

FLC Fall Research Symposium

Reassessing Recycling: Balancing Market Challenges & Citizen Expectations

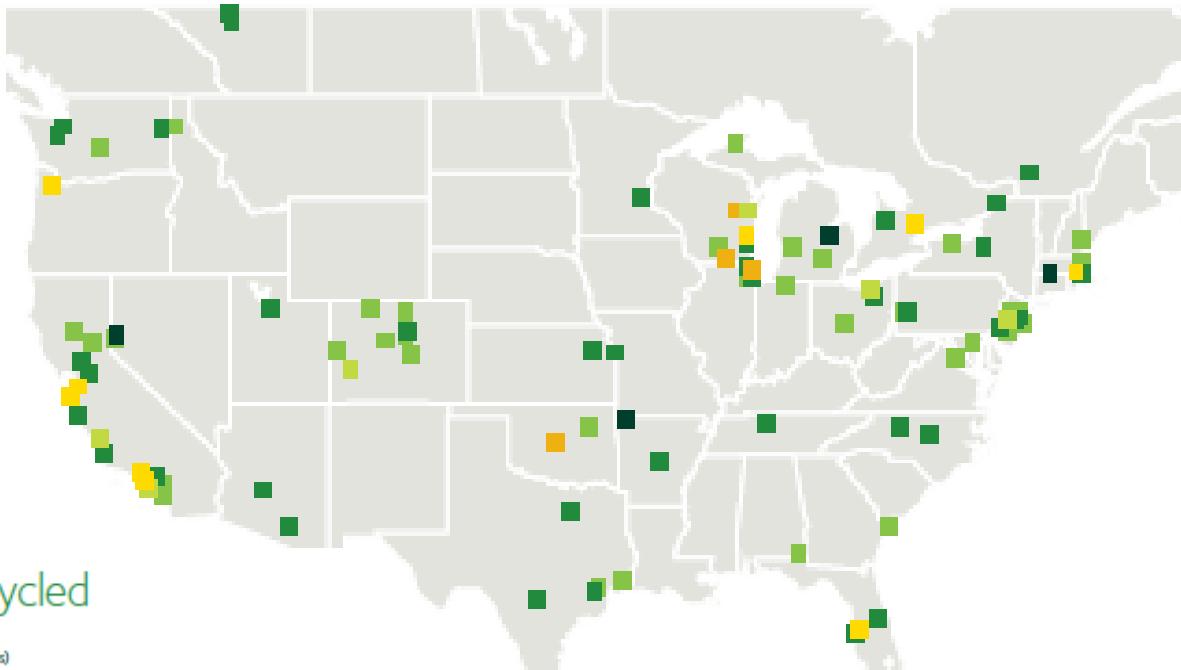
Dawn McCormick

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
By Jeff Dickey
China is taking down on pads and turbines they can't fit in demand for commodities market.
From decades of industrialization, China has become one of the greatest polluters, surpassing the United States.
Photo: AP Photo/Mark Schiefelbein

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
By Peter McGuire
Ecomaine, which serves Broward and Palm Beach counties, says it may start charging customers for trash混装.

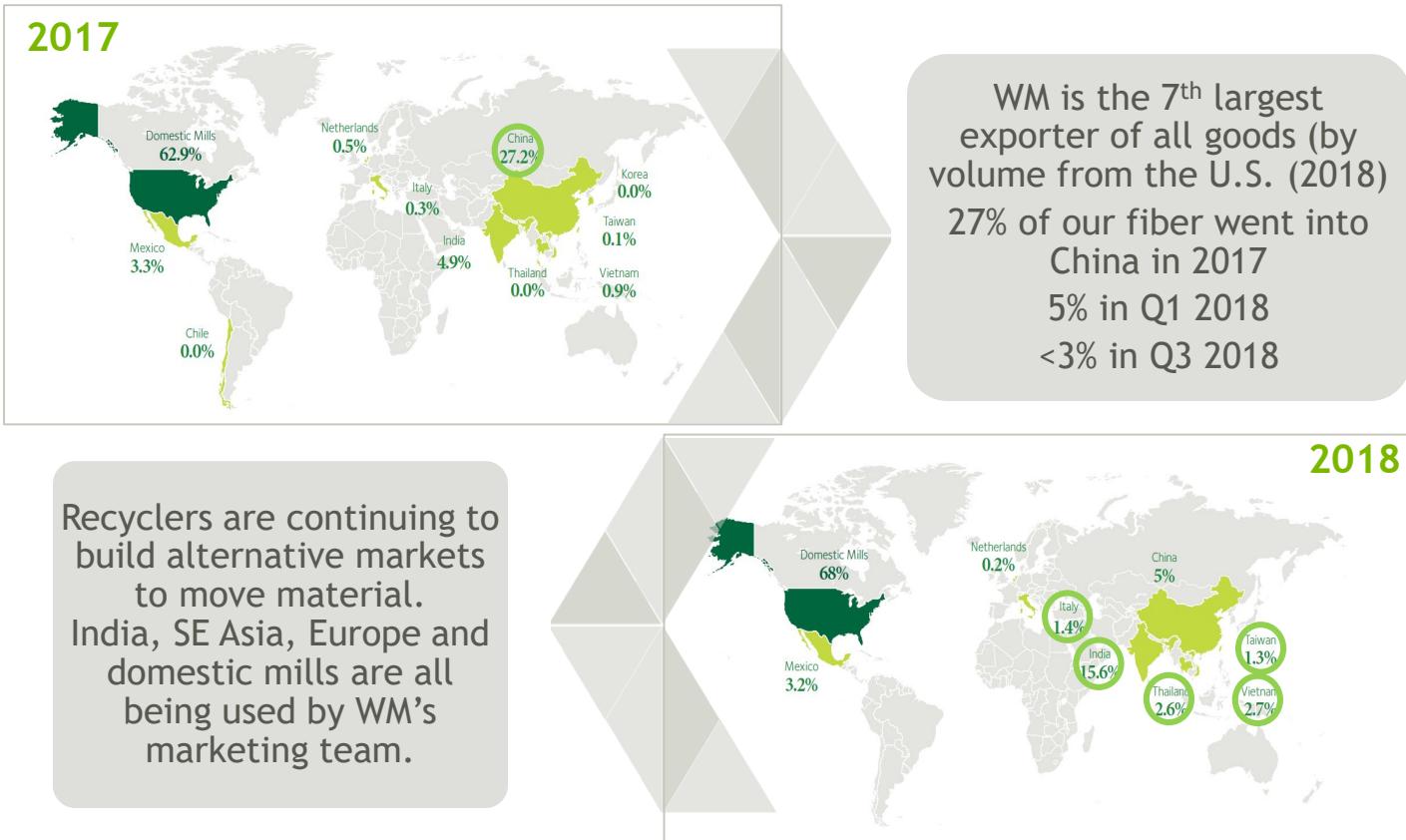
Recycling is in trouble — and it might be your fault
Paul Singer, USA TODAY
Published 2:22 p.m. ET April 20, 2017 | Updated 2:34 p.m. ET April 26, 2017

Recycling program cancelled in Broadway
No more curbside pickup in Broadway

RECYCLING PROGRAM DISCONTINUED
BROADWAY

Following the Path of Recycled Commodities

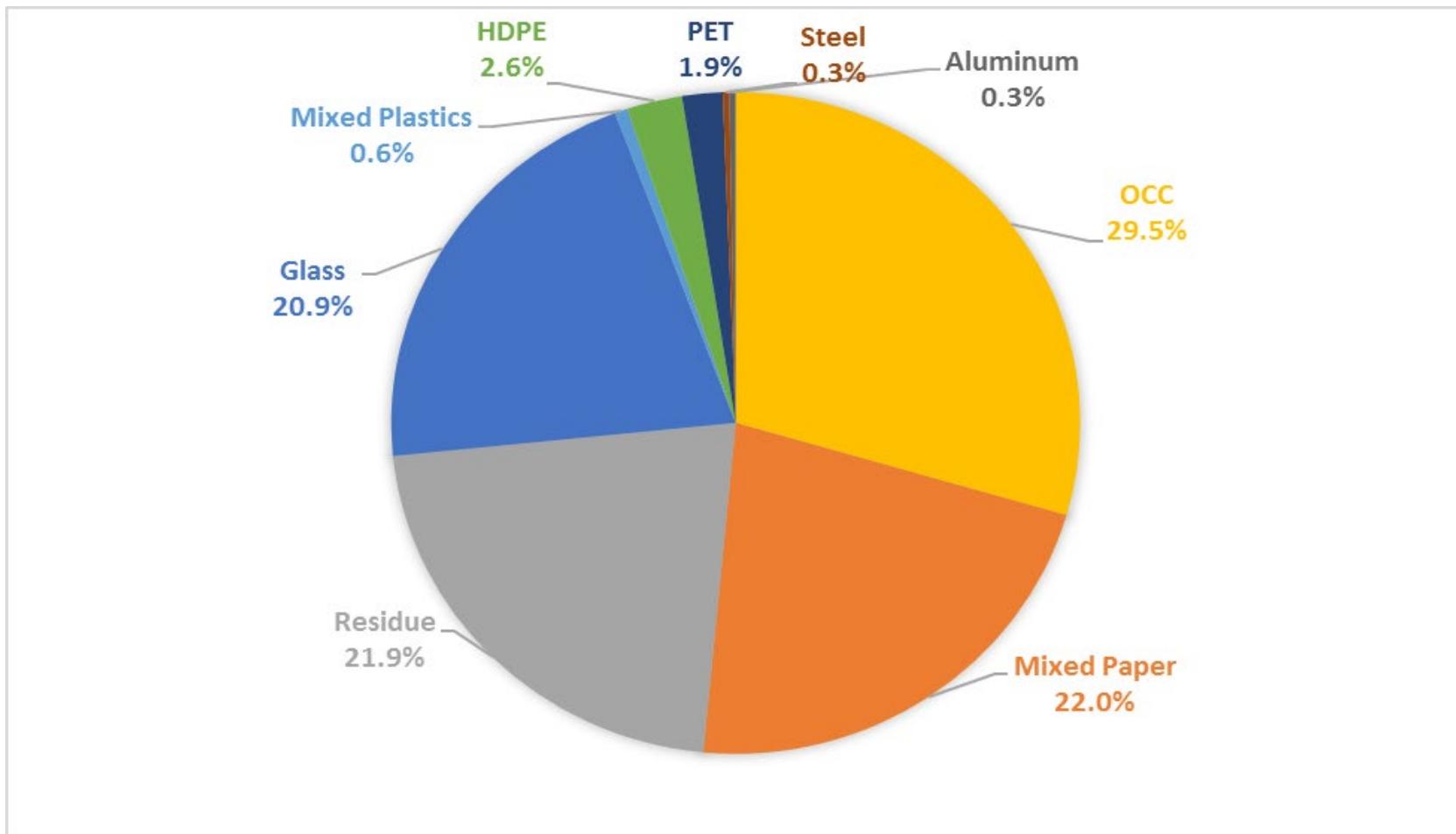
Destination of paper and cardboard recyclables 2017 vs 2018



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

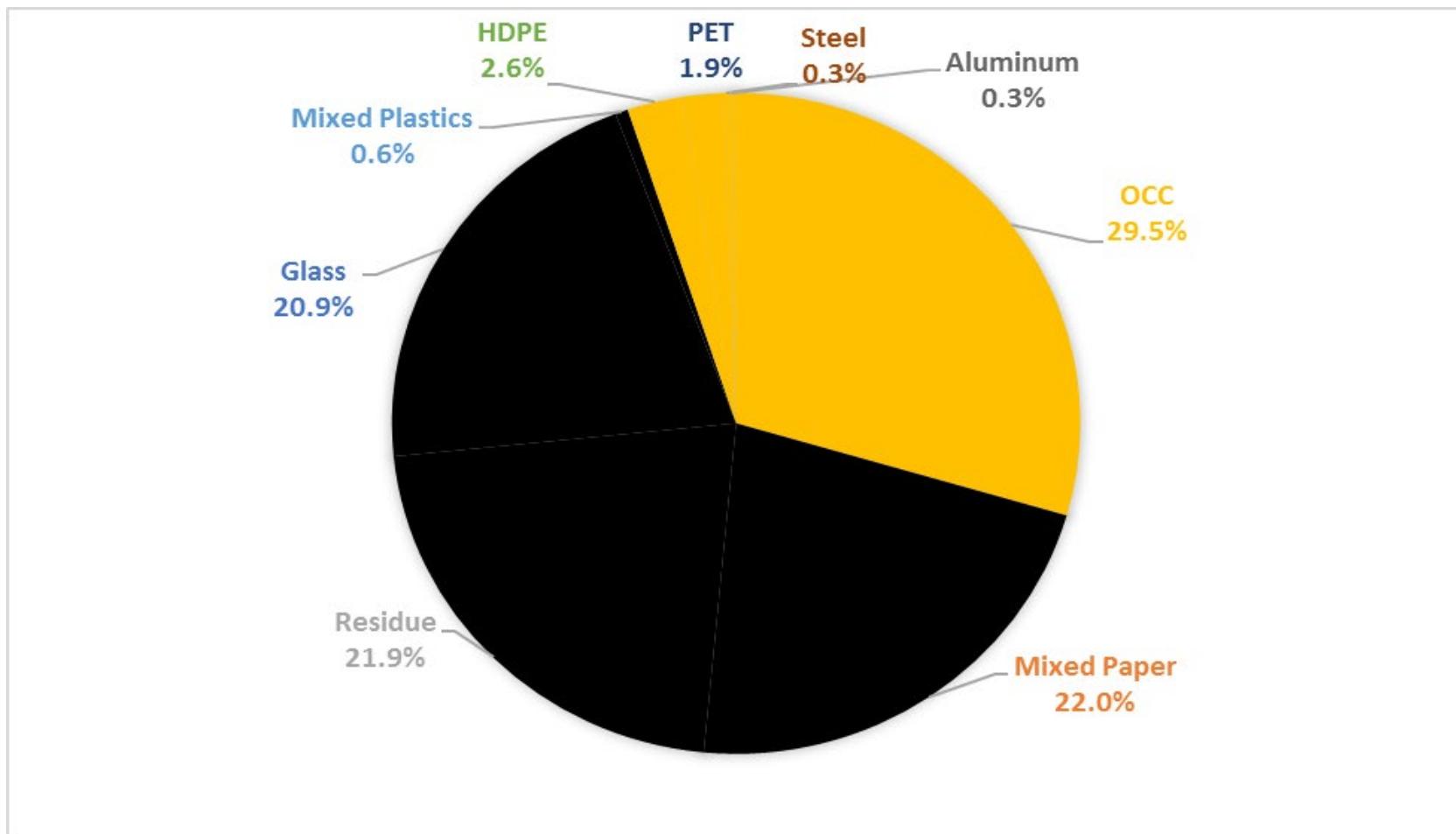
Blended Value down 48% from a year ago



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



Single Stream recycling was simple & convenient. The focus was on increasing volume & participation.



Educated residents & businesses about the importance of recycling to raise diversion rates: *recycle often.*



We changed our focus to *recycle right* over the last few years to reduce confusion.

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



1 in 4 items placed in a recycling cart is not recyclable!

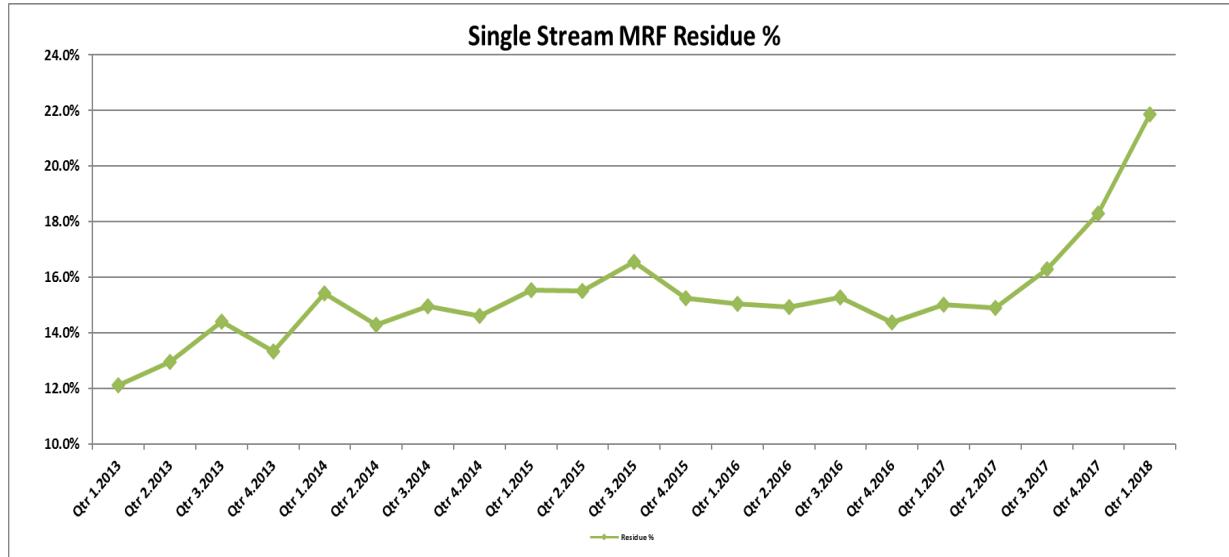


% Contamination
Enforced by China



Avg. Contamination %
in Our MRFs

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

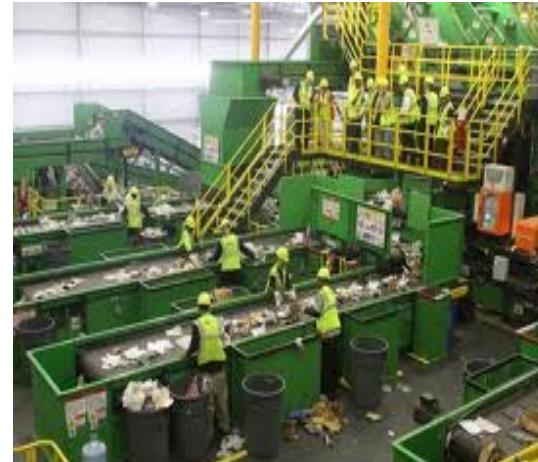
- It is time to rethink/reset recycling programs.
- Which materials offer the best environmental benefit and have an end market?
- Consider waste reduction too.
- Environmental benefits are our goal.



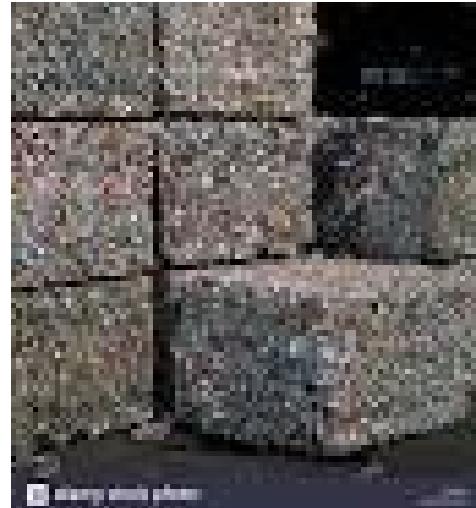
WHY do we recycle and WHAT should we recycle?

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



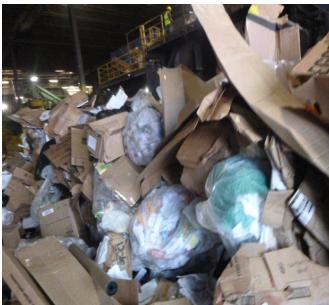
Collection is not recycling



- 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”)

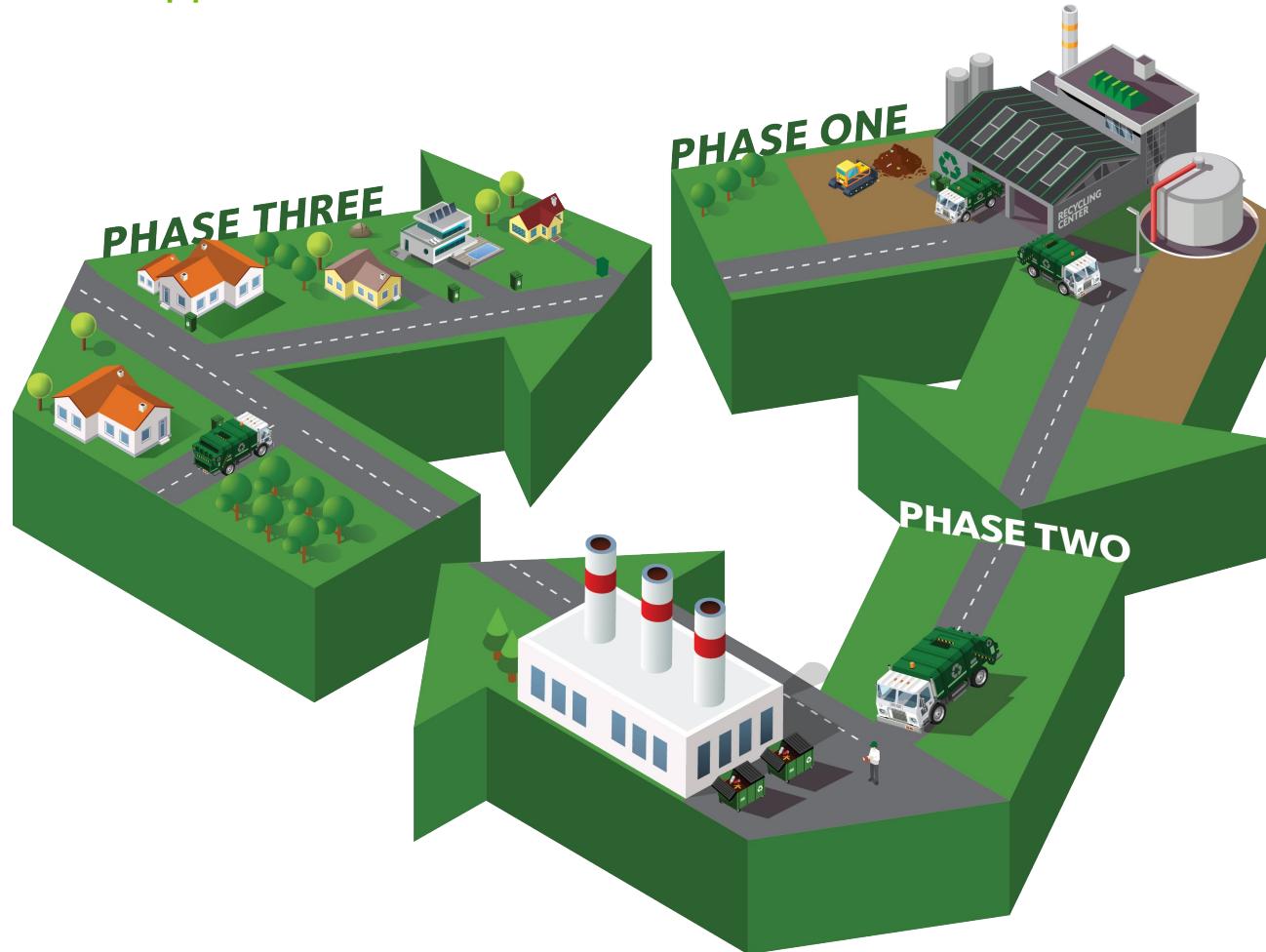
Impact on Material Recovery Facilities

- 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.**



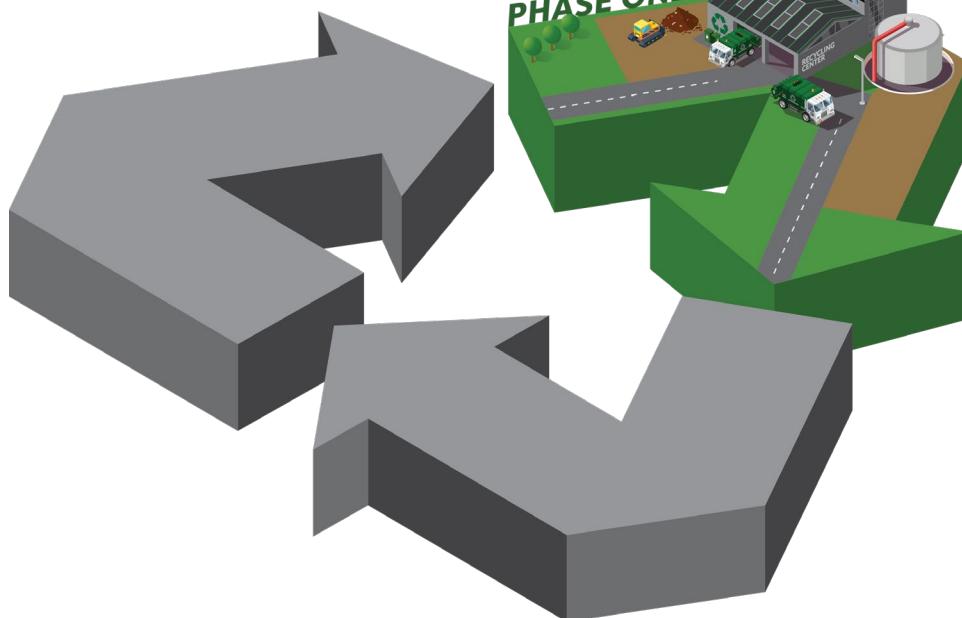
Overview: Battle Against Contamination

Three-Phased Approach



Overview: Battle Against Contamination

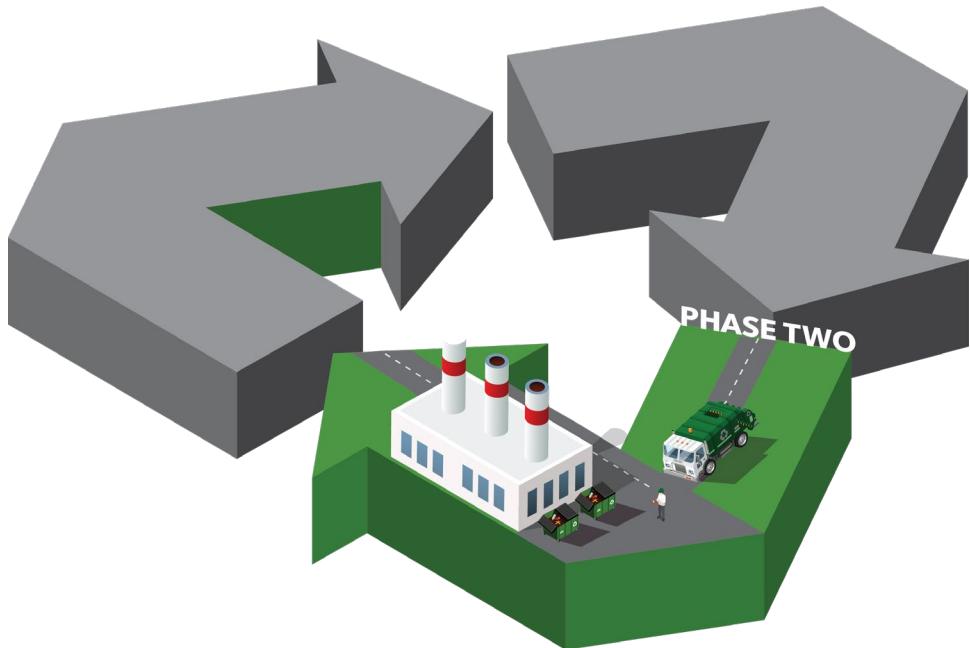
Phase One: Transfer Stations and MRFs



- 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

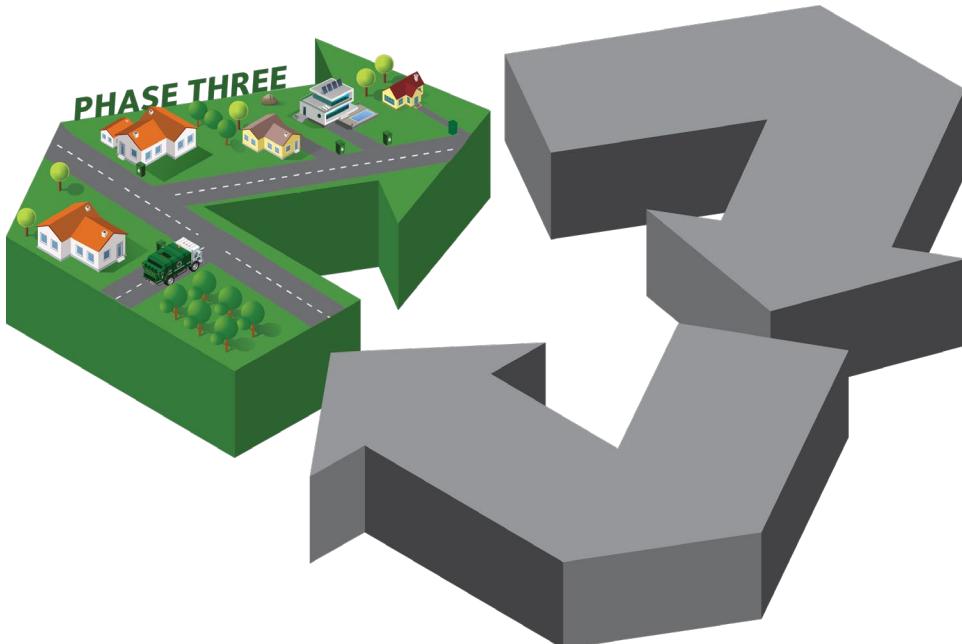
Phase Two: Commercial Recycling



- 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

Customer Communication

Reinforce the quality message at every step



Waste Management
1000 West Sam M. Maceo Drive
Houston, TX 77002

Customer
223 Main Street
Arlington, TX 76014-3793

Dear Market Customer
Market Segment: Waste Management's Advanced Recycling Quality Policy

The recycling industry, including Waste Management, is experiencing high levels of contamination which is leading to the recycling. This is costing us a lot of time and money for quality control, resulting in increasing costs due to inefficiencies in the stream. These inefficiencies are negatively impacting our strict quality standards.

Waste Management is committed to the quality of material it receives. In the recycling industry, 2018 called for significant improvements in the quality of materials accepted by recyclers, affecting the recycling industry world-wide. As a result, our focus has shifted to reduce contamination and increase the quality of materials accepted by recyclers.

When you're available, please participate and do your part to keep our recycling streams strong in contamination and our additional service charges resulting in contamination and/or additional service charges.

IMPORTANT: Having several bins for your seasonal contamination charges will be discontinued. Please join us in the battle against contamination and make sure that your recycling stream is delivered to one of Waste Management's Transfer Stations or a Material Recovery Facility (MRF). If you are not sure where to drop off your recycling, contact us for more details.

CONTAMINATION

It's really that simple, folks, just don't contaminate. Please join us in the battle against contamination and make sure that your recycling stream is delivered to one of Waste Management's Transfer Stations or a Material Recovery Facility (MRF). If you are not sure where to drop off your recycling, contact us for more details.

THREE RULES

Recyclable items are recyclable. Please join us in the battle against contamination and make sure that your recycling stream is delivered to one of Waste Management's Transfer Stations or a Material Recovery Facility (MRF). If you are not sure where to drop off your recycling, contact us for more details.

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Waste Management
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Quick Reference Guide: What is Recyclable?

Contamination is an economic, operational, and safety issue in our MRFs. We need your help! In your position, you play a key role in helping us reduce contamination in the MRF. It's critical that we improve the inbound quality of the recycling stream, enforce grading, and educate our customers about what is recyclable. Use this reference guide to identify acceptable recyclables from contain items that should be removed.

ACCEPTABLE

PLASTIC BOTTLES AND CONTAINERS	CARDBOARD	NEWSPAPER & INSERTS
Plastic bottles, containers, lids, natural/color plastic containers	Cardboard	Newspaper & inserts
MAGAZINES & CATALOGS	PHONE BOOKS	OFFICE PAPER
FOOD & BEVERAGE CARTONS	JUNK MAIL	BROWN PAPER BAGS
Glass food & beverage containers	ALUMINUM CANS	METAL FOOD & BEVERAGE CONTAINERS

THINK GREEN!

3rd Party MRF

Customer Letter

MRF Worker Quick Reference Job Aid

Quick Reference Guide: What is NOT recyclable

NON-ACCEPTABLE = CONTAMINATION

SACKED RECYCLABLES	LOOSE PLASTIC BAGS	FOOD WASTE AND LIQUIDS
Foam products	Thick plastic bags, holiday lights, wires, hangers	Medical waste
YARD WASTE	Textiles	Electronic waste (TV, batteries, bulbs)
WOOD	Propane tanks & tires	Scrap metal

THINK GREEN!

RECYCLE OFTEN. RECYCLE RIGHT.

WM
WASTE MANAGEMENT

BATTLE AGAINST CONTAMINATION
Know your role and own it!

We need your help to reduce inbound contamination and clean up the recycling stream.

Remember these three rules each time you recycle:

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

Cleaning up the recycling stream and changing behavior will require all of us to be consistent in our messaging and enforcement strategies. Let's get started!

To Learn More Visit RecycleOftenRecycleRight.com
#RORR
© 2018 Waste Management Holdings, LLC #recycle101

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

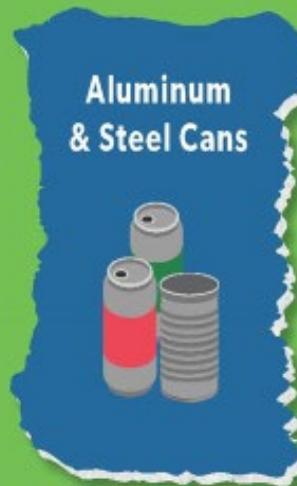
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FDEP - FloridaRecycles.org program

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

Back To The Basics

Focus on recycling these items
in your home curbside bin:



When in doubt – **throw it out!**

rethink. reset.
recycle.
FloridaRecycles.org

WM
WASTE MANAGEMENT®

THINK GREEN®

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

Dawn McCormick
954-984-2041
dmccormick@wm.com