

Sorting Recycling Facts from Fiction



**2016 DEQ Waste Management &
Regulations Webinar Series**

Webinar Set Up



- All lines will be muted
- Questions can be sent to us via the question/chat box
- We will record webinar and post online

Moderator: Jim Ostrowski
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Webinar Outline

- Introduction
- Regulatory Considerations
- Recycling 101
 - The Basics
 - How to do it right!
- Program Planning
- Contracting Considerations
- Why does recycling cost money?
- The State of Recycling and Landfilling in Michigan
- Conclusions and Q&A

Meet the Recycling Program Staff

Regional Specialists:

- Brian Burke
Northern MI/U.P.
- Emily Freeman
Lansing/Jackson
- Elizabeth Garver
Southeast MI
- Katie Venechuk
Grand Rapids/Kalamazoo



Recycling Market Development Specialist:

- Matt Flechter



Regulatory Considerations

Public Act 55 of 2016: Part 175 Recycling Reporting

- Recycling Establishment
- Reportable Recyclable Materials

Other potential requirements:

- Part 115 Solid Waste Management
- Part 173 Electronics
- Part 121 Liquid Industrial By-products
- Part 167 Used Oil Recycling
- Part 169 Scrap Tires
- Part 171 Battery Disposal

Local Requirements

Recycling 101 : The Basics

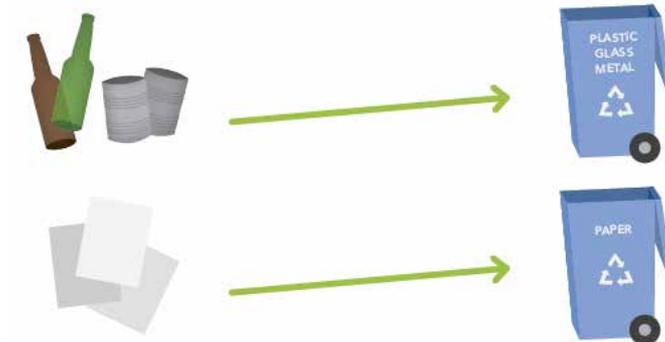
Program Types

Single Stream: All recyclables go into a single cart, increasing convenience and participation



VS

Dual Stream: Recyclables are sorted into different categories. Commonly fibers are separated from plastics, metals and glass



Recycling 101: The Basics

Material Recovery Facility (MRF)



Recycling 101 : The Basics

Safety at Recycling Facilities

- Remember that people at recycling centers are employed to sort, manage and store the recyclable items.
- Used medical devices and personal hygiene items should never be placed in curbside carts.



Recycling 101 : The Basics

The Truth about Contamination

- Three types to consider:
 - Placing garbage in your recycling bin
 - Contamination from excessive residue
 - Material contamination (i.e. wishful recycling)



Recycling 101 : The Basics

Why does contamination matter?

- Recyclables are competing in market against virgin materials
 - Commodity values are currently low, increasing the importance of quality recyclables
- MRF operations are absorbing the cost of waste management and operational challenges, increasing the cost to process

Recycling 101 : The Basics

Cleaning your Recyclables

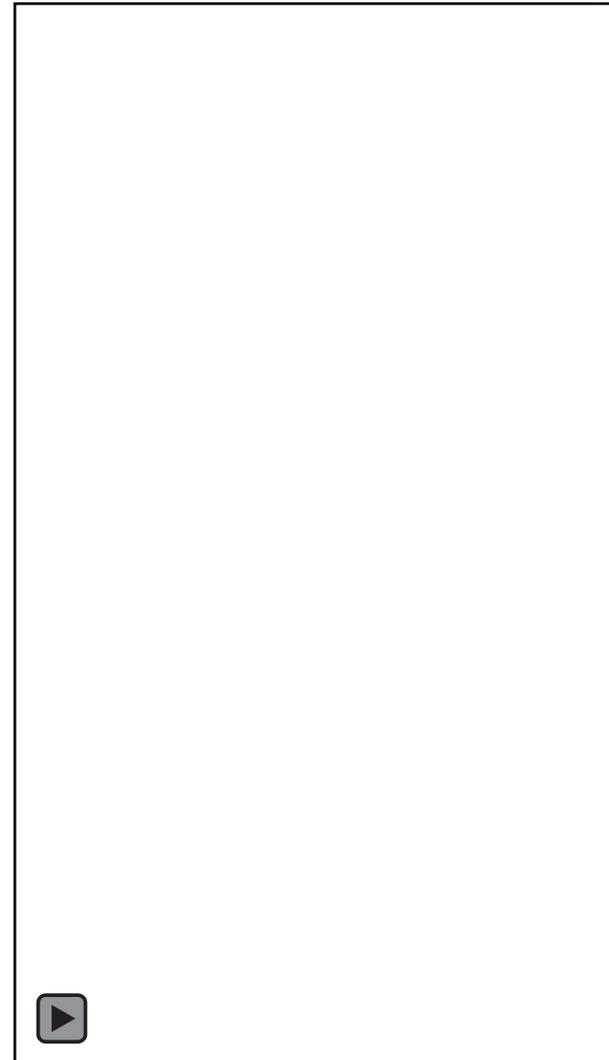
- Generality: The higher the contamination, the lower the value of the collected materials
- Some recyclables are cleaned before re-manufacturing, but collection of dirty recyclables can still contaminate fiber materials during transport and processing



Recycling 101 : The Basics

Fiber Materials and Contamination

- When fiber materials are recycled they are mixed with water and turned into a slurry (“paper pulp”)
- Residues such as grease, food, and beauty products follow the paper pulp through the process and cause holes and imperfections in final paper product



Recycling 101 : The Basics

Fiber Materials and Contamination

Pizza Boxes: cut the clean top off and recycle it, put the greasy bottom in the garbage



Recycling 101 : The Basics

Material Contamination

- When you place the wrong items in the recycling bin, you're not doing the recycling center any favors!
- "Wishful recycling" slows down the recycling process, sends items on a longer trip to the landfill, or reduces the value of recycled bales



Recycling 101 : The Basics

Material Contamination

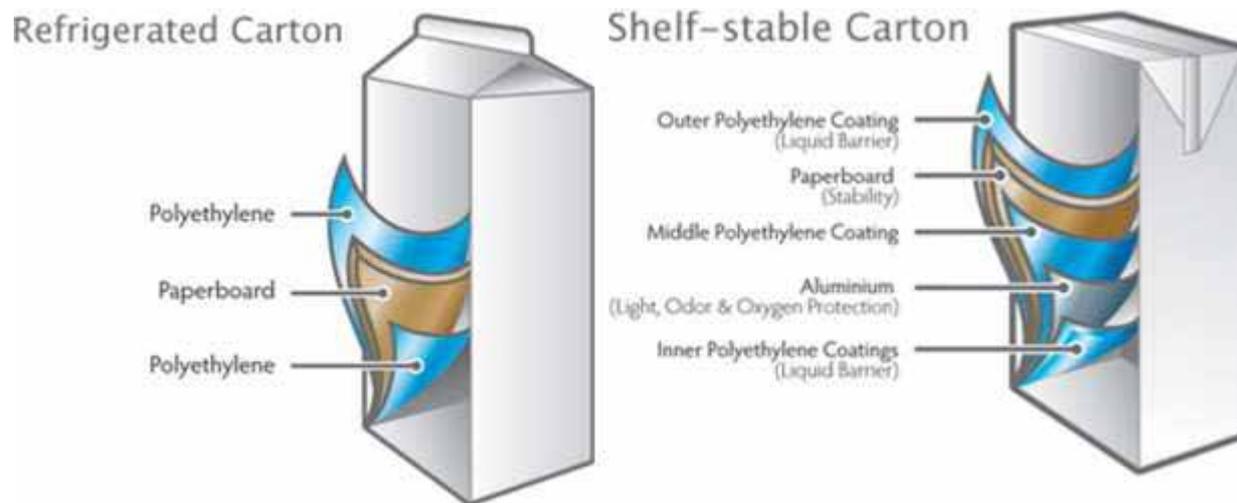
- Commonly misunderstood “fiber based” items:
 - **Paper coffee cups:** lined with a thin layer of wax or plastic to keep coffee from leaking through cup
 - **Frozen food boxes:** manufactured with wet strength chemicals to help box maintain structure when wet (reinforces fiber web)
 - **Carton containers:** often mistaken for paperboard, carton containers are three materials layered together (paper, plastic, aluminum)

Survey Question

Recycling 101 : The Basics

Examples of Material Contamination

Carton containers recycling programs are increasing across the United States. They are not material contamination- if the local program accepts them.

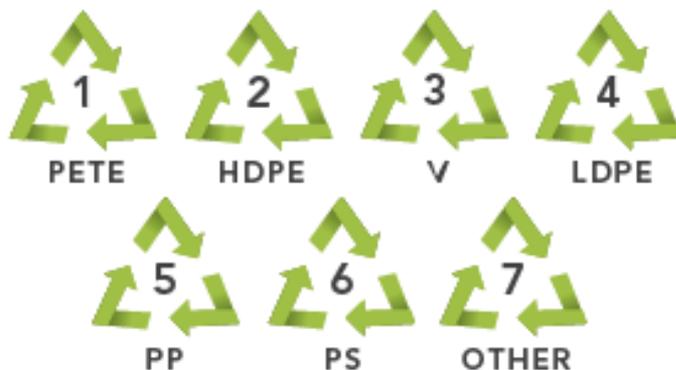


Graphic: U.S. Carton Council

Recycling 101 : The Basics

Material Contamination: Incorrect Resins

- What does the number symbol on plastic really mean?
 - “Resin Identification Code” labeling system (not a universal recycling code)



- Fast Facts:
 - #1 and #2 are the most widely accepted plastics
 - #3-6 are more difficult, but are still commonly accepted
 - #7 most challenging, some programs do not accept

Recycling 101 : The Basics

Examples of Material Contamination

- Plastic bags and film packaging
- Expanded polystyrene (Styrofoam)
- Random household items like garden hoses, old furniture, etc.
- Bulky rigid plastics
- Incorrect plastic resins

Survey Question

What do you think many material recovery facilities say is the most challenging material contamination?

- Expanded polystyrene (Styrofoam)
- Plastic bags and film packaging
- Random household items like garden hoses, old furniture, etc.
- Bulky rigid plastics

Material Contamination: Plastic Bags and Film Packaging



Recycling 101 :

Use this information to recycle right!

- Always work with your material recovery facility to understand what they can recycle
- If you run a municipal program, coordinate education to residents about acceptable recyclables
- Help people understand what happens to recyclables when they leave the curb

Education Resources

- Recycling 101
- Why Does Recycling Cost Money?
- Why Recycling Matters for Your Community
- You Can Make a Difference!
- Guide: Operational and Funding Options for Municipal Recycling
- Guide: Use of Special Assessments to Fund Recycling Services



Program Planning

- Learn your current waste program and obtain management support
- Obtain maintenance/janitorial support
 - Consider a coordinator or sustainability team
- Contact your waste hauler
- Conduct a waste assessment and plan your program or program improvements
- Budgeting
- Promotion and Education



Program Planning

Consider some key questions

- Who from your organization will be involved in implementing any changes?
- How much and what type of waste does your organization generate?
- Who is your current waste hauler and do they provide recycling services? Existing contracts?
- What, Where, When, Why and How?
- Do you have adequate storage space for additional containers?
- Do employees understand the recycling program and its benefits?

Contracting Considerations

- What is your goal?
- Standard contracts can be changed to fit with your organizational or community needs
- Clear expectations
 - Roles/responsibilities of both parties
 - Definitions
- How to protect both parties from market fluctuations
 - Who owns materials?
 - Revenue sharing, ceiling/floor pricing



Contracting Considerations

- Collection details
 - Frequency, ownership of containers, etc.
- Contamination
 - Maximum non-recyclables level / reject limit
 - Who pays for disposal of rejected loads?
- Education/outreach
 - Must be continuous
 - Clear roles/ responsibilities of each party
 - Deliverable specifications



Contracting Considerations

- Customer service
- Metrics
 - Importance
 - Establish type, format, frequency of reports
- Performance requirements/goals/bonus
- Goal: 3-5 bids
- Must be win/win for both parties
- Building a relationship



Partnerships

Maximizing the impact

Types of Partnerships:

- Public/Public
- Public/Private
- Private/Private



Why does recycling cost money?

It is commonly overlooked that recycling is a service that costs money. When recyclables and waste leave our curb, they are managed through the recycling system or the disposal system.





Landfill

- Collection costs \$
- Tipping fee \$
- Engineering design and construction \$
- Operational management and monitoring \$
- Closure costs and long term monitoring \$

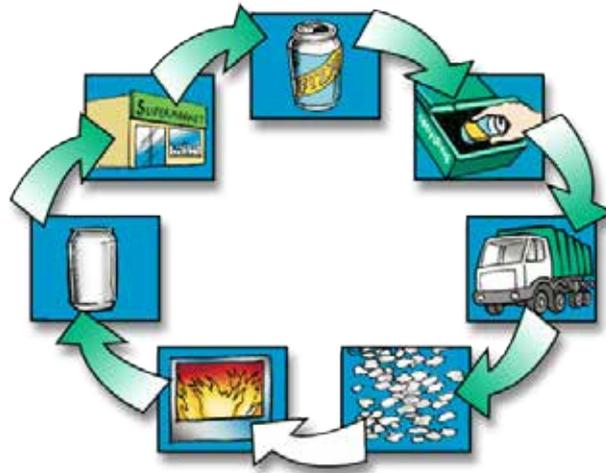


Recycling

- Collection costs \$
- Tipping fee \$
- Engineering design and construction \$
- Processing costs \$
- Market considerations \$
- Feedstock for local, state, regional, national, international manufacturing

Why Recycling Costs Money

- When you do not recycle, the recyclable items are buried in a landfill and must be managed as a waste for years to come.
- When you recycle, the costs necessary to transport and process the recyclables support the manufacturing of new materials.



- Fun Fact: A recycled aluminum pop can can be back on the shelf as a new aluminum can in as little as 60-days. It can be recycled over and over again.

The State of Landfilling in Michigan



In 2015 a total of **47,417,841 cubic yards** of waste were disposed of in Michigan landfills.

- Increase of 690,381 cubic yards since 2014 (~1.5%)
- Enough to pack over 90 of Michigan State University's Spartan stadiums with waste

The State of Recycling In Michigan

- Current Estimate: 15.3%
 - ~1,414,029 tons
- Goal: double our Municipal Solid Waste (MSW) recycling rate from 15% to 30%



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Contact Us!

Waste Management & Regulations Webinar Series

- **November 2016 - Universal Waste**
- **December 2016 – Radon in Real Estate**
- **January 2017 - Waste Characterization & Generator Status**
- **February 2017 - Used Oil**
- **March 2017 - Hazardous Waste & Liquid Industrial By-Product Accumulation & Labeling**
- **April 2017 – Hazardous Waste & Liquid Industrial By-Product Inspections & Recordkeeping**

Questions?



Thank you for protecting Michigan's environment!