

Recycling Interventions and Solutions

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Agenda



Introduction to Tetra Pak

Recycling Interventions

Carton Industry Solutions

Tetra Pak Solutions

Measuring Success



Tetra Pak: Full System Supplier

World Leader in Liquid Food Processing and Packaging Solutions



Processing Equipment
Engineering



Packaging,
Filling Equipment,
Distribution Solutions



Services and
Consultancy



Tetra Pak Globally

Present in more than 175 countries across 5
continents

185 billion packs sold in 2016

9,000 filling machines in operation in 2014

42 packaging material plants

11 R&D Centers

Net Sales: 10.9 billion Euros

23,600 employees



Key targets to deliver environmental performance



Develop sustainable products
Develop 100% renewable carton package
100% FSC-certified paperboard



Reduce environmental footprint across the value chain
Cap CO2 emissions to 2010 despite growth (40% reduction)



Increase carton recycling
Double the global recycling rate
By 2020 (40%)



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Recycling Interventions



THE RECYCLING
PARTNERSHIP



SUSTAINABLE PACKAGING
COALITION®

A PROJECT OF  GREENBLUE®

CLOSED
LOOP *fund*



American
Chemistry
CouncilSM



AMERIPEN®

American Institute for Packaging and the Environment



Carton Council

Not to mention the hundreds of municipalities, non-profit and for-profit entities working on educating the public and finding long-lasting solutions



Is more funding needed?

- ▶ Need to assist municipalities/states to strengthen existing/adopt new funding approaches?
- ▶ How to expand voluntary supply chain initiatives?
- ▶ What further research needed?





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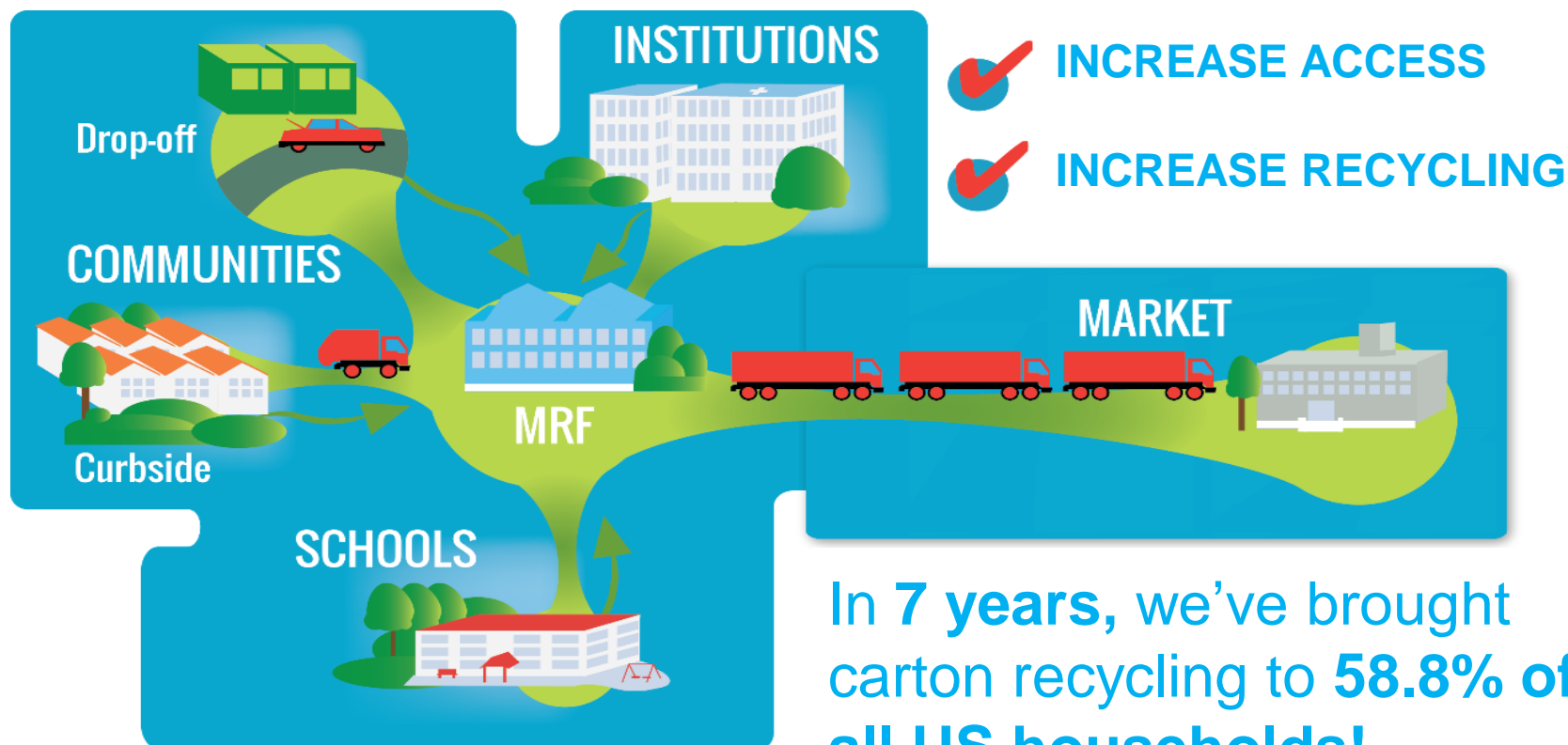
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Carton Industry Solutions

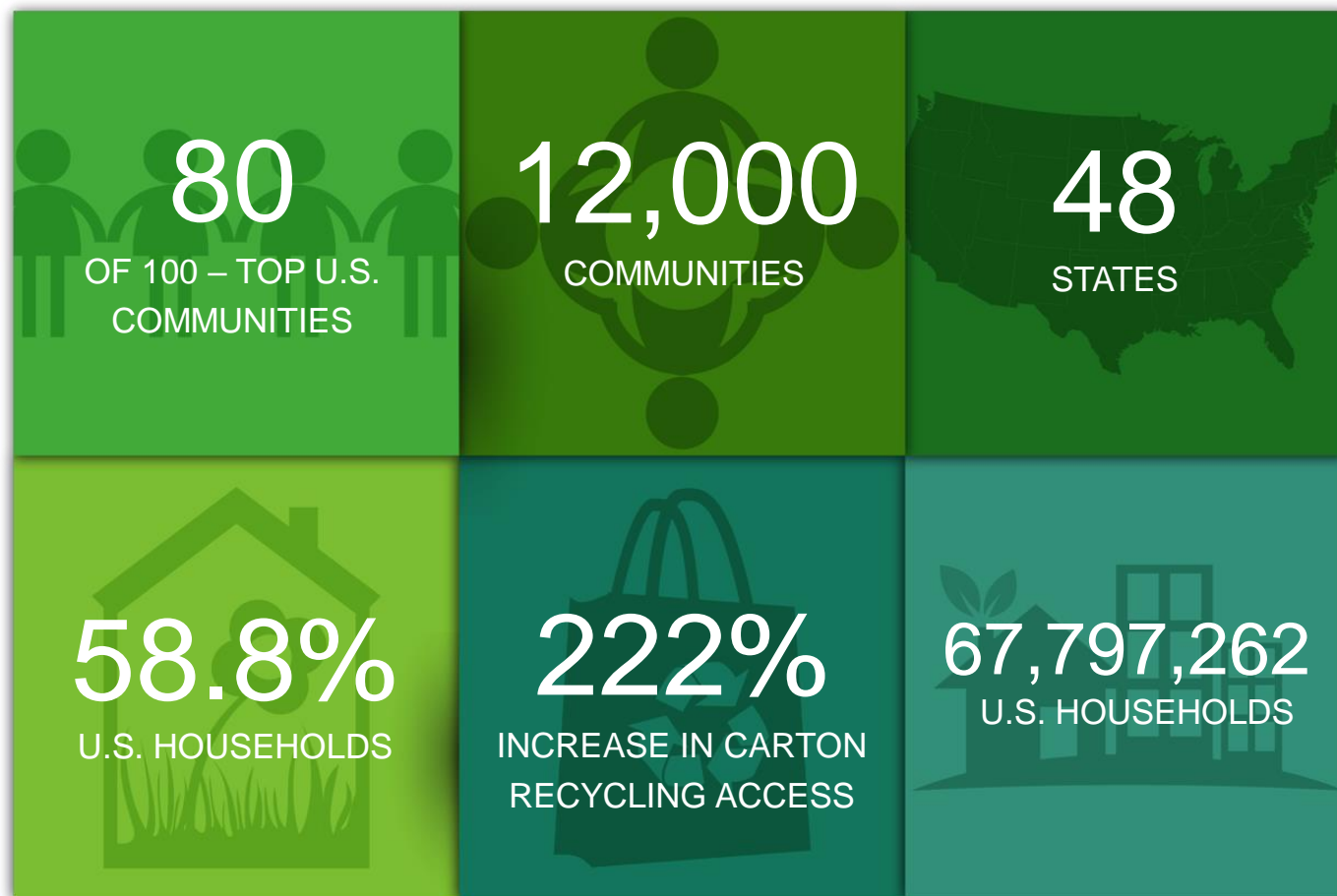


In 7 years, we've brought carton recycling to **58.8% of all US households!**



Focus on expanding Carton Recycling Access

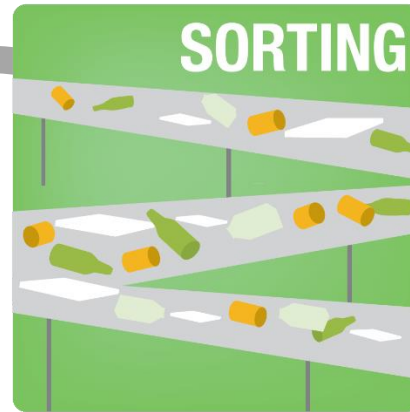
The foundation to grow carton recycling rates





Work Backwards from End Markets

*Build
sustainable
markets*



*Create
sustainable
infrastructure*

*Develop
awareness
and
participation*





Promote carton recycling on-pack

To inspire consumers

Today



2017 and Beyond





On the horizon

- ▶ Continue expanding access
- ▶ Boost carton recycling
- ▶ National carton recycling consumer education campaign & collaboration for consumer outreach
- ▶ Roll out PAYT campaign/white paper on funding alternatives



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Test new recycling collaborative models



SUPPORTING
THE THRIVING
RECYCLING INDUSTRY
ACROSS THE STATE



The Tennessee Coalition to Advance
Materials Recovery:
Reviewing a Proposal for Action
Effectively and Efficiently Drive Recovery



Kimberly-Clark





Build recycling champion in North Carolina



SUPPORTING
THE THRIVING
RECYCLING INDUSTRY
ACROSS THE STATE

- Tetra Pak Identified North Carolina as a state ripe for targeted intervention
 - Recycling investment and job growth had been growing throughout the state
 - Despite this growth, 1/3rd of NC's disposed material were recyclable, forcing manufacturers to import recycling feedstock from across the US
 - The DENR Division of Environmental Assistance and Customer Service grants were reduced in 2013 budget cuts



Drive data collection & best practices implementation in Tennessee



The Tennessee Coalition to Advance
Materials Recovery:
Reviewing a Proposal for Action
Effectively and Efficiently Drive Recovery

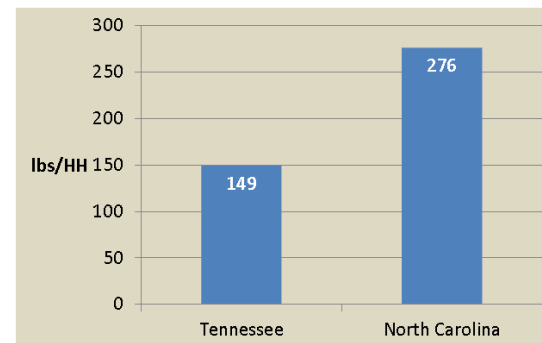


Kimberly-Clark



- After NC, Tetra Pak identified Tennessee as another state ready for an intervention
 - Only 1 in 4 Tennesseans had access to curbside recycling
 - Municipalities with a recycling program were falling short of those who instituted best practices

Municipal Recovery of Paper and Packaging
in North Carolina and Tennessee





Assess best practices and gaps for focused intervention

THE COALITION TO ADVANCE RECOVERY IN TENNESSEE BEST PRACTICES SURVEY



**BEST
PRACTICES
LEAD TO
RECOVERY**



A KEY FINDING OF OUR RESEARCH IS THAT HIGHER ADOPTION OF BEST PRACTICES AND POLICIES LEADS TO GREATER RECOVERY OF MATERIALS.

MEMPHIS



174k HOUSEHOLDS SERVED



164 POUNDS PER HOUSEHOLD

49%
EFFECTIVENESS
RATING



OPPORTUNITY
FUNDING
FINANCIAL
POLICY
COMMUNICATION
PROCESSING
COLLECTION



COLLECTION



PROCESSING



COMMUNICATION



POLICY



FINANCIAL



FUNDING



COLLECTION

35%

Household participation rate



MATERIALS COLLECTED

Glass Bottles and Jars, Plastic containers 1-7 (no Styrofoam), Paper/Cardboard, Aluminum foil, aluminum cans, Steel cans



Multifamily
Commercial



Away from Home Collection



Carts



Single Stream



Curbside



MRF/Transfer Station Access



Weekly Collection



High Capacity Vehicles Used



Automated Vehicles



Core Materials

Yard Waste

Food Waste

Commercial Food Waste



PROCESSING



336,723
TONS LANDFILLED



49,297
TONS RECYCLED



14,279
TONS COMPOSTED



\$1.25
MSW TIPPING FEE



MSW Transferred to landfill



MSW direct hauled to landfill



MRF can process additional materials



MRF/Transfer Station within 10 miles



MRF runs one shift



MRF Residue below 10%



Processing contract

Multiple MRFs available



COMMUNICATION



Website with educational materials



Keep America Beautiful programs

The Recycling Partnership programs

Listed in Earth911 Directory

\$90k Annual education & outreach budget



POLICY

Recycle Rewards/Recycle Bank

Mandatory recycling ordinance

Enforcement

Mandatory recycling legislation

Landfill ban

Pay As You Throw program

Other diversion initiatives



FINANCIAL



Revenue sharing

Franchise agreement

Tax based funding



Fee based funding

Extra recycling charge for citizens



FUNDING



State grant funding available



Awarded grant funding within past 3 years



Grant funds cover recurring costs



Partnered with other municipalities on grant projects



Utilizes private sector partnerships

Utilizes TRP grant program



Utilizes Closed Loop Fund resources

MEMPHIS OPPORTUNITIES



COMMUNICATION

Provide increased funding on a per household basis to recycling education

Utilize existing educational resources such as KAB and/or TRP to increase education & participation



POLICY

Guide local/state legislators to adopt environmentally sound, cost effective, and regionally appropriate policies

Lobby for additional policy support including landfill ban on packaging materials

Lobby for local policy support such as a mandatory recycling ordinance



FINANCIAL

Look to available recycling industry finance tools to assist in program funding



CART Gap Analysis

GAP ANALYSIS DETAILS HIGH RECYCLING PERFORMERS

Common Strengths	Common Opportunities (bigger picture themes)
<ul style="list-style-type: none">• Curbside collection• Some education• Processing	<ul style="list-style-type: none">• Explore program financing options• Increase education funding and messaging• Policy provisions

GAP ANALYSIS DETAILS LOW RECYCLING PERFORMERS

Common opportunities
<ul style="list-style-type: none">• Infrastructure access – better utilize existing infrastructure• Education – Little to no investment in messaging and resident communication. Develop outreach channels.• Partnerships – Improve regional communication to take advantage of existing program efficiencies.



**SHARE THE
LEARNINGS MORE
BROADLY**

**RECYCLING SYSTEM
GAP ANALYSIS
MEMPHIS CITY REGION**

Report published November 2016





Support customers to implement waste management best practices

Survey to Quantify and Increase the Recovery of Carton Waste Generated in Production Facilities

Welcome to the Tetra Pak Carton Recovery Survey

- Surveying and quantifying our customers plant waste
- Implementing solutions and services that reduce environmental impacts and save money

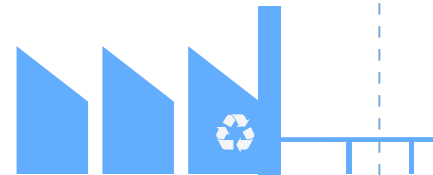
New Recycling - Empty Carton



- \$ 30 / ton Redemption Value
- 105,000 lbs of Cartons Recycled
- Reduced 6% of Landfill Weight
- 420,000 lbs per year
- \$18,000 in annual savings
- Shipped to India and South Korea



Expand market opportunities for recycled materials



Roofing tiles in Brazil



Since 2000, we have supported the market for roofing tiles made out of plastic and aluminium from recycled beverage cartons. Manufacturers and local universities cooperated to enable material analyses, which led to important product improvements. Now, over 15 roofing tile manufacturers are operating in Brazil, producing a million tiles each year.



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Measuring success



What matters for success...

- ▶ **Measure performance**
 - Access to capture rate data
 - Improved understanding of MRF material flow
- ▶ **Improve Performance**
 - Expand access: Multi-family; away from home; schools
 - Conversion to automatic curbside service
- ▶ **Driving Quality**
 - Maximize the value of each commodity -- MORE
 - Increase quality -- BETTER
- ▶ **Addressing the “evolving ton”**

How do we measure success?



