

FLC Fall Research Symposium

Reassessing Recycling: Balancing Market Challenges & Citizen Expectations

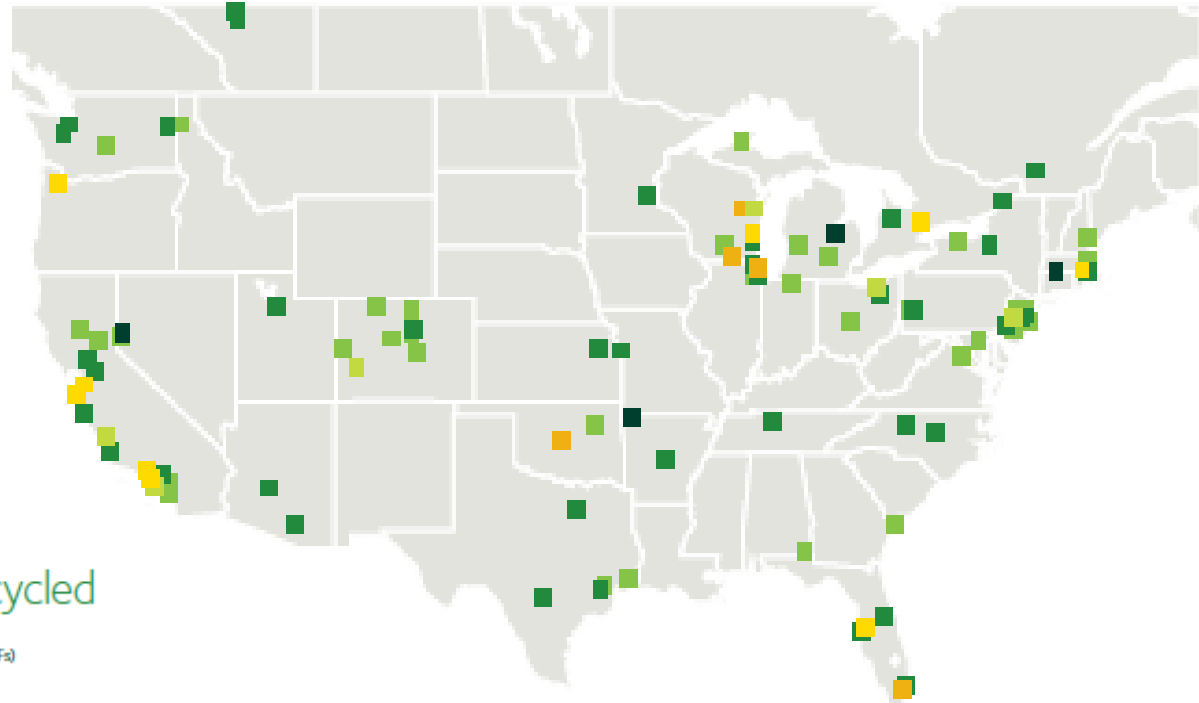
Dawn McCormick

November 14, 2018

THINK GREEN®



Our Recycling Reach: WM sold 9,781,209 tons of recyclables in 2017



Where We Recycled

- Material Recovery Facilities (MRFs)
- 43 Single Stream
 - 4 Dual Stream
 - 37 Paper Only or Other Commercial Materials
 - 8 Construction and Demolition Debris
 - 6 High Grade
 - 6 Other

Current State of the Global Market



In 2017, over 25% of world's recyclables were imported by China, including >50% of paper & plastics. Today <2% of mixed paper goes to China. China pledges to ban all materials by 2020



China's new import policies banning materials & limiting contamination have global impacts on recycling programs in communities across US



Operation Blue Sky = screening effort at China's ports to inspect loads, enforce material bans & 0.5% contamination limit



The reduction of China's markets resulted in oversupply of commodities & depressed commodity pricing. Supply is high & commodity pricing low



Cities are being forced to carefully examine their recycling programs, making difficult decisions about their rates and materials



Consumers still want to recycle and recognize its environmental value, but the economics have evolved

China's War on Pollution Will Change the World

Whose responsibility is it to make recycling work?

Recyclables become trash in two South Florida cities

Ecomaine warns public it may start paying a price for sloppy recycling

Recycling is in trouble — and it might be your fault

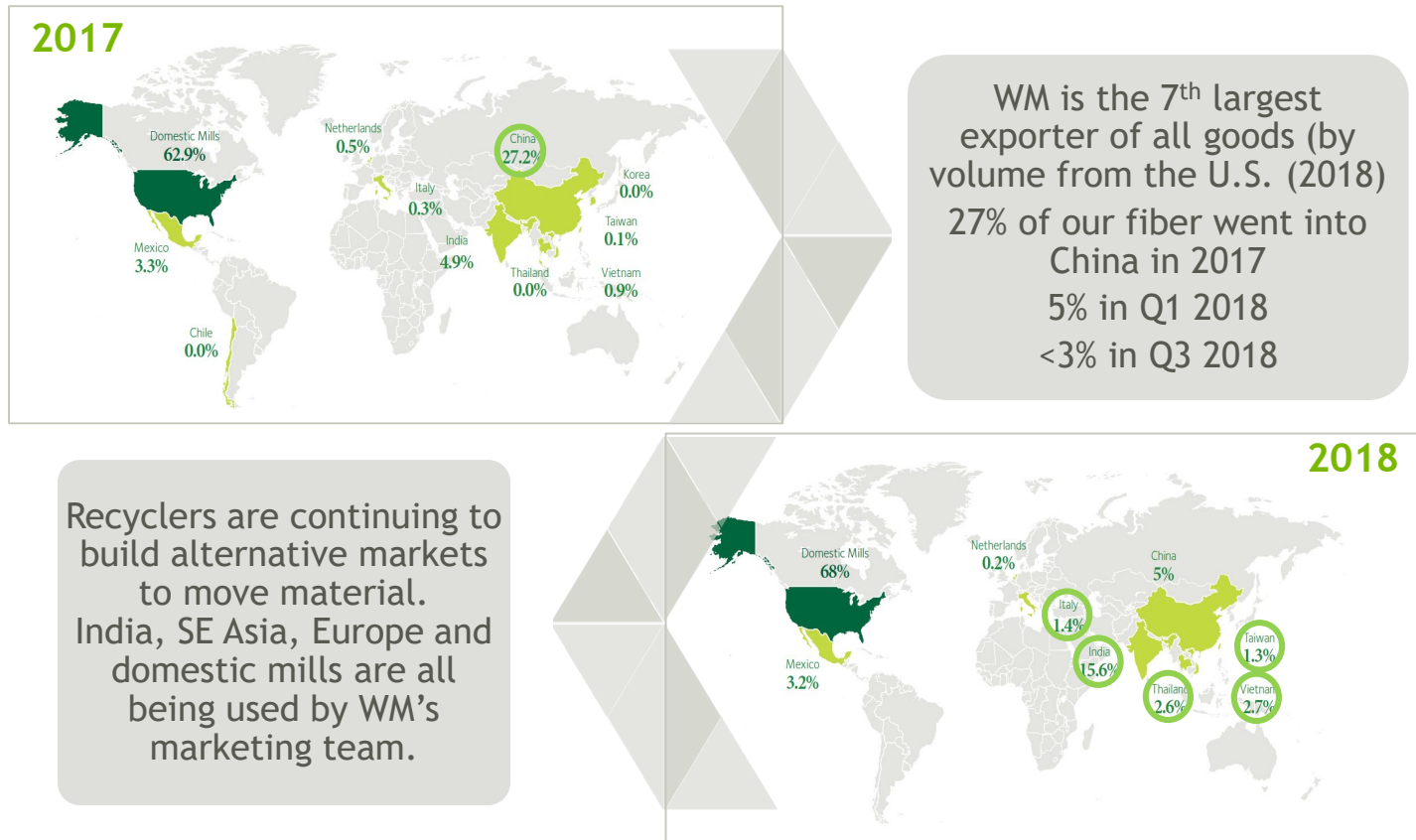
Recycling program cancelled in Broadway

No more curbside pickup in Broadway

RECYCLING PROGRAM DISCONTINUED

Following the Path of Recycled Commodities

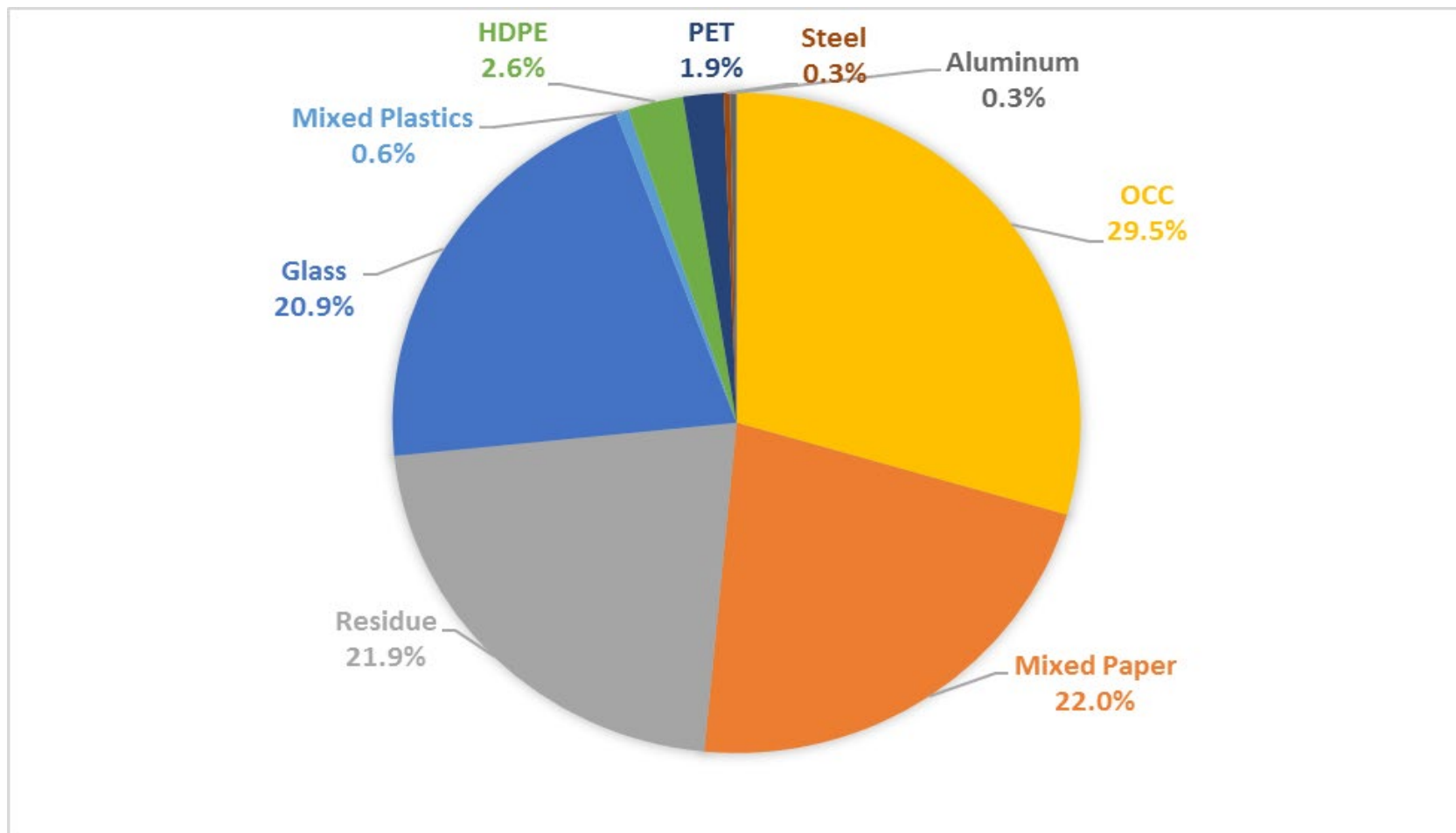
Destination of paper and cardboard recyclables 2017 vs 2018



New markets are also implementing bans/contamination restrictions. It's too early to know what the impacts of the new tariffs will be.

Typical Single Stream Composition

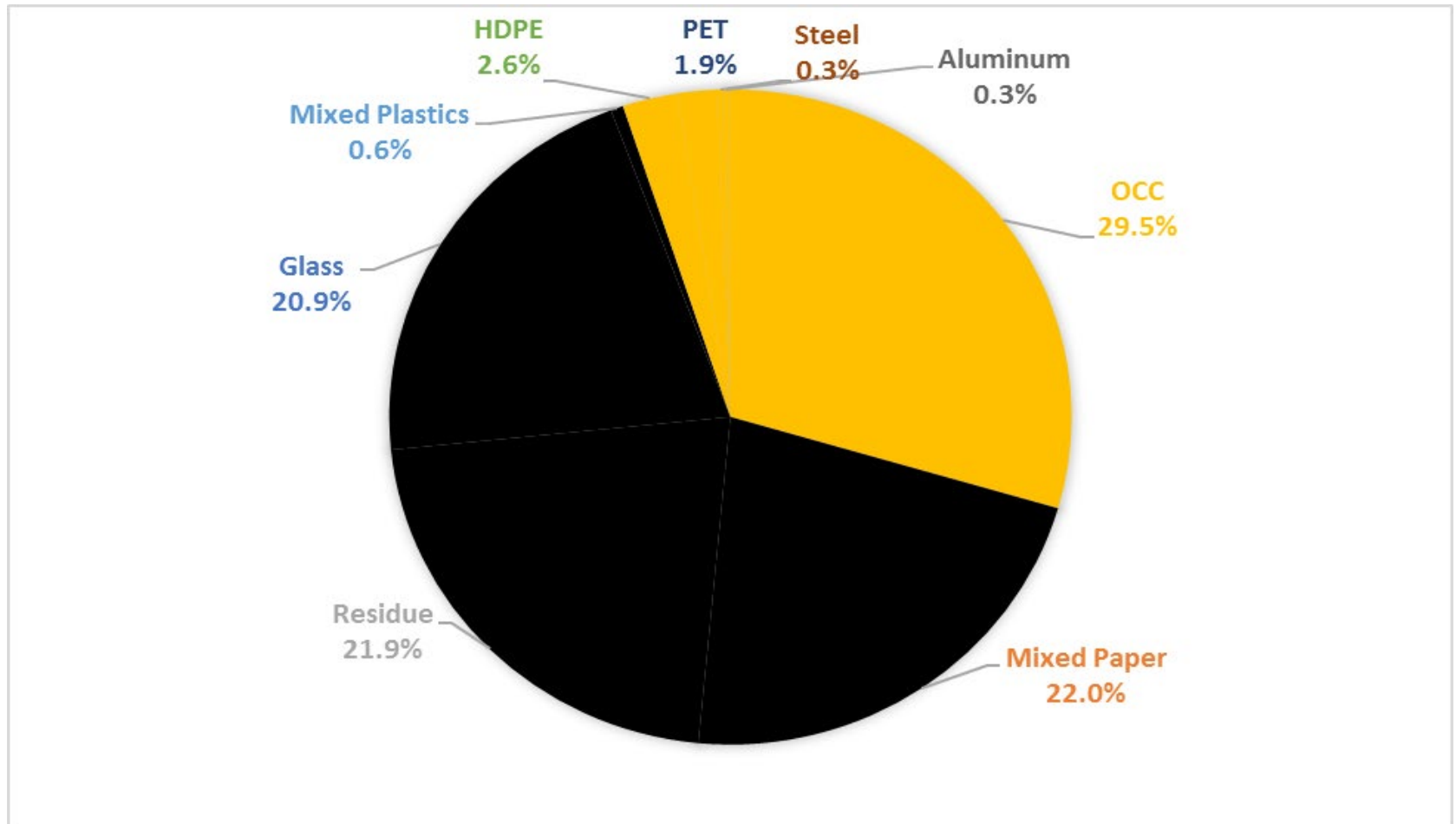
Blended Value down 48% from a year ago



Blended Material value ~\$40/ton today ↓ (\$37.84)/ton or
-48.2% from 2017 to 2018 creating a challenging
economic environment for recyclers and their customers.

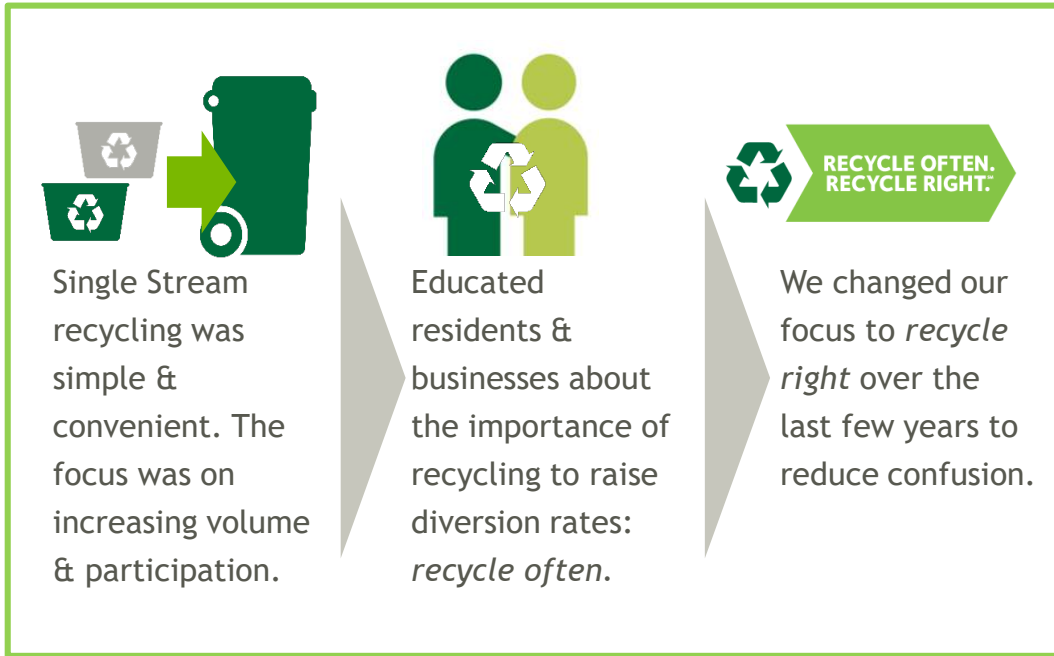
Stream that has positive value

Only 35% of Single Stream Materials have positive value today



- Plastics represents ~5% inbound stream
- OCC curbside growth up 20% from e-commerce

Recycling 2018 - 2019



What hasn't changed:

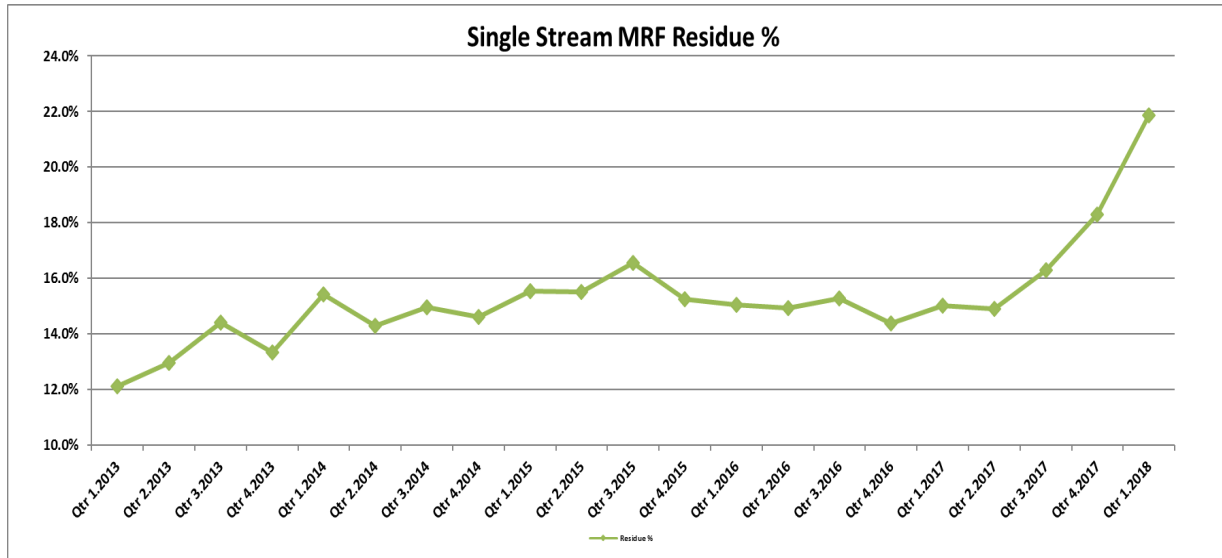
- ✓ People still want to recycle & “do the right thing”
- ✓ Florida has 75% aspirational recycling goal by 2020 but not achievable
- ✓ “The Right Thing” must be reframed - not all materials can be recycled

What has changed:

- ✓ China is enforcing a 0.5% contamination rate and complete ban of mixed paper and mixed plastics
- ✓ Operating costs have increased
- ✓ “Wish-cycling” leads to aspirational recycling



Single Stream Contamination



- Averaging 25% nationwide
- Some cities as high as 40%
- We must eliminate contamination (non-acceptable) materials from the recycling stream







It's time to re-write the recycling playbook

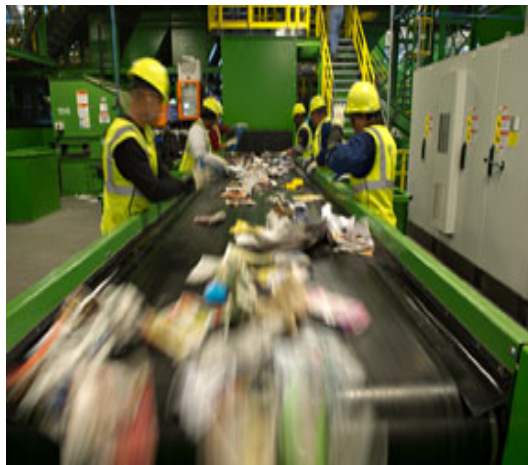
- It is time to rethink/reset recycling programs.
- Which materials offer the best environmental benefit and have an end market?
- Consider waste reduction too.
- Environmental benefits are our goal.



WHY do we recycle and WHAT should we recycle?

Why do we recycle?

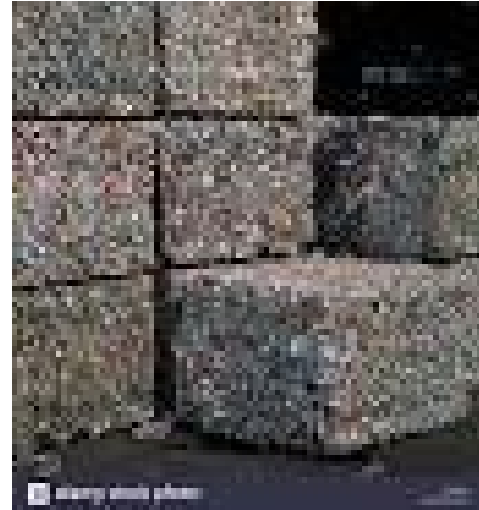
- Recycling conserves resources by **creating secondary feedstocks** for industry
- Conserving virgin resources by substituting recycled feedstocks for raw materials is an recycling environmentally good thing to do
- Recycling makes environmental and business sense when done correctly



Collection is not recycling



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- Recycling doesn't happen until a material displaces virgin resources
- Unless material becomes a feedstock for a new product, it increases cost and environmental burden (and is “trash”)

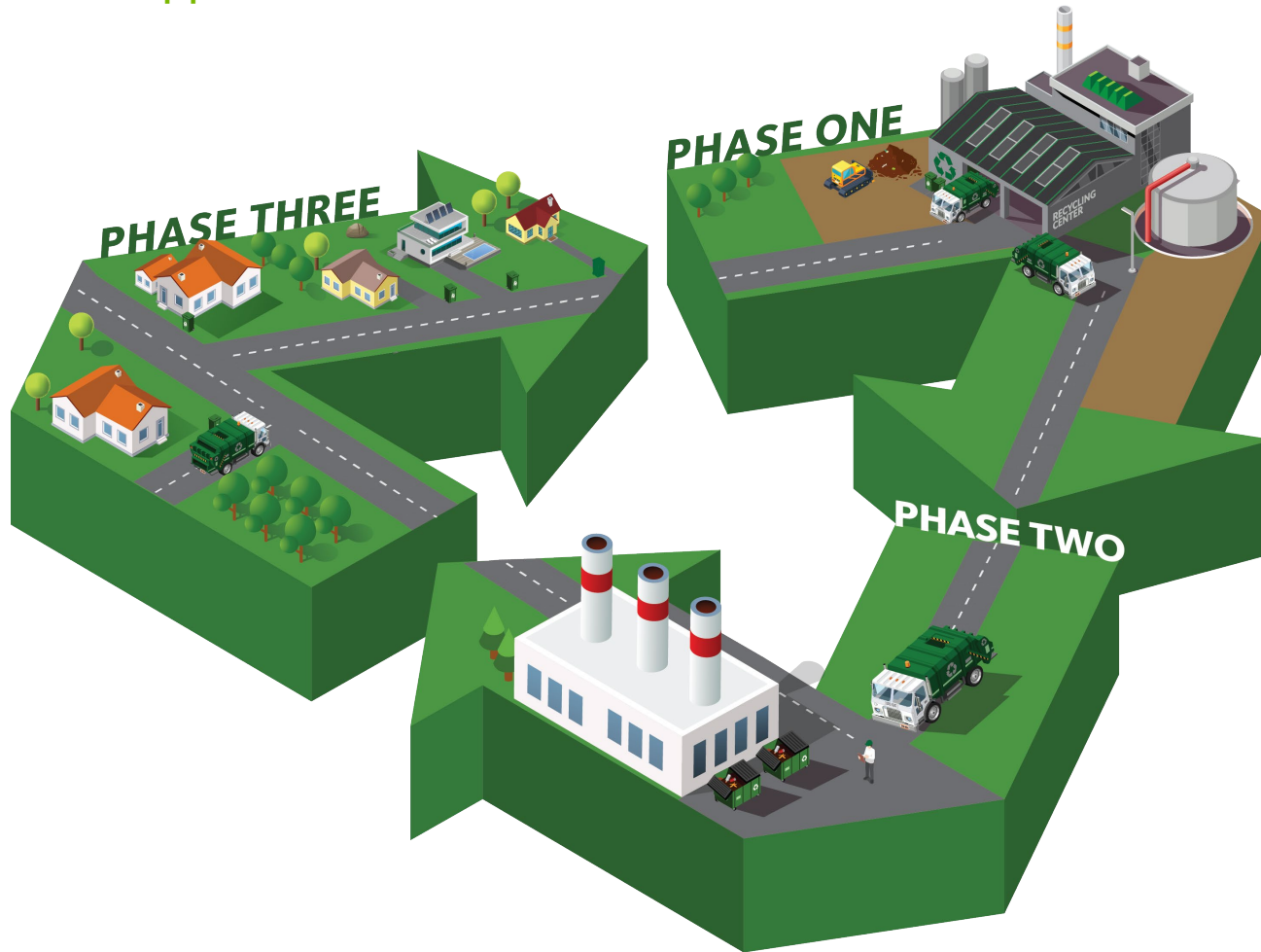
Impact on Material Recovery Facilities

- MRFs expected to recycle curbside materials regardless of end markets.
- Consumers expect “free” recycling. It’s not, it’s a SERVICE.
- Consumers expect whatever they put into their carts to be recycled.
- There is little understanding of technical/economic limits of recycling.
- **Recyclables do not create an environmental or economic benefit until they are sold as commodities and manufactured into products.**



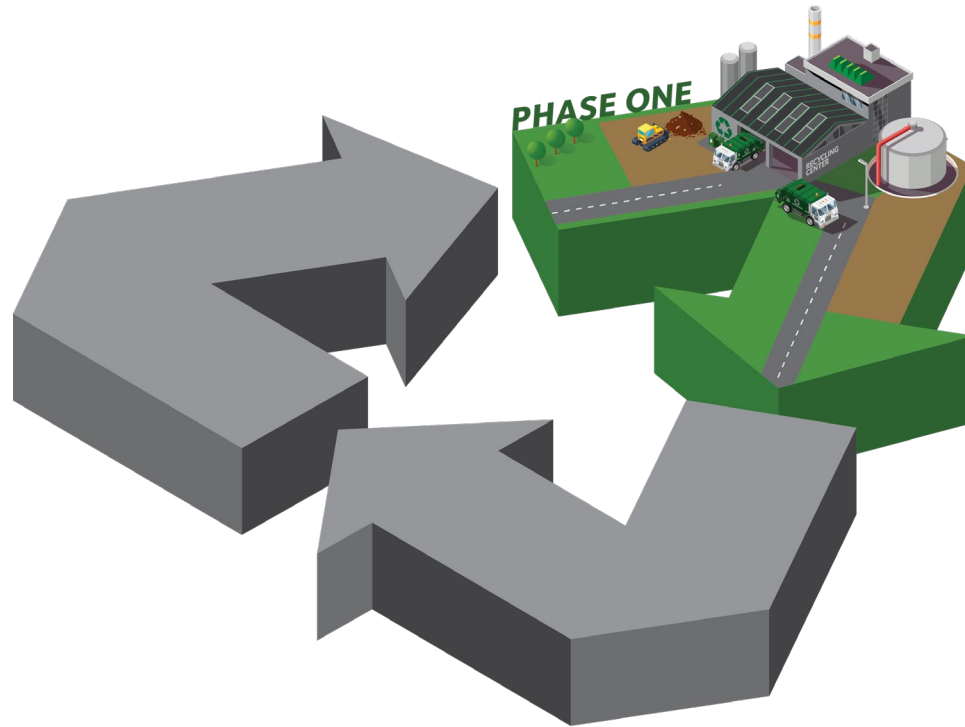
Overview: Battle Against Contamination

Three-Phased Approach



Overview: Battle Against Contamination

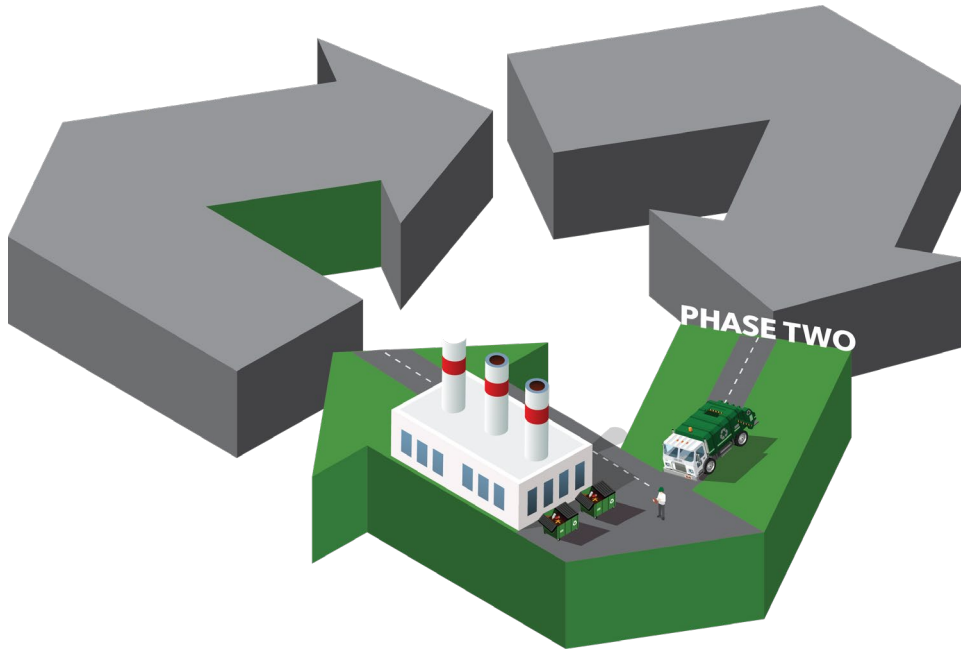
Phase One: Transfer Stations and MRFs



- Monitor and grade inbound material that comes into our MRFs and Transfer Stations
- Charge contamination fees and reject loads when necessary

Overview: Battle Against Contamination

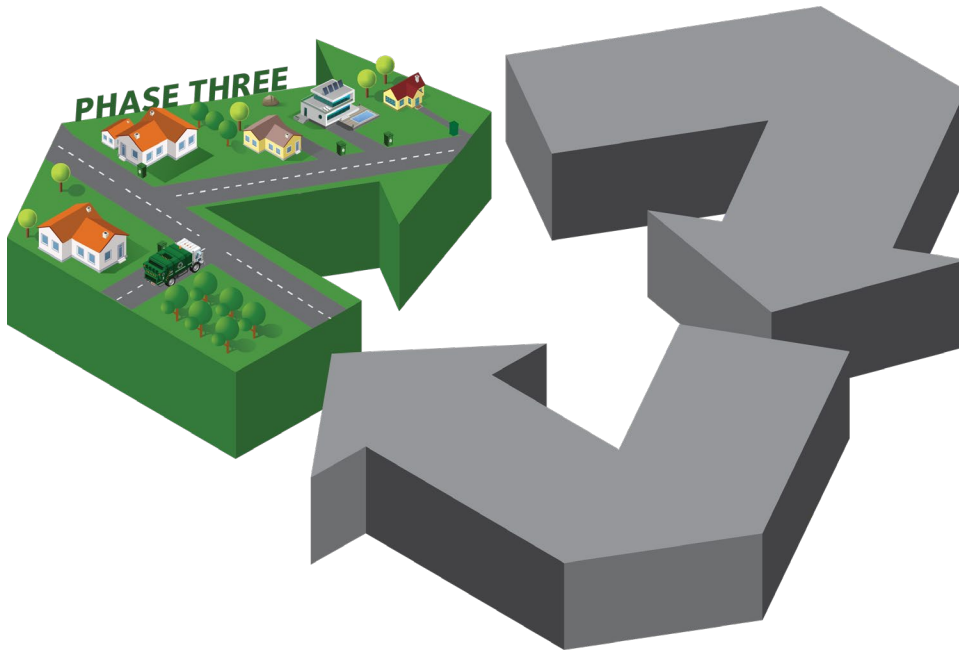
Phase Two: Commercial Recycling



- Prevent contamination in Commercial and Roll-off containers
- Contamination fees per yard (11 - 30%)
- Surcharge at over 30%
- Flat fee for roll-offs/compactors

Overview: Battle Against Contamination

Phase Three: Residential Recycling



- Review existing contracts and recover costs with Residential line of business and Franchises
- Broward County market reset (\$96 per ton processing/charges for contamination)

Contract changes nationwide and in Florida

According to NWRA

- Indianapolis. Rates up 100%.
- Staunton, VA. 16x more
- Stamford, CT. + \$250,000. Now \$700,000 cost.
- West Orange, NJ. 65% increase.

Florida:

- Madeira Beach. 116% increase.
- Winter Haven. 38% increase.
- Largo. 20% increase. + \$300,000. Now \$500,000 cost.
- Recycling suspensions. Deerfield Beach. Now reinstated.
- Recycling to WTE. Sunrise.

Recycling vs Disposal Costs

Remember:

- In most cases, it is still less expensive to recycle (taking into account processing costs and Average Market Value of commodities) rather than dispose of “good” recyclables in a landfill or waste-to-energy facility (tip fees)
- Residents want to, and expect to, recycle
- Businesses want to recycle to meet their sustainability and LEED certification goals

Education

- Simplify recycling education programs
- Educate customers on how to “Recycle Right”
- Waste Management offers the most comprehensive, national education program at www.RORR.com



To Learn More Visit: RecycleOftenRecycleRight.com

#RORR

© 2014 Waste Management. The Recycle Often Recycle Right™ recycling education program was developed based upon national best practices. Please consult your local municipality for their acceptable materials and additional details of local programs, which may differ slightly.



WHY Recycle?



Plastic bottles
can turn
into clothing



Aluminum cans
can turn into new
ones in 60 days



Today's news
can become a
new cereal box

How to Recycle:



Recycle all bottles,
cans and paper



Keep items clean
and dry

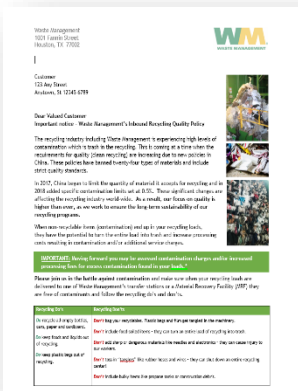


No plastic bags

THINK GREEN®

Customer Communication

Reinforce the quality message at every step



3rd Party MRF
Customer
Letter



MRF Worker Quick Reference Job Aid



Scale house/Break Room
Poster

The Recycling Rules Have Changed

Contaminants like plastic bags, textiles, food, & liquids are wreaking havoc on our recycling system. We need your help! Follow the three rules at right & visit www.RORR/resources/for-business for tips & tools to eliminate contamination & recycle right.

1. Recycle all empty plastic bottles, cans, paper and cardboard.
2. Keep food and liquids out of the recycling.
3. Empty recyclables directly into your cart - NO bagged recyclables.



THINK GREEN®

FDEP - FloridaRecycles.org program

Underwritten by Waste Management, Waste Connections, MARPAN and Single-Stream Recyclers LLC

Back To The Basics

Focus on recycling these items in your home curbside bin:

Aluminum
& Steel Cans



Plastic
Bottles & Jugs



Cardboard
& Paper



When in doubt – throw it out!

rethink. reset.
recycle.
FloridaRecycles.org

Final Thoughts: What Can You Do?



MARKETS

- As an country we can no longer depend on China.
- Identify other global markets; grow demand by encouraging use of recycled content domestically.
- Review recycling programs. A material is NOT recyclable if it does not have an end market.
- Educate decision makers that sustainable recycling requires strong end markets.

CONTAMINATION

- All market customers will demand higher quality material. We can and must work together to improve Quality and Eliminate Contamination.

Final Thoughts: What Can You Do?



EDUCATION

- Focus on robust, simple, “back to basics” education.
- Review county/city websites, social media, and outreach programs.
- Strongly consider enforcement programs. Cart tagging. Fines. Cart removal.

TEAMWORK

- We need to partner and lead. Reduce. Reuse. Recycle.
- Let’s work together to ensure recycling is both environmentally and economically sustainable in the future.

Final Thoughts: What Can You Do?



LEGISLATION

- 2018 - House Bill 1149 addressed recycling contamination.
- Bill drafted with input from Florida League of Cities and Florida Association of Counties.
- Passed Florida House & Senate.
- Vetoed by Governor (per another part of the Environmental Bill).
- Reintroduce in 2019.

Waste Management Remains Committed to Recycling



WM is a committed partner, creating shared value & long-term solutions for our customers



WM is the only company that has invested in a national, comprehensive, turn-key education program



WM provides security, stability and peace of mind



WM is committed to single-stream recycling and improving its sustainability for customers

Thank you

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