dry enough to meet end market requirements.

Recovering paper fiber from residential mixed waste processing facilities is more challenging because mixing paper fiber and wet waste will cause the fiber to become wet. The number of likely markets for those fibers will be fewer and of less value than paper fiber recovered from more traditional recycling methods.
Residential mixed waste processing facilities do not require generators to separate designated recyclables from non-recyclables. As a result, workers at those facilities are more likely to be exposed to pathogens, needles, and hazardous and toxic substances that are carelessly placed in mixed waste.
Myth vs. Fact

Myth: Once recyclables are mixed with solid waste, they can effectively be recovered.

Fact: Paper is easily contaminated and you can’t unscramble an egg

You can’t make this ...................... into this
Some of the packaging made from Recovered Fiber

Pizza Boxes

Folding Cartons

Food Service Take-out
A Few of the things that should NOT be part of the recipe for your pizza box
Why?

Because once an egg is scrambled, you can’t UNSCRAMBLE it
Myth vs. Fact

Myth: Separation Technology has advanced significantly to enable contamination-free recovered materials.

Fact: No leap-frog technology has emerged in the past 20 years. Still use conveyors, optical sorting, screens, trommels, with lots of hand sorting for quality.

• Slight “evolution” only; nothing revolutionary... don’t get sucked in with terms like “optical sorters” and “ballistic separators”
Myth vs. Fact

Myth: Recovery rates from Dirty MRFs (or Mixed Waste processing facilitates) are pretty high

Fact #1: Contaminants, Prohibitives and Outthrows are just taking a MUCH longer ride to the landfill, with a bigger carbon footprint.

Fact #2: Must read the “fine print” to really define “recovery rates”
Myth vs. Fact

Myth:  Industry standards say mills can accept 5% contamination in bales of paper

Facts:  • P.S.I. standards state: “recovered paper stock must be free of food debris, medical or hazardous wastes, any poisonous or other hazardous substances or liquids”
        (so zero food waste is allowed...not 5% like some claim)

        • In certain paper grades, “prohibitives” can be “up to” 2%, but prohibitives in most paper grades are not permitted at all, or are allowed at $\frac{1}{2}$ of 1% or 1%. 
P.S.I. Specification for Recovered Paper Stock

Prohibitive Materials

The term “Prohibitive Materials is defined as:

a. Any materials which by their presence in a packing of paper stock, in excess of the amount allowed, will make the packaging unusable as the grade specified.

b. Any materials that may be damaging to equipment.

(Typically allowable percentages are \( \frac{1}{2} \) of 1%, or 1%)
Myth vs. Fact

Myth: The momentum is growing for mixed waste processing facilities

Fact: Most recent newly owned or planned facilities are shut down, postponed/delayed or abandoned

INDIANAPOLIS, COVANA AGREE TO SUSPEND RECYCLING CENTER CONTRACT

Indianapolis — Mayor Joe Hogsett announced today the City of Indianapolis and Covanta Indianapolis, Inc., have reached an agreement to temporarily suspend a proposed Advance Recycling Center (ARC). The facility was to be located on Covanta’s Indianapolis campus.

Franzel: We are pleased to share the following news about recycling in Indianapolis. This is the first step towards developing a first-class recycling program for Indy!

Indianapolis, Covanta agree to suspend recycling center contract

Indianapolis — Mayor Joe Hogsett announced today the City of Indianapolis and Covanta Indianapolis, Inc., have reached an agreement to temporarily suspend a proposed Advance Recycling Center (ARC). The facility was to be located on Covanta’s Indianapolis campus.

"Leveraging leadership training, and Covanta Indianapolis deserves a true community conversation before we move forward with any waste and recycling plan," said Mayor Hogsett. "Appreciate Covanta’s willingness to agree to this effort as we work toward a long-term solution that best serves our neighborhoods and our environment."

Mayor Hogsett announced that the city will gather information over the next 90 days to work with a measurement of plans for an ARC facility. To facilitate this deliberate process, the Hogsett administration will meet with local groups and key stakeholders, ensuring that all voices are included in a conversation over the future of recycling in Indianapolis.

Covanta Indianapolis has offered information gathering assistance to city officials during the suspension of the Arc, and Covanta’s remaining services agreements with the city will remain in effect. The Office of Corporation Counsel will continue to defend the city’s ability to negotiate with Covanta following litigation.

Montgomery’s high-tech recycling center shuts down

Montgomery, Ala. — Montgomery’s high-tech recycling center has shut down after the leaders of the business met with investors and others to work out a new deal.

The city’s trash trucks are now depositing the center and going straight to the landfill.

"I’m anticipating it to be a temporary suspension," Montgomery Mayor Todd Strange said about the private business.

Strange said the company’s pricing structure became a problem because of massive changes to the commodities market.

Then what business model is left at 10% average, national lows, he said. "They don’t want to continue to lose money, just the price."

Company officials and city leaders plan to meet with new investors on Oct. 22, and Strange said he hopes the deal will reopen after that. "There’s a lot of investor interest," he said.

The company said Monday in a statement that it plans to “review a focused plan that would allow us to resume operations.”

Veterans ask questions and express concerns at CAHCS Town Hall Meeting

TOP PUN

"This 4.5 bows car washes..."
Conclusion

I love my daughter’s puppy

But keep his “business” separated from recyclable materials
Thank You

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