Sustainable Biobased Materials

USZWBC 2015
Source Separation Maximizes Material Value
• Introduction
• What’s in a Landfill?
• A Word on Food Waste
• Single-Stream Recycling
• Source-Separated Materials
• How About Food Waste?
• Wrap-Up
**Introduction**

**Natur-Tec** is a specialty compounder and formulator of biobased and compostable bioplastics.

- Assist with LEED certification efforts
- Meets ASTM D6400 and EN13432 standard specifications for compostable plastics
- Made from renewable content as per ASTM D6866

Available product portfolio comprises of:

- **Natur-Bag**® - compostable trash bags and bin liners
- **Natur-Ware**® - biobased and compostable cutlery

- **Natur-Tec** is a proud partner of **Ei**, a national non-profit
- Member of Sustainable Materials ACTION Team
What’s in a Landfill?

Total MSW **Generation** (by material):
2012 - 251 Million Tons (before recycling and composting)

Total MSW **Discards** (by material):
2012 - 164 Million Tons (after recycling and composting)

“In the USA, 31% (133 billion pounds) of the available food supply went uneaten.”

**Source:** 2010 USDA Study (Economic Information Bulletin Number 121, February 2014)
EPA: The Food Recovery Hierarchy

Food Recovery Hierarchy

Source Reduction
Reduce the volume of surplus food generated

Feed Hungry People
Donate extra food to food banks, soup kitchens and shelters

Feed Animals
Divert food scraps to animal feed

Industrial Uses
Provide waste oils for rendering and fuel conversion and food scraps for digestion to recover energy

Composting
Create a nutrient-rich soil amendment

Landfill/Incineration
Last resort to disposal

Most Preferred

Least Preferred
Food Waste Diversion is Critical

[Images showing people recycling, composting, and machinery at a facility]

[Diagram: zero waste initiative = reuse + recycle + compost = no waste]
What’s the Most Effective Way?

- Single-Stream Recycling?
- Source-Separation Materials?
Single-Stream Recycling

• Convenient
• Collection cost-savings
• High diversion rates
• High participation rates
Single-Stream Material Recovery

Photo Credit: Holly Elmore (2013)
Single-Stream: Contamination?

- High capital cost
- Less net recovery due to contamination
  - “¼ of single stream goes to landfill”
  - “40% loss with glass”

Susan Collins, Container Recycling Institute
Source-Separated Materials (SSM)
Plastic, Paper, Aluminum....

Photo Credit: Holly Elmore (2014)
SSM Program
Considerations and Enablers

• Know and understand existing hauling, concessionary contracts, lease agreements, etc.

• Establish baseline metrics with on-going waste audits.

• Diversion infrastructure with performance targets and metrics

• Control product supply: compostable, reuse, and recycle

• Readily available sorting stations and effective signage

• On-going education and engagement
How About Food Waste?
Food waste is a contaminate in Single-Stream Recycling rendering materials in stream as waste (little to no recycling options).

Added cost due to more frequent pulls due to odor and vector concerns

Food waste is a valuable material!
High Quality Compost

- Improved soil health (reduce fertilization requirements)
- Increased water retention
- Increased crop yield
- Reduce green house gas (GHG) emissions
Two Way Street

• Source-Separated Material programs help reduce contamination concerns at compost facilities by keeping non-compostable items out of the food waste stream
• “Contamination is an expensive trip to landfill!”
“Compostable plastics are a vehicle for collecting more food waste.”

Dick Lilly
Seattle Public Works
Value of Compostable Liners for Food Waste Collection

Natur-Bag® is 100% Certified Biodegradable & Compostable

Features:
• Certified Compostable by the BPI (Biodegradable Products Institute) and AIB-Vinçotte
• Meets ASTM D6400 and EN13432 standard specifications for compostable plastics
• Does NOT contain any polyethylene or other conventional plastics
• Approved for use in Cedar Grove Compost Systems
• Engineered strong, industrial size liners (30 gallons and up) will hold a min. of 80 lbs.
• Prevents odors and keeps bins and containers clean.
• Reduce need to clean bins with water and detergent.

www.natur-tec.com
Thank You!!

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