Solid waste agencies like Seattle Public Utilities and businesses...

- Have potential for great partnerships.
- Shared goals.
- Will develop synergy – and better results – from working together.

- So, let’s look at what we’re doing now.
Why are we here?

Seattle’s recycling and composting programs leading the nation

Ongoing success depends upon ongoing education and collaboration

But first, the bigger picture…
Two parts to the solution.

1. **Source reduction**
   Best because less is created and consumed in the first place.

2. **Waste diversion and recovery**
   Biggest because a really significant tonnage of organics can be diverted from landfill.
Still, commercial food waste remains the biggest problem – and opportunity.

Food waste alone is almost 30%.

That’s more than 40,000 tons still in the garbage every year.
Residential is about the same.

Food waste alone is almost 30%.

That’s more than 33,000 tons.

2010 data
--not including 80,000 tons composted that year.
It’s crucial to keep organics – food and yard waste – out of the landfill.

What makes it work?

1. A strong regional composter.
   - Based on established residential Food and Yard Waste collection.

2. **Product testing to prove compostability.**
   - So restaurants know what they can use.

3. Strong drive to increase commercial food waste collection for composting.
   - Synergy with front-of house compostables disposal in quick serve restaurants (QSRs).

4. **Thanks to industry, increasing availability of compostable service ware.**
   - From 70 to 700 products in 3 years.
Like dozens of cities in the West, Seattle started with an EPS ban.

A little history:

The City Council’s “Zero Waste Resolution” in 2007 had this to say about consumer products:

“By mid-2008, SPU will conduct a comprehensive study of products, packages and ingredients that could be banned or otherwise discouraged....

“Initial products for review will include non-compostable plastic shopping bags and Styrofoam food containers.”
But just banning EPS wasn’t exactly a good thing to do.

Our study told us:

*All the replacements for EPS food service ware were worse for the environment.*

- Heavier – more costly to ship.
- Denser – used more material.
- Eternal – never break down in a landfill (though that also applies to EPS).
- And usually not recyclable – certainly not when contaminated with food – but neither is EPS.
Compostable packaging is key.

For QSRs compostable service ware and packaging helps capture leftover food, diverting it from landfill.

Recyclable products are discouraged except for take-out orders.

Food contamination prohibits most recycling – except beverage containers – at QSRs, creates a health problem.

Hot and cold beverage cups are recyclable.
Why compost?
Composting History

2001 Piloted post consumer
2004 Post consumer on permit
    Residential + commercial
    Testing at Cedar Grove
2006 Commercial collection
    Early adopters
2007 “Greenwashing”
    Biodegradable
    Oxo-biodegradable
    SF Banned bags, biodegradable
2008 “Compostable”
    What does it mean?
    Specific environment + system + time
2009 -2010
    Residential post-consumer
    Foam ban
    Packaging Ordinance
    “Biodegradable” cannot be used in California
A snapshot of results:

There are 2,300 commercial organics collection accounts, up from 900 five years ago. (There are 3,176+ restaurants in the city.)

Including grocery stores, last year they sent 42,600 tons to the compost processor.

Approximately 14,000 tons came from restaurants, cafes, institutions.

(But, remember, we know there’s still 40,000 tons in commercial garbage.)
In addition, SPU targets leftover food with packaging regulations. Since 2010, food service ware and packaging must be made of materials that can be recycled or composted in Seattle. Restaurants must provide compost and recycling bins for products discarded on premises; they must see that these materials are collected and sent for appropriate processing.
Already, every household has a Food and Yard Waste cart.

And we promote food waste composting.
City of Seattle and King County Lead the Way!

1989
City of Seattle, green waste
Projected tonnage: 12,000
Actual tonnage: 48,000

1990
Actual tonnage: 100,000
Added King Co suburban cities
unincorporated King Co

2010
Actual tonnage: 400,000

6 Million Tons Diverted Since 1989!
More than 100,000 railcars!
Reality on the ground
...and a few words about enforcement.
History

- Testing began with Compostable Bags
  - BPI Certification Required prior to Testing

- 2006 Field Test of Food Service Items
  - ASTM D6400 and D6868

- 2008 Formalized Substrate Acceptance
  - Historically Acceptable Materials
    - Paper, Clay and Wax Coated Paper, Wood
How and why products are tested

ASTM D6400 and D6868

- Biodegradability
- Metal Levels
- Toxicity
- Spectral Analysis
- Disintegration

ASTM and BPI

- Reviews Data
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Was</th>
<th>Change</th>
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</thead>
<tbody>
<tr>
<td>Inoculate</td>
<td>Finished Compost</td>
<td>Synthetic Feedstock</td>
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<tr>
<td>C:N Ratio</td>
<td>13:1</td>
<td>30:1</td>
</tr>
<tr>
<td>Duration</td>
<td>84 Days</td>
<td>60 - 84 Days</td>
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</tbody>
</table>
United States Composting Council (USCC)

Compostable Plastics Task Force (CPTF)

Three Working Groups

Labeling, identification and consumer outreach/education

Co-facilitated by
Jack Macy from the City of San Francisco, CA and
Bridget Anderson from New York City

Legislation and Enforcement

Facilitated by
Justin Gast from Washington County, OR

Compostability Standards and Operation Impacts

Co-facilitated by
Michele Riggs from Cedar Grove Composting, Seattle WA
Hilary Near from Cascadia Consulting, San Jose, CA
National Standards are Developing

• Labeling
  – ASTM standard
  – 3rd party cert
  – Brown or green
Parameter Research

- **Temperature**
- **Regime vs. Constant**

2\textsuperscript{nd} Research Round

**Meeting** – November 2013

**Precision and Bias**

Inter-Laboratory Study - Repeatability
But there are still problems. (No surprise, really.)

1. The wrong stuff. Confusing stuff.
   - Greenwashing – earth-toned poly-coated papers.
   - Products in use without Cedar Grove approval. This is Seattle’s standard. Where are the distributors on this?
   - Look a-likes. How do you tell PET and PLA clear cold cups apart?

2. Recyclable food service products used where compostable is really necessary = CONTAMINATION.
And one really big problem.

1. Customers don’t know what’s on their tray.

2. They don’t know if it’s compostable or recyclable.

3. They often don’t know where to put it even when they spend time with the bin signs.
Most packaging creates trash that goes to a landfill.
However...Composters are NOT disposal sites!
Understanding Feed Stock Growth and Costs…

ADMIN
- Load management
- Acct feedback
- Education

OPERATIONAL
- Picking
- Double Handling
- Screening (2-3 times)

SALES
- Lost sales, product
- Product replacement
- Customer resolution
Then

$\quad$

PREP

GRIND

COMPOST

SCREEN

Now

PREP

GRIND

COMPOST

SCREEN

COST MODEL IS SHIFTING DRAMATICALLY!

SCREEN

COMPOST

GRIND

PREP

COST MODEL IS SHIFTING DRAMATICALLY!
As a consequence...

- Permit changes, 5% inbound
- State rules more stringent for contaminants inbound and in finished product
  - .2% film plastics
  - 1% “physical contaminants”
- Acceptance procedures
  - Reject
  - Handling fees
  - We dispose at cost
Green Fence

Block on exports to China for recyclables
Ban on 3, 6 & 7 plastics
Why did it happen?
- Poorly sorted, dirty streams
- Food impacted plastics
What is part of the answer?
- More compostables
- Keep food out of recycling
- Local programs vs. overseas
- Controlled environment
# Initial Ideas For Improving the System

<table>
<thead>
<tr>
<th>Idea</th>
<th>Consumer</th>
<th>Operator</th>
<th>Composter</th>
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<tbody>
<tr>
<td>Seattle Approved Mark</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DO NOT COMPOST</td>
<td></td>
<td></td>
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<tr>
<td>on recyclables</td>
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<tr>
<td>“Compostables Only” Dine In/Take Out</td>
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<tr>
<td>Ordinance</td>
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Let’s hear from you

What works to distinguish packaging?

- Consumer?
- Operation?
- Hauler?
- Tip Floor?
What is working?

- Customers only buying what’s approved to come in
- Programs that only allow compostables (not mixed)
- Color marked packaging (commercial)
- Input from stakeholders
What are the challenges?

Operators/retailers?
Distributors
Manufacturers
Summary of Discussion
Closing Comments
Thank you.

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