Updates about Carton Recycling
Recycling Association of Minnesota
November 1, 2018
Welcome!

• Welcome
• Today’s Speakers
  • Jason Pelz, Carton Council of North America
  • Mark Bond, Fox River Fibers
  • Bill Keegan, Dem-Con
• Question & Answer
• Adjourn by 12:15 pm
The Speakers

Jason Pelz  
Carton Council

Mark Bond  
Fox River Fibers

Bill Keegan  
Dem-Con
Thank you to our host

www.recycleminnesota.org

Special thanks to:
Brita Sailer, Executive Director
Bill Keegan, Board of Directors
Jodi Taitt, Board of Directors
Opportunities for Carton Recycling
November 2018

Jason Pelz
Vice President of Recycling Projects, Carton Council North America and Circular Economy Director, Tetra Pak
Cartons are Recyclable

- Carton recycling is a standard practice globally
- Cartons have been recycled in the U.S. for more than two decades
- Good domestic and export demand for Grade 52
THE CURRENT STATE OF CARTON RECYCLING

62.9% HOUSEHOLD ACCESS

73,396,183 HOUSEHOLDS WITH ACCESS

13,500 COMMUNITIES WITH ACCESS

49 STATES

83 OF TOP 100 U.S. COMMUNITIES

STRONG CARTON RECYCLERS IN NORTH AMERICA

*AS OF THE END OF SEP 2018
Over 60% Access = Mainstream

1. Food and beverage carton recycling is now recognized as **mainstream**
2. The standard recycling logo can be used on all food and beverage cartons (according to the FTC Green Guidelines)
3. A broad, national call to action can be communicated
Cartons are Recyclable

Recognized by ISRI: World’s Leading Recycling Markets Organization in latest advisory meeting (Wastecon)
Myth: China, Mixed Paper and Cartons

Facts

- China has never been a home for US Post Consumer Aseptic and Gable top Cartons
- Carton Council has always advocated for the sorting of Grade 52 because of overall value
- PC Carton bales are worth more than mixed paper bales
Best Way to Ensure Cartons are Recycled

Cartons (Grade #52):

- Carton pricing generally follows Sorted Office Paper (SOP) pricing – varies by location of source, fiber mix, etc.
- Good domestic and export demand for sorted cartons
- Export pricing varies based on shipping container weights and locations
Sorters of Grade 52 In Minnesota

- Republic-Minneapolis/Inver Grove Heights
- Eureka-St. Paul
- SRC Recycling -Wyoming
- Randy’s-St. Paul Park
- Dem Con-Shakopee
- Carver County-Chaska
- Kandiyohi County-Wilmar
- McLeod County-Hutchinson
- Rice County-Dundas
- Northern MN Recycling/St. Louis County-Virginia
Demand for Post Consumer Cartons, Grade 52

A variety of different uses for cartons

With 100% virgin fiber, cartons contain some of the best fiber in the stream

- Fiber - Pulp
- Poly/Al Mix – Pulp Byproduct
- Whole Cartons
- Plastic Products
- Building Products
- Tissue and Paper Products
Existing Recycling Infrastructure for Grade 52

- Fox River Fiber-De Pere, WI: 500 TPM capacity for Grade 52
- CMR/Rewall, Des Moines, IA: 600 TPM capacity for Grade 52
- Great Lakes Tissue-Cheboygan, MI: 800 TPM capacity for Grade 52
- KC Mexico (Ecatepec & Bajio Mill): 500-1000 TPM Capacity for Grade 52. KC Mexico’s purchasing capabilities are throughout the US. They import loads via sea container, railcar and truck.
- Additional recyclers in Malaysia, Thailand, Japan and South Korea

**Circles show 650 mile radius of coverage**
## New and Expanding End Markets for Grade 52

<table>
<thead>
<tr>
<th>Company</th>
<th>Details</th>
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<tbody>
<tr>
<td>CMR/Rewall</td>
<td>Existing facility in Iowa. <strong>New facility announced for Colorado.</strong>  <strong>Start-up scheduled for May 2019</strong></td>
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<tr>
<td>Ecomelida</td>
<td>New facility to be built in Orangeburg County, SC. Capacity of 10,000 TPM of Grade 52. Will use both fiber and poly &amp; poly/Al residuals for finished products.</td>
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<tr>
<td>Paper Corea</td>
<td>Recently installed pulping system at Gunsan, South Korea location. Capacity for North American Grade 52 is 1100 TPM. Plans to commence purchasing end Q4 of 2018.</td>
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Expected Recycling Infrastructure for Grade 52 in NA by Q3 2019

Export Opportunities to Recycle Cartons
- South Korea
- Japan
- India
- Thailand
- China is not an end market for Grade 52

Announced Project
Potential Project
Existing Recycler
Active Brokers

Potential Industries
Long Beach, CA
Tony Fan
Tony.fan@potentialindustries.com

Storelli Recycling
Fort Lauderdale, FL
Victor Storelli
victor@storellirecycling.com

The Paper Tigers
Bannockburn, IL
Nick Halper
nhalper@papertigers.com

Omnisphere Corporation
Miami, FL
Alex Valdes
avaldes@omnisphere.net

ICF Korea LTD.
South Korea
Paul Chung
paulchung01@gmail.com

Ace Fibers Ltd.
Ontario, Canada
Ajay Jindal
acefiberltd@gmail.com

Purchasing Agent for ReWall
Recyclables Materials Marketing (ReMM)
Atul Nanda
atul@remm.ca
The Value of Recycling Cartons

- Cartons represent some of the highest-quality fiber in the stream.
- Programs that sort cartons as Grade 52 are moving materials for a competitive price.
- Demand for higher quality of paper and containers in the current market is a perfect opportunity to begin sorting Grade 52 out of other materials.
- It’s a win for your customers – they want to recycle as much as possible (CCNA research; 2015, 2017).
Let’s Solve the Right Problem…Contamination

- Disruption has happened before and will happen again
- Removing cartons from your recycling list will not lead to China lifting its ban on mixed paper.
- Sorting cartons into their own grade will create a valuable and marketable commodity
- Resources and time to communicate/re-educate consumers; just as a “rising tide lifts all boats” when it comes to adding materials, it can have an opposite “negative” effect when removing materials
Company Overview

Recycled Fibers

SUSTANA
SUSTANA

Committed to industry-leading product quality, continuous improvement and environmental stewardship, Sustana promotes and applies sustainable manufacturing and business practices to deliver premium, eco-friendly recycled fibers to customers across North America.
Overview

1. Who we are
2. Product information
3. Sustainability
4. Life cycle assessment
FOX RIVER FIBER
De Pere, Wisconsin, USA

• Startup: 1992
• Capacity: 150,000 short tons/year
• Sourcing: US, primarily the Midwest

The only mill in the United States that produces FDA-compliant recycled fibers for direct food contact under all conditions of use.

BREAKEY FIBERS
Lévis, QC, Canada

• Startup: 1985
• Capacity: 93,000 short tons/year
• Sourcing: Northeastern US, Eastern Canada
FACILITIES

• Strategic locations
• Automated systems (quality and consistency)
• Commitment to sustainable manufacturing:
  • Energy efficiency
  • Water conservation
  • Advanced wastewater treatment technology owned and operated by the mills
Product information

We strike a responsible balance between minimizing our environmental impact and maximizing product performance.
Products

Printing & Writing Fiber
- 100% Post Consumer Fiber
- UV Dead to 88.5 brightness
- All types of Printing papers

FDA Food & Packaging Fiber
- 100% Post Consumer Fiber
- FDA No Objection
- Zero fluorescence

Tissue Fiber
- High freeness
- Low ash
- 84 brightness
EnviroBright™

Applications

- Commercial papers
- Book publishing
- Printing & writing
- Ink-jet

100% POST-CONSUMER FIBER
UV DEAD TO 88.5 BRIGHTNESS
ALL TYPES OF PRINTING PAPER
Unmatched purity. Unlimited potential

Applications

• Food service packaging
• Paper coffee cups
• Warming bags

EnviroLife™

100% POST-CONSUMER FIBER

FDA-COMPLIANT

GUARANTEED ZERO FLUORESCENCE

Manufactured exclusively at the Fox River Fiber facility in De Pere, WI.
No Objection Letter (NOL) from the U.S. Food and Drug Administration (FDA) states the fiber “is of a purity suitable for food-contact use.”

- Can comprise 100% of food and beverage packaging without a barrier
- FDA-compliant for contact with all types of food under all conditions
- Zero fluorescence, a growing demand in the food packaging industry

Manufactured exclusively at the Fox River Fiber facility in De Pere, WI.
Unmatched Purity. Unlimited Potential.

FDA Certified,
No-Objections Letter
- No Exceptions
- No Barrier
- 100% Inclusion
- Zero Fluorescence
- Under ALL Conditions.

February 12, 2015

Greg Archambault
President/CEO
Fox River Fiber Company LLC
7515 West Meadow Drive
De Pere, WI 54115

Dear Mr. Archambault:

This is in response to your request dated February 3, 2015, that FDA release the September 28, 2004, opinion regarding the capability of Mississippi River Corporation (MRC) secondary recycling process to produce post-consumer recycled (PCR) pulp fiber that is of a purity suitable for food-contact use.

Specifically, you have contacted the FDA indicating that Fox River Fiber has purchased the patent rights to the pulp recycling process used by MRC. Therefore, we acknowledge the September 28, 2004, no-objection letter is effective for Fox River Fiber Company LLC.

As such, the post-consumer pulp or "salvage from used paper and paperboard" is currently authorized for use in manufacturing food-contact paper/paperboard in 21 CFR 177.200 Pulp from reclaimed fiber. Fox River Fiber has the rights to use the MRC process as reviewed by the FDA between 2001 and 2004 for the manufacture of a pulp/paperboard that is sold to retailers that manufacture finished paper/paperboard for use under all conditions of use excluding pristine environments that the pulp/paperboard comprises 10-18% of fiber in finished paper/paperboard.

We evaluated the harsh testing data, synergic testing information and all relevant data for this secondary recycling process and determined the following: 1) contaminants that have been found in both virgin and contaminated that are inherent in post-consumer pulp but are not present in virgin pulp are removed to levels that would result in dietary exposure 0.05 ppt, the levels that FDA would moderate to negligible risk for a contaminant migrating from food packaging, when the finished paper is used in contact with all types of food under all conditions of use. The finished paper may not contain up to 100% of Fox River Fiber’s recycled fiber.

Sincerely yours,

Kelly Randolph, D.V.M., M.P.H.
Consumer Safety Officer
Division of Food Contact Notifications
Office of Food Additive Safety
Center for Food Safety
and Applied Nutrition
EnviroTouch™

Applications

- Tissue
- Technical and specialty
- White top liner

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<tr>
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<td>LOW ASH</td>
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<td>LOW STICKIES</td>
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Applications
• Molded fiber packaging
• Egg cartons
• Specialty products
Sustainability

Sustana’s model leverages state-of-the-art technology to deliver high-quality products without sacrificing performance or the environment.
Did you know that coffee cups, used juice and food containers, and polyethylene-coated packaging papers can be recycled?

Every year Sustana recycles enough paper to:

• Fill over 4,700 50’ rail cars – end to end this would be over 45 miles long
• Reduce landfill space by over 1 million cubic yards
• Save over 4 million trees
Life cycle assessment (LCA)

We measure our success by the impact our processes and products have on wildlife, people and the planet.
“Yes – Polycoated Cartons and Cups Can be Recycled
Cartons

- Gable Top cartons

- Aseptic Packaging
CONTACTS – INFORMATION

• Steve Minor: sminor@sustanagroup.com
• Fiber Procurement  920 347 4439
• Brian Watermolen: bwatermolen@sustanagroup.com
• Supply Chain Director 920 347 4420
• Mark Bond: mbond@sustanagroup.com
• Sales, Mkt, Closed Loop  908 578 7979
• Closed Loop – Starbucks
• https://m.youtube.com/watch?v=HdpoCO1Qjjg
Carton Recycling:
A MRF Perspective
The Benefits

- Increased diversion from landfills
- Capture high-value, long grain fiber
- Recycling cartons supports a beneficial package
  - Portable & light container
  - Food safety – protected from harmful bacteria
  - No refrigeration required (aseptic)
  - Low packaging to product ratio
  - Storage efficiency due to shape
  - Less energy to heat and sterilize product & container
  - Protection of nutritional content (less heat, no preservatives)
The MRF Challenge

- Currently small fraction of inbound products
- Dedicating real estate for capture
- Labor shortages
- Lower commodity value than most other packages
- Storage and associated product quality impacts
### Inbound Quantity

- **2015 – 0.1% of inbound stream**
  - 70 tons/year (3.5 truckloads)

- **2018 – 0.2% of inbound stream**
  - 140 tons/year (7 truckloads)

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Labor

- Labor shortage
  - 3.7% - September 2018 – lowest rate in 49 years!
  - 3.5% - December 1969
- Cannot find labor, regardless of competitive wages
Automation

• Reduce reliance on manual labor - #1 challenge for MRFs
• Improved processing efficiency – uptime, processing hours, etc.
• Repurpose manual sortation jobs to oversight and maintenance of system
Optical Sorters

- Can be used to capture and sort cartons
- Tried and true technology & rapidly improving
- Substantial capital investment
- Augment with AI to improve capture efficiency
Robotics

- Emerging technology – less capital investment than optics
- Mechanical & material recognition advancements
- Goal: Provide work of one FTE
- Enables automated capture of cartons/aseptics
Artificial Intelligence (AI)

- Material recognition in optical spectrum
- Can be used to efficiently capture cartons
- Can also be used for material mass, material count, product identification, conveyor utilization, & other processing metrics to improve efficiency
Educational Outreach

- Recyclability & access
- Benefits of cartons/aseptic
- Proper preparation (especially at schools)
- Dem-Con Green Grades Program
  - Education center built onto MRF
  - Facility tours
  - Mobile education trailer (schools, community events, etc.)
  - Curriculum modules for schools
  - Classroom presentations
In Summary

- Economic, physical, & logistical challenges exist for capturing cartons/aseptic
- Automation, community outreach, and education can help
- Cartons are worth recycling
QUESTIONS?

www.dcmrf.com

Bill Keegan 612-845-5075

billkeegan@dem-con.com
Questions?

- Please use the “chat” feature to type your question.
- Questions and answered will be compiled and shared with attendees.
Thank you!