The Carton Council Success Story

November 7, 2016
Derric Brown
Director Sustainability Evergreen Packaging
Vice President Sustainability Carton Council
Evergreen’s key products include proprietary fresh carton sleeves in a broad range of sizes, specially designed re-closable spouts, multi-speed packaging machines and multi-layer packaging board with complex barrier properties.
Carton Recycling Success Story

The Carton Council’s
Carton Recycling Access Campaign
What are Cartons?

CARTONS ARE
LIGHTWEIGHT, SUSTAINABLE
packages for REFRIGERATED
and SHELF STABLE
food and beverage products.
Cartons Contain Valuable Materials

Made with 100% virgin fibers, cartons contain some of the best fiber still in the waste stream.

Refrigerated “gable top” cartons
- 80% paper
- 20% polyethylene

Shelf-stable “aseptic” cartons
- 74% paper,
- 22% polyethylene
- 4% aluminum

Cartons are Not Wax Coated
Who is the Carton Council?

A group of carton manufacturers united to deliver long term, collaborative solutions to divert valuable cartons from the landfill.
What was Needed

To go from this...

- Aluminum Can
- Steel Can
- Glass Bottle
- Plastic Bottle
...to this:
Comprehensive Recycling Strategy

- Grow Household Access
- Increase Consumer Participation
- MRF Performance
- Legislation
- Ensure End Markets
- Away from home / Institutional

Carton Recycling
Our Goals & Outcomes

- INCREASE ACCESS
- INCREASE RECYCLING

In 5 years, we’ve brought carton recycling to 59% of all US households!
Successes to Date
Steady Progress Since 2008

Percent Household Access

1992  1
1994  4
1996  8
1998  10
2000  12
2002  14
2004  15
2005  16
2006  17
2007  17
2008  18
2009  22
2010  30
2011  35
2012  41
2013  48
2014  53
2015  57.6
2016  61

CAMPAIGN KICKOFF
Cartons now recycled across the US

80 of the 100 largest U.S. cities have access to carton recycling.

58.6% or approximately 68 million U.S. households can now recycle cartons in their communities.

Every month, more carton recycling programs are being added in schools, cities, towns, and counties across the country.
How Carton Council Achieves its Goals
Target the Recycling Supply Chain

Our goal: Build carton recovery
Work Backwards from End Markets

Build sustainable markets

Develop awareness and participation

Create sustainable infrastructure
Target Strategy for USA
Access: Determining Targets using the 80/20

- Top 11
  - Gets 10 million households
  - 6 Owners
- Next 54 Cities
  - Second 10 Million
  - 33 Owners
  - Access to 66 MRFs
- Next 150 Cities
  - 3rd 10 Million
  - 148 Public Agencies
  - 156 Public MRFs
- Next ???? Cities
  - 4th
  - 208 Remaining Owners
  - 262 MRFs
A Look Inside the Carton Campaign
Grade #52 officially recognized by recycling industry in April 2011

New PSI* Spec Grade #52 - Definition

Consists of liquid packing board containers including empty, used PE coated, printed one-side aseptic and gable-top cartons containing no less than 70% bleached chemical fiber and may contain up to 6% aluminum foil and 24% PE film.

Prohibitive materials may not exceed 2%

Total out-throws may not exceed 5%

*PSI = The Paper Stock Industries (PSI) Chapter is a national chapter of the Institute of Scrap Recycling Industries, Inc. (ISRI). It is dedicated to the recovered paper industry
Carton pricing generally follows Sorted Office Paper (SOP) pricing— varies by location of source, fiber mix, etc.

Export pricing varies based on shipping container weights and locations— strong export demand— over 140 mills consuming cartons worldwide.
Existing End Market Flow for US & Canadian Grade 52

- 4 mills consuming in US, some interest from Mexico, Taiwan & Thailand, but most goes export to Korea
Effective Separation and Recycling of all Layers

Collected cartons → Repulping → Pulp → Poly/Al & Poly → Products

Cartons open up opportunities
Recycling Technologies are Available for Poly and Poly/Aluminum Residual

Recycling technologies for Polymers and Aluminium

- Agglomeration, Extrusion, Injection Moulding, Pressing
- Pyrolysis, Gasification
- Delamination, Solvent Separation
- Full Carton Recycling
Step 2 - Create Sustainable Infrastructure

- Work with Facilities to
  - Agree to take cartons
  - Agree to report data to Carton Council
    - Household access and tonnages

- Positive Sort of Cartons at Facilities
  - Capital equipment grants available, based on campaign’s criteria
2- Create Sustainable Infrastructure

- Range of Solutions for MRFs
  - Manual sort with bunkers
  - Vacuum-assisted manual sort
  - Automated sorting

- Matching Right Solution to each MRF
  - Carton Council best practices drawn from experience with MRFs of all sizes
  - Working closely with equipment suppliers and MRF engineers
  - Matching equipment grant to access gains
2- Create Sustainable Infrastructure

- **Optional Assistance Offered**
  - Connecting MRFs with Broker Networks
  - Free promotional materials
  - Support for customer outreach
Step 3 - Develop Consumer Awareness and Participation

- Notify users of facility that now accepts cartons
  - Collectors
  - Communities
  - Residents

- Outcomes
  - Increased visibility of carton recycling
  - Drive carton volumes to facilities
3 - Develop Consumer Awareness and Participation

Carton Council offers series of tools to assist with promotion and education around carton recycling

- Tool-kit with template advertisements, etc.
- Mini-grants to assist with costs, case by case basis
- Large major metropolitan area awareness campaigns
3 - Consumer Awareness

- Consumers rely on recycling guidance from their city, county, hauler, or MRF
3 - Consumer Awareness

• Step 1 is huge challenge in itself
• Carton Council campaign to date has required updates to over 2,500 individual program material guidelines and websites
• Requires staffing and one-on-one outreach – limited economies of scale
3 - Develop Consumer Awareness and Participation at Schools

- If you can recycle cartons at home, you can recycle cartons at school.
- Carton Council resources for school carton recycling programs:
  - Start-up Guide, Best Practices
  - Posters and other materials
Why School Recycling?

- Schools create lots of cartons every day – Over 6 billion served annually
- Carton recovery at home - students take home the message and can help drive carton recycling at home
- Helps with recycling access:
  - A competitive advantage for MRF’s that offer school recycling - creates pull
  - Schools encouraging communities to add carton recycling - creates push

![Recycling Symbols]
Creative Solutions

- Doesn’t have to be fancy!
Carton Recycling – Supporting Recycling Goals

Recycling is the 2\textsuperscript{nd} piece of the puzzle – Get it in the bin and make recycled paper products!

Requires a wide activity focus
- Engaging our industry
- Engaging others
- Changing behavior
Engage Our Industry and Change Consumer Behavior

The Recycle Logo On Packages

76% U.S. adults who look to a product's package first to find out if it is recyclable.

56% U.S. adults who say the absence of a recycling logo would lead them to believe a package is NOT recyclable.

Source: 2013 Research+Data Insights Survey's
More access brings a better recycling message

Pre 2010
No Message

2010 - present
Between 30-60% access

Coming Soon
Over 60% national access
**Why?**

- The material mix at the MRF is constantly changing
- Understanding how categories of materials flow will help the industry improve recovery

**Goals**

**Flow**
Where do packages end up?

**Selection**
Why do packages flow to commodities?

**Processes**
What changes to sort processes could improve recovery?
2D/3D Separation is Key to High Recovery

Material preparation had a strong effect
- Minimize compaction of material by residents and collection trucks
- Keep material dry

Screen maintenance is key to consistent performance
- Clean screens of material that are wrapped around the shafts
- Replace worn and damaged discs

Avoid overloading screens past their design throughput

More screens produced better separation
- Large facilities both had 1 extra screen than medium facilities and had lower loss rates of plastics to the paper stream

Don’t flatten recyclable containers!
Steady Progress Since 2008

CAMPAIGN KICKOFF

Percent Household Access
Contact Me

Derric Brown
(828)646-2318
derric.brown@everpack.com