Global trends and their impact on local recycling programs

Virginia Bar Association - 2019

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China's new import policies are changing recycling

- China consumed 50% of all paper and plastic recycled in the world
- 13.2 millions tons per year of recyclables are now competing for alternative markets.
- Mixed Paper and Mixed Plastics are banned from import into China. The 0.5% contamination limit on all other recyclables makes it difficult to sell into China
- China will ban all imports by 2020

Reduced overall demand, supply surplus, increased quality requirements = increased processing cost and low commodity values for paper

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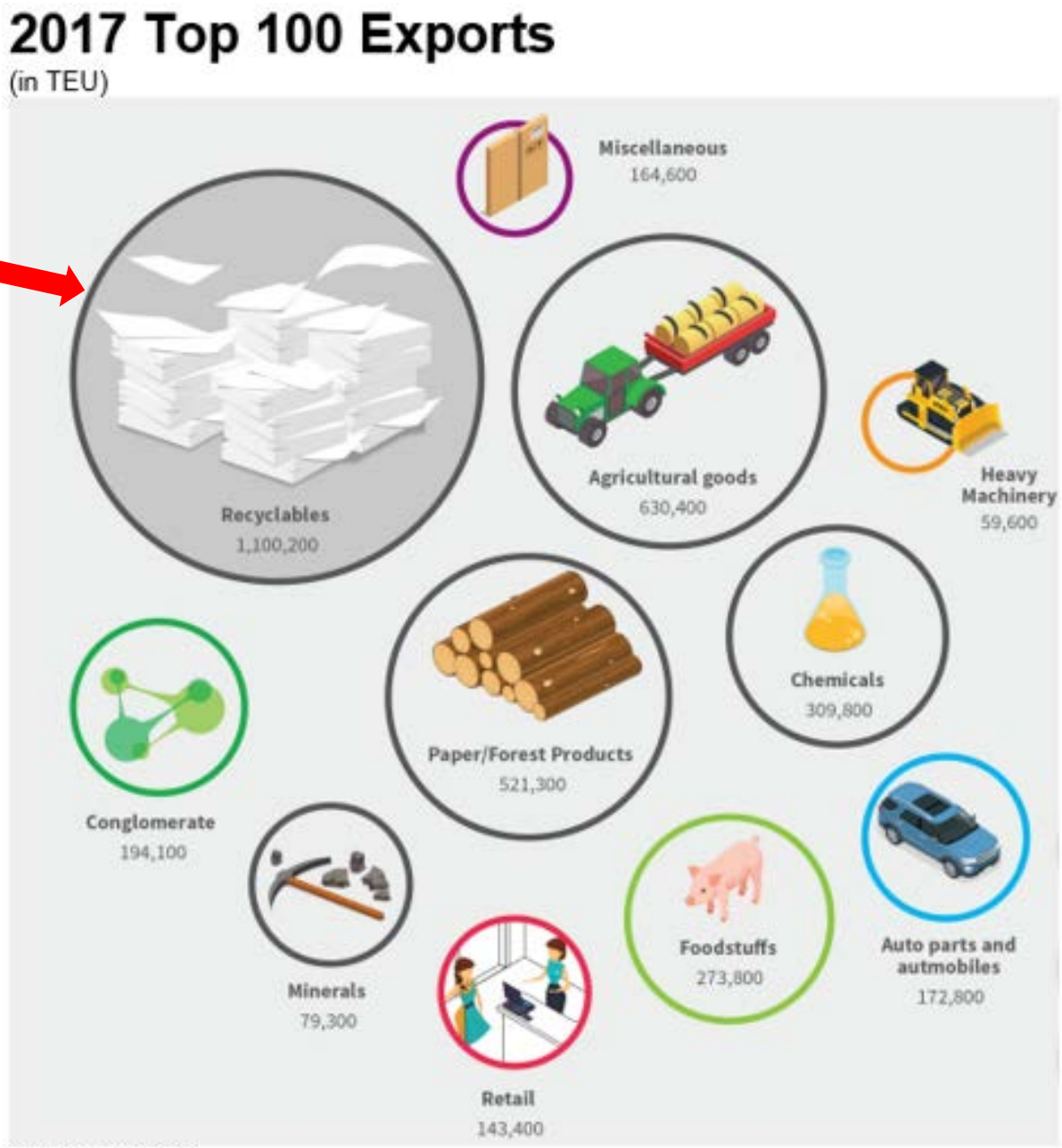
Top Ten U.S. Exports

- Recyclables are the largest U.S export item by volume
- The U.S. is impacted by trade interruptions with its investment in the recycling industry and other products
- We continue to export large volumes, but the end markets are changing



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WM is the 7th largest exporter of all goods (by volume from the U.S. (2018)

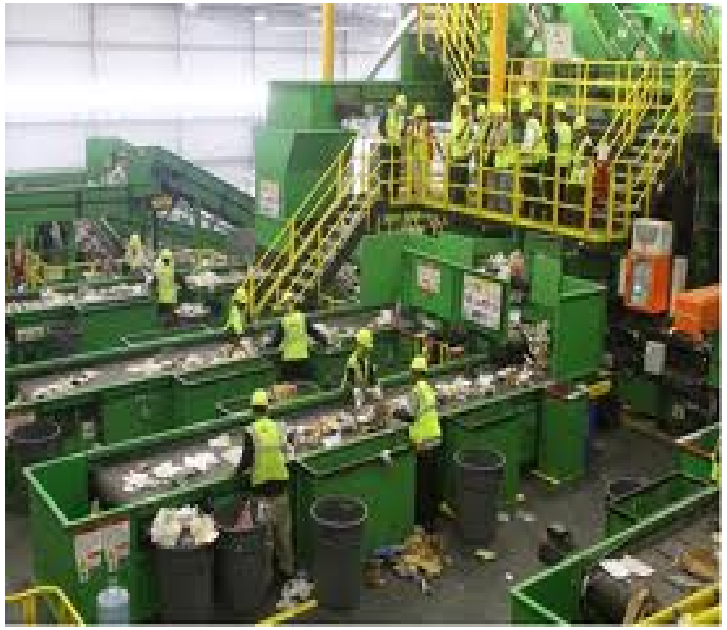
27% of our fiber went into China in 2017

<3% in Q3 2018

WM is no longer exporting any residential plastics

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 environmentally good thing to do
- Recycling makes business sense when done correctly



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Collection is not recycling

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- Recycling doesn't happen until a material displaces virgin resources
- Unless materials becomes a feedstock for a new product, it increases cost and environmental burden.

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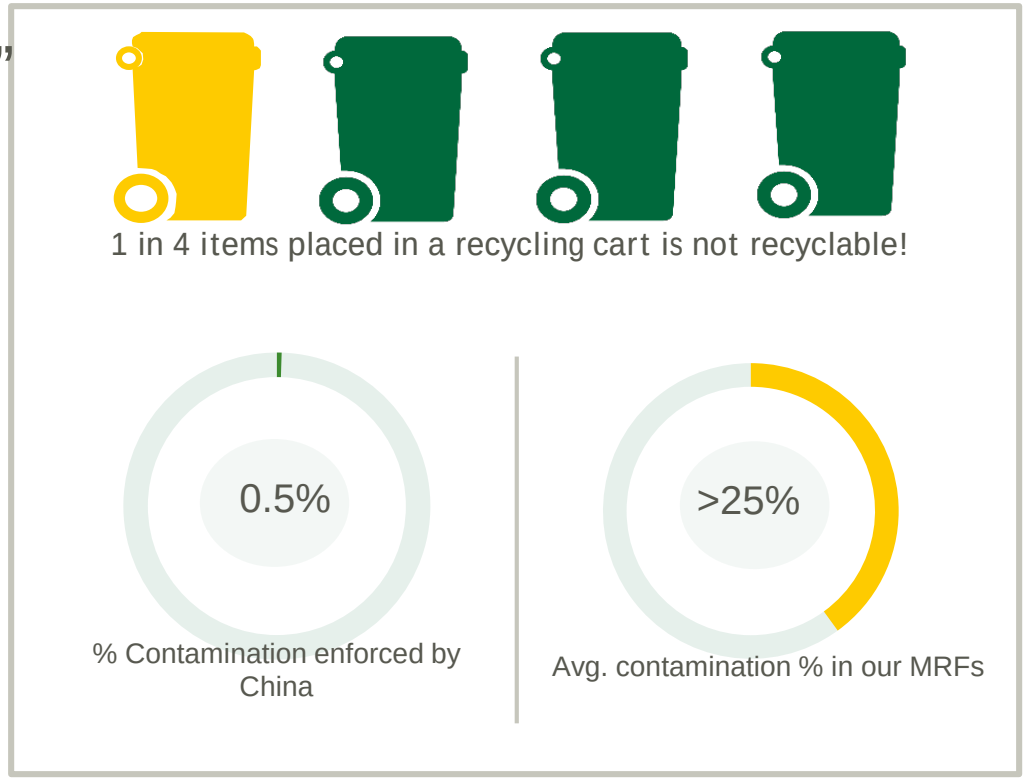
Recycling in September of 2018

What hasn't changed:

- ✓People want to recycle & "do the right thing"
- ✓States & local government have established recycling bans, goals & mandates

What has changed:

- ✓ Markets for Mixed Paper and Mixed Plastics are limited
- ✓ Quality requirements are strict
- ✓ Operating costs have increased
- ✓ Recycling to provide feedstock for new products has devolved to aspirational, "feel good" recycling.



Every ton of material collected includes ~450 lbs of contaminates; markets expect <10 lbs

The "Right Thing" must be reframed.
We must recycle those materials that can be made into new products.

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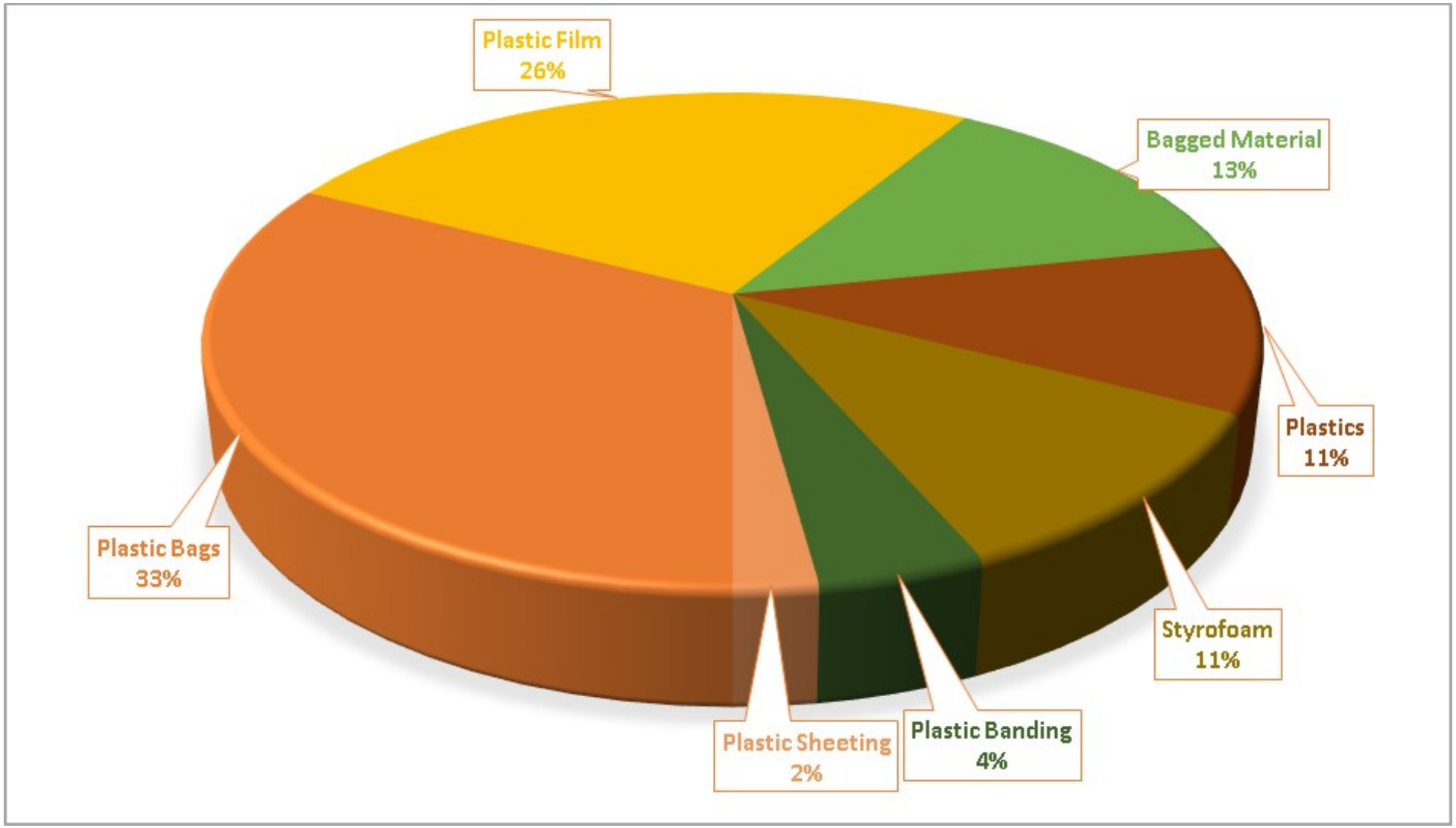
2019 Recycling Facility Manager Results

What are the top 3 most problematic contaminants received at your MRF? – Plastics Deep Dive



This is not recycling

- We spend 140K hours each year cleaning plastic bags, hoses, and Christmas tree lights out of screens
- Our recycling plants received over 28,000 lbs of batteries last year. They are the largest source of fires
- Over 5,000 bowling balls are collected in recycling programs each year. That is 82 tons of bowling balls.

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2019 MRF Survey Results

Top 10 most interesting pieces of contamination received at our MRFs?

10. Mannequin from Target

9. Tennis net and rackets

8. Black bear carcass

7. Radioactive tissue inside a tin can

6. Live 6 ft ball python

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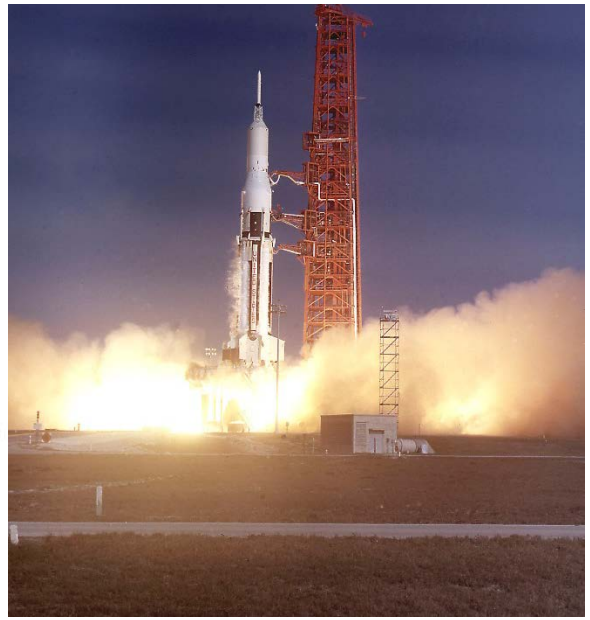
2019 MRF Survey Results

Top 10 most interesting pieces of contamination received at our MRFs?

5. Grenade Launcher

4. Marijuana

3. Bolt on booster rocket engine for the 50's



2. WWI Helmet

1. Tombstones

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It’s time to re-write the recycling playbook

- It is time to **rethink/reset** recycling programs.
- Which materials offer the best bang for the buck?
- As the cost of recycling increases, should we be looking more closely at the benefits of waste reduction?
- Environmental benefits are our goal

WHY do we recycle and WHAT should we recycle?

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The Changing Waste Stream: Challenging our paradigms about packaging

E-Commerce:
More smaller cardboard in residential curbside recycling programs

Changes in Packaging:
Non-recyclable packaging replaces recyclable packaging

Lightweighting:
Increases processing cost, reduces MRF revenue. Contributes to stagnant recycling rate

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Summary

- We are at a decision point for many of our recycling programs. This offers an opportunity to use science and data to prioritize our efforts for the best environmental results.
- Prioritizing materials in our programs allows for more focused education, reduced cost and optimized value - all while maximizing environmental benefits.
- It's time to change customer attitudes and behavior:

Reduction first!
Recycle paper, cardboard, bottles & cans

- Recycling is one tool in the tool box. Recycling more stuff is not the goal. Reducing the environmental impacts of the materials we manage is the goal. It's time to think bigger, and more broadly about the environment.

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Thank you!

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