Materials Management for a Sustainable Future

Georgia Recycling Coalition
22nd Annual Conference & Trade Show

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Present System

- Current System is a TAKE – MAKE – WASTE Economy
- Cradle-to-Grave
Product Stewardship

- **Product Stewardship**: A principle that directs all participants involved in the life cycle of a product to take shared responsibility for the impacts to human health and the natural environment that result from the production, use and end-of-life management of the product.

- **Sustainable Product Development (SPD)**: Characterized by the concept of *life cycle thinking* and the integration of *sustainability* into the *product design* and development process.
Circular Economy

- Between now and 2030, the global middle class will grow from 1.8 billion to 4.9 billion people.
Closed Loop Design Considerations

• Closing the loop is the process of collecting end-of-life or scrap products and materials and recycling them back into the same or equal products.
• Using a closed loop process not only reduces the amount of waste going to a landfill, but also saves significant resources and energy.
• Sustainable Product Development can facilitate the design of more closed loop and reusable products.
Design for End of Life and Recyclability

• Material selection to enable re-use and minimize toxicity
• Minimum number of materials/colors to facilitate separating materials and re-use
• Maximize use of recycled material
• Design to enable materials to be easily separated
• Avoid use of adhesives
• Limit contaminants - additives, coatings, metal plating of plastics, etc.
• Design for repair
Eliminating Waste to Landfill
Typical Waste Streams

- Solid/Municipal Waste
- Electronic Waste
  - Fluorescent Lamps
  - Ballasts
  - Computers
- Construction and Demolition Waste
- Packaging Waste
  - Pallets
- Organic Waste
  - Food
  - Landscaping and Biomass
  - Lunchroom Waste
- Recyclables
  - Paper
  - Plastics
  - Cardboard
  - Metals
- Hazardous Waste
- Pharmaceutical Waste
Waste

• It’s all about materials management.
• Important for various facilities to understand materials going to waste.
• Facilities need to actively work to reduce waste and determine least impactful methods to manage materials.
Market Drivers for Waste to Landfill Reductions and Landfill Free Claims
Why Are Companies Making These Claims?

• What are the drivers?
  – Sustainability Program
  – Cost Savings
  – Easily Understood
  – Supply Chain Requirements
  – Regulations
Supply Chain Demand

- Walmart – End landfill waste by 2025
- Goal: Zero Waste

Supplier Sustainability Assessment: 15 Questions for Suppliers

Material Efficiency: Reducing Waste and Enhancing Quality
1. If measured, please report the total amount of solid waste generated from the facilities that produce your product(s) for Walmart for the most recent year measured.
2. Have you set publicly available solid waste reduction targets? If yes, what are those targets?
Cost Savings

• Waste = Lost Profit
• By using source reduction techniques in manufacturing, or by diverting materials from landfill, organizations could save a significant amount of money for the value of the resources and in disposal and tipping fees!
Regulations/Liability Reasons (PRP)

• Legislation
  – E-waste legislation in the U.S. is currently at the state level
  – 25 states have passed legislation mandating statewide e-waste recycling
  – Pennsylvania’s Disposal Ban went into effect January 2013
  – Food Waste Ban - Massachusetts
Current Standards for Waste to Landfill Reductions and Landfill Free Claims
Introduction of New Standards

• Currently, no existing standards on waste to landfill reductions or zero waste to landfill

• ASTM International-E60 Group on Sustainability
  – Formed in 2008, ASTM members help develop sustainability standards that are published and recognized internationally
  – Currently in Progress: WK38312 Collaboration
    • Currently developing standards on how to define waste from industrial facilities and then how to make associated claims about waste
      – “Waste Generated at Manufacturing Facilities”
      – “Waste Generated at Manufacturing Facilities Associated Claims”

• ANSI in process of developing a Waste Diversion and Landfill Free standard.
Current Activity

• GreenCircle Certified: Provides third-party analysis and certification of waste diversion from landfill claims. Serving on ASTM E60 committees and a founding member of the Sustainable Purchasing Leadership Council.


![ZW Hierarchy of Highest & Best Uses](image)

Source: Zero Waste International Alliance Adopted March 2013
Need for a Comprehensive National Standard

• There is a need for a comprehensive national standard that clearly defines how companies should measure and report zero waste to landfill claims.

• Need to include requirements for third-party validation and certification.
Material Management Strategies and Considerations for Making Landfill Free Claims
Diversion Methods

• Acceptable Means of Diversion:
  – Source reduction
  – Recycling
  – Materials returned to supplier
  – Reuse in same process
  – Reuse in different process
  – Redesign to eliminate waste
  – Processing and selling to third party
  – Composting
  – Anaerobic digestion with energy recovery
  – Waste-to-Energy (non-recyclable/not economically recoverable materials)
Importance of Verification, Auditing and Third-Party Certification
Validate and Audit

• Need to validate and audit a company’s claim to divert waste materials.
• Following the Materials: Is the management company really diverting all materials?
Value of Third-Party Certification

• Transparency: A rigorous evaluation process provides trusted transparency that ensures an organization’s claims are valid and based on the latest standards or industry practices.

• Provides independent third-party verification that the claim is factual and accurate.

• Reduces risk for future FTC enforcement action or accusations of greenwashing.
The Value of Third-Party Certification: Federal Trade Commission

- The FTC has released its updated 2012 Green Guides to prevent unfair or deceptive environmental claims in the marketplace.
- These Green Guides have established stricter requirements and enforcement guidelines for environmental product claims.
- The FTC is expected to and has increased enforcement.
- Amazon, Macy's, Sears Settle with FTC over Bamboo Mislabeling
Increasing Consumer Trust in Ecolabels

Across the 10 countries surveyed, consumers reported an increasing value placed on ‘independent ecolabels’:

- 54% of respondents believe ecolabels are effective in ‘helping bring changes to environmental/social problems’
- 44% of consumers reported a higher level of trust for brands that use ecolabels (up from 40 percent in 2010).
Current Initiatives and Opportunities for GRC Members
Certified Environmental Facts (CEF) Multi-Attribute

### Certified Environmental Facts

Company: Your Company  
Product: Your Product  
Plant Location: Your Plant Location

#### Product Specific:
- **Recycled Content**: 76.25%  
- **Renewable Resource Content**: N/A  
- **Regional Raw Material Sourcing**: 65.27%  
- **Carbon Footprint Reduction - Product**: 48.35%  
- **Recyclable Material**: 20.16%  
- **Completed LCA/EPD**: Yes - Published LCA  
- **Closed Loop Recycling Program**: Yes

#### Manufacturing Specific:
- **Carbon Footprint Reduction - Facility**: 9.5%  
- **Reduced Waste**: 70.17%  
- **Reduced Water Usage**: 12.34%  
- **Reduced Energy Usage**: 10.67%  
- **Waste Diversion from Landfill**: 92.78%  
- **ISO 14001 Certified**: No

**Evaluation Period:** 20XX - 20XX  
**Certification Number:** XX-XXXX  
**Certification Period:** X/X/20XX - X/X/20XX

For more information on the Certified Environmental Facts of this product, please contact: info@GreenCircleCertified.com  
www.GreenCircleCertified.com

Manufacturers, suppliers, regulators, and consumers can be assured that products labeled with the GreenCircle Certified mark have been thoroughly assessed and their claim verified.
GreenCircle's Certifications

- Recycled Content
- Carbon Footprint Reduction
- Closed Loop Product
- Life Cycle Assessment (LCA) Optimized
- Recyclable Materials
- Renewable Resource Content
- Sustainable Manufacturing Practices
- Renewable Energy Use
- Waste Diversion from Landfill
- Certified Environmental Facts (Multi-Attribute)
- Certified Energy Savings
A Call to Action

• Use life cycle thinking for the products and materials you use and purchase.
• Continue to drive sustainable materials management so we can develop a circular economy.
• Encourage manufacturers to receive third-party certification for their sustainability claims.
• Ask manufacturers to design and produce “greener” products.
Questions?

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