Recycling for Zero Waste

Developing a zero waste framework for adding (or removing) packaging from a recycling program.

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Eureka Recycling

About Eureka Recycling

- Zero Waste Social Enterprise
- 90,000 tpy Single Stream MRF
- Residential Recycling Collection Fleet
- Zero Waste Events
- Preventing Wasted Food Programs
- Zero Waste Products Buying Co-operative
- Education and Advocacy

Eureka Recycling's Zero Waste Lab™

Work collaboratively to identify Zero Waste strategies as solutions to issues of:

- Climate Change
- Local Economic Development
- Environmental Justice

Our Zero Waste Metrics: Why do we Recycle?

- ❑ Technical Feasibility and Economics
- ❑ Environmental Impacts
- ❑ Human Health Impacts
- ❑ Changing Systems to Move us Towards Zero Waste

Technical Feasibility & Economics

- Economics of collection, sorting, transportation, and processing

- Redundant, stable market options
- Market value and impact on other grades
- Capture rate, impact on residual (including bale audits) and scale

Human & Environmental Impacts

- Environmental impact including climate change, air and water quality, wildlife
- Human health impacts of product, manufacturing, use, and end of life

Move us Closer to Zero Waste?

- ❑ What are the viable end market uses? (Ability to recycle again)
- ❑ What alternatives are available for the item and how do they compare?
- ❑ How does recycling or composting the item change systems?

- ❑ Synergy to impact other waste reduction
- ❑ Impacts on educating residents, advocacy and policy objectives
- ❑ Transparency and verifiable

Example: Glass

- **Economics of collection, sorting, transportation, and processing**
  - X Rough on equipment
  - X Heavy to collect
  - 0 Investment in MRF cleanup system increases net value and environmental impact
- **Redundant, stable market options**
  - X Limited market options - secondary processor
  - 0 New market opportunities and uses being explored
- **Market value and impact on grade**
  - X Negative value
  - ✓ Cheaper than disposal tip fee for City

Example: Glass Cont.

- **Human health impacts of product, manufacturing use and end life**
  - ✓ Non-toxic, made from an abundant resource
  - ✓ Using recycled glass saves energy, reduces air and water pollution
- **Impacts on educating residents, advocacy and policy objectives**
  - ✓ Potential for refillables, long history of recycling, deposits.
- **Ability to recycle again** – What are the viable end market uses?
  - ✓ Truly closed loop product- Can be infinitely recycled, creating no additional waste or byproducts
  - X Impacts of single stream collection have lowered recovery of bottle to bottle

✓ Glass

- Not the cheapest to recycle, but….
  - Environmental Impact
  - Human Health Impact
  - Ability to move towards zero waste
- Opportunities:
  - Highest and best use
  - Additional market options

Example: Soda & Beer Boxes

- **Economics of collection, sorting, transportation, and processing**
  - ✓ Easy to collect with single stream
  - X Additional sorting costs required to keep in separate stream
- **Redundant, stable market options**
  - ✓ Keeping grade separate allows for multiple market options as well as keeping our cardboard grade higher quality.
- **Market value and impact on grade**
  - ✓ Market value covers cost of additional sorting

  (We do loose value compared to marketing it with cardboard)

Example: Soda & Beer Boxes Cont.

- **What are the viable end market uses?**
  - ✓ Demonstration of highest and best use commitment to recycling.
  - ✓ made into cereal boxes
- **Environmental Impact:**
  - ✓ Maximized when accepted in separate stream to ensure it gets recycled
- **Human health impact:**
  - X Uses additive that is not recovered through recycling.
- **System change**
  - ✓ Promotes use of glass/metal containers and avoids alternative, non-recyclable plastic…

✓ Carrier Boxes

- Technical ability to sort and demonstrated markets
- Supports zero waste goals

- Opportunities:
  - Separate sort to maximize mill yield (environmental impact) and ensure redundant markets

Efforts to Drive Design

Recycling Won't Do it Alone

- Zero Waste Lab –working with industry to identify opportunities and challenges
- Ordinances & Legislation
- Advocacy
- Investing in reduction together with recycling

What's the real question?

"Is it recyclable?"

OR

"Is recycling the best solution for this discard stream?"

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