

A Moving Target

Practical Implications of Packaging Design on MRF Operations

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Sarah Reeves' Definition of Recyclable because It's My Presentation and I Can

A material is recyclable IF:

- ▶ The material can be collected, AND
- ▶ Can be received at a Material Recovery Facility for sorting, AND
- ▶ In the quantity desired, AND
- ▶ In the quality required, AND
- ▶ When there is a customer who wants the material PROVIDED THAT
- ▶ The sorted materials can be transported to the customer.

The State of the MRF

- ▶ Materials Recovery (Recycling) Facility—MRF
- ▶ No new dual-stream MRFs built since at least 2000
- ▶ Equipment and physical plant investments run in the millions of dollars due to high use of automation and technology
 - ▶ Requires significant throughput (TPH) to justify investment
 - ▶ Lightweighting means higher volume needed to meet higher TPH
 - ▶ Higher TPH means larger physical plant
- ▶ Commodities market is global, not regional
- ▶ Packaging SOP sorts for the Big Five:
 - ▶ PET, HDPE-Nat, HDPE-Col, UBC, Glass (although, this may change)

We *LOVE* Packaging! (mostly)



Moving Targets

- ▶ What's the Next Big Thing?
- ▶ When is the Next Big Thing coming?
- ▶ They want us to sort WHAT?
- ▶ Who thought THAT would work?
- ▶ I can't sell that....
- ▶ Why weren't we asked?
- ▶ When will we be done?

What are we supposed to do with these?



Too Many Cooks?

Intersections between Policy decisions and Design decisions

- ▶ State and Local Policy Decisions
 - ▶ EPR/Product Stewardship: hope that policy mandates will lead to design for the environment
 - ▶ No national standard for what constitutes mandatory recyclables
 - ▶ Diversion mandates (not universal)
 - ▶ Landfill bans (not universal)
- ▶ Design Decisions
 - ▶ Corporate goals to meet

Missing from the Discussions-the MRFs

- ▶ Sorting technologies and capabilities
- ▶ Implications at the local level regarding public education
- ▶ Market forces
- ▶ Regional differences in recycling capability and access
- ▶ Definition of “Recyclable”
 - ▶ *“Forget the numbers and the triangle”*

Policy Directions

- ▶ Sustainable Materials Management
- ▶ EPR/Product Stewardship
- ▶ Regulatory Reform
- ▶ Economic Development
- ▶ Public-Private Partnerships
- ▶ Responsible Use of Taxpayer Dollars

Packaging Pressures

Must Haves:

- ▶ Preserve and protect the product contained by the packaging
- ▶ Brand identity
- ▶ Maintain/grow market share
- ▶ Reduce material and transportation costs
- ▶ Maximize profit

Packaging Pressures

Would be nice:

- ▶ Reduce carbon footprint
- ▶ Be able to legitimately claim universal recyclability for most packaging
- ▶ End responsibility for packaging improvements at internal manufacturing and distribution footprint
- ▶ Not have to worry about “cradle to cradle”

MRF Pressures

- ▶ Some packaging can throw off standard sorting equipment
 - ▶ False positives
 - ▶ False negatives
- ▶ Ends up in the residue
 - ▶ Loss of sales revenue
 - ▶ Increased processing costs
 - ▶ Reduced plant efficiency
 - ▶ Increased disposal costs
 - ▶ Negative impact on mandated diversion goals

Decision Points-CSWD

- ▶ Compliance with state and local laws
- ▶ Adherence to CSWD's Mission, Vision, and Goals
- ▶ Providing value to the District's taxpayers
- ▶ Allowing waste generators in the District to do their part
 - ▶ People who want to recycle, want to recycle everything they can
- ▶ Maintain consistent high-quality service
- ▶ Maintain consistent (infrequently changing) messaging
- ▶ Provide necessary infrastructure with sensitivity to taxpayer burdens and tolerances
- ▶ How frequently will we need to change equipment/markets to keep up with changes in packaging design?

Dollars and Sense

- ▶ Need to have confidence in the consistency of the material mix
- ▶ How much investment is too much?
- ▶ What's a "good" number per capita? Per ton?
 - ▶ If bonding the investment, know your per capita number
 - ▶ If paying cash, know the per ton number
- ▶ When making a major new investment, need to keep capital replacement costs in the ROI equation.
 - ▶ Lifespan of newer equipment
 - ▶ Computer based, regular software updates
- ▶ Frequently changing equipment/software/markets to keep up with changes in packaging design will erode ROI.
- ▶ At what point does the ROI not work?

CSWD's Sweet Spot

- ▶ Material Volume & Quality Consistency
- ▶ Appropriate Sorting Equipment & Technology
- ▶ Transportation to Markets
- ▶ Practical Policy Guidance from State, Local, Industry authorities
- ▶ Public Support for continual improvement
- ▶ Packaging Industry involvement in sorting technology improvement

What can be done?

- ▶ Make Design for the Environment the goal of every packaging decision.
- ▶ Encourage packaging designers to work more closely with MRF operators to test new packaging ideas with sorting capabilities of existing MRF equipment.
- ▶ Encourage Consumer Goods Companies to work more closely with sorting technology developers and manufacturers to understand MRF equipment limitations.
- ▶ Use recycled content material in new packaging whenever feasible, and continue with R&D to increase the likelihood of feasibility.
- ▶ On all packaging, immediately implement new labeling protocols that advise consumers to check with their local recycling authorities regarding a material's recyclability in their hometown.



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