Using Public-Private Partnerships to Advance Organics Recovery in Schools

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SERDC Food Recovery Summit
Charleston, SC
November 17, 2015
CHECK IN

- Who’s in the audience?
- What are you here to learn?
- Who’s here with hopes of taking what they learn back to their institution?
Food Waste Disposal began operations at the beginning of 2012 and has since diverted nearly 9 million pounds of organic waste.

FWD sells compostable products and hauls organic waste, Charleston County processes the compost and sells the final product.

Largest source of waste comes from institutional and educational facilities, such as the College of Charleston and the Charleston County School District.

Successful programs are those in which the customer is fully committed to continuing education.

The Perfect Storm...
Using Dining Services as a Catalyst for Campus Organics Recovery

Jen Jones - Facilities Coordinator for Sustainability, College of Charleston
College of Charleston

- 12,000 students
- Aramark contracted for Dining Services.
- 2 main dining halls
- Liberty Fresh Foods - eat-in with reusable serviceware
- City Bistro - eat-in & to-go with compostable serviceware
- Catering - switched to all compostable serviceware
About our Successes

Dining Halls

Zero Waste Events

2014
- A Charleston Affair - 94.7%
- All OOS events
- Welcome Back Picnic - 93.9%

2015
- A Charleston Affair - 92.8%
- All OOS events
- Welcome Back Picnic - 95.1%
- Diversity Conference
- Smaller scale departmental events
Zero Waste by 2025
How We Got Here

Infrastructure
Building Trust & Social Capital
Pilot
Buy-in
Expand
Refine
On-going Efforts
How can you incorporate change so that:
- It fits with what is already happening
- It makes things easier (if possible) - carts vs carrying things
- Aramark already set up for this - weighing and tracking pre-consumer food waste

Find and leverage the motivation - Push from Aramark corporate to “go green”

- 2011 - Charleston County compost facility & FWD established
- 2012 - Aramark began switch to compostable serviceware
Building Trust & Social Capital

- Social Capital - “banked” flexibility with your partners
- Why?
  - Change is hard
  - Change is value driven
  - SUSTAINABLE change
- Get dirty and start the favor train
- 2012 Aramark purchased a pulper & reached out to Office of Sustainability to help assess
- 2013 Intern with Aramark and Graduate Assistant at the Office
Pilot

- Start small and be successful - pre-consumer food scraps
- Small change from what already doing
- Demonstration that it’s possible
- November 2012, first load of organics from City Bistro
Buy-in

- Cost savings realization - data from students
  - nearly $4,000 annually looking at direct costs only
  - informed them about unneeded infrastructure
- Overcoming the “gross” factor - story with Mandi at Stern
- Relying on built trust and social capital
- Showing non-monetary value:
  - logistical improvement
  - marketing value
  - student support
  - Long-term commitment
Expansion

- Early successes cleared space for this
- Liberty Fresh Foods - Summer 2013
- Now at Catering, and 3 Auxiliary locations
- Zero Waste Events
  - A Charleston Affair - May 2014 & 2015
  - Welcome Back Picnic - August 2014 & 2015
  - Bluegrass and Brunch - September 2014 & 2015
A Charleston Affair

- 2 night annual seniors/alumni event
- 5,000+ guest across 2 nights
- Alcohol (wine & beer) & dinner served
- Held in Cistern Yard - large outdoor space
- 2014 - 94.7%
- 2015 - 92.7%
A Charleston Affair

- All serviceware compostable
- Staffed recovery stations throughout event
- Facilities staff moves materials around event space
- HQ with team of volunteers sorting for “last line of defense”
- MAJOR collaboration with all parties involved
- DRAMATICALLY improved materials management
Refine

- Training
  - context via Zero Waste Goal - the WHY
  - information relevant to them
  - Use staff as ground troops
- Continue to review and improve processes
- Accountability and persistence - contracts
On-going Efforts

- IT’S STILL NOT PERFECT!!!
- Goal is NOT static - continually moves
- “Zero Waste” vs ZERO waste
- Waste DIVERSION vs waste AVERSION
- Staff buy-in & awareness
- Student buy-in & awareness
- Turnover is challenging
On-going Efforts

Working to Institutionalize:

- **Zero Waste Events campus-wide**
  - Training for event planners
  - Integration into Catering Requests
  - Event Guide
  - Zero Waste Corps - volunteer group to support ZW events

- **Campus-wide organics collections**
  - Small scale office participation in break rooms
  - Station standardization to prepare for eventual organics addition
Learning to Sort It Out:
Student Driven Composting in School Cafeterias

MAGGIE H. DANGERFIELD
SUSTAINABILITY COORDINATOR
CHARLESTON COUNTY SCHOOL DISTRICT
## Sustainable Schools Initiative

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Sustainability Integration

- Annual professional developments
- Quarterly rewards and recognition programs
- Annual waste audits
- Single stream recycling in all schools
- Commercial composting
- Weekly waste stream tonnage tracking

Green Liaison Network
- 100+ teachers and staff from all 76 schools
- Quarterly meetings and professional development days
- Annual recognition for outstanding efforts

Student Green Team Program
- Awareness
- Recycling
- Gardening
- Ecology
- Symposium
  - Green School Awards

Comprehensive Waste Management System
- Annual waste audits
- Single stream recycling in all schools
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Day Porter and Cafeteria Support Staff
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Key Players
The Breakdown

- Fee based on MSW dumpster:
  - Size
  - Frequency of service
- $172/yard/year
  - (1) 8-yard @ 1x/week = $1,376 annually
- $240,894 in expenditure reductions for solid waste user fee bills
- $415,800 in cost avoidance since 2011
- Experiencing diminishing returns now
Waste Steam Diversification
Food Waste Diversion Program

48 schools
- 9 MS
- 3 K8
- 36 ES

29,000+ students
- Urban
- Suburban
- Title 1

>2.4M lbs diverted to date
- SY12/13: 141,261
- SY13/14: 793,088
- SY14/15: 1,245,570
- SY15/16: 231,504
Food Waste Diversion Program

Student-Driven Sorting

3-E Benefits

- **Educational**
  - Weekly diversion data
    - State & Common Core standard opps
  - Physical & emotional wellness
    - Social & soft skill development

- **Environmental**
  - Food waste is diverted to closed loop stream
  - Decreases methane pollution

- **Economic**
  - Less expensive than MSW hauling and storage
Composting Pilot Program

11 Elementary Schools

- Active liaison
- Enrollment
- Location

- Recycling Rate
- Tap & Stack Practice
Gaining Buy-In

come on down
Digital Education Toolkit

- Welcome Note
- Materials and Procedures Guide
- Educational and Instructional Powerpoint
- Interactive Smartboard Game for Sorting Practice
- Parent Flyer
- Dumpster Fullness Assessment Log
- Pre and Post Implementation Assessment (K-2, 3-5)

“Sort It Out” Smartboard Game
Digital Education Toolkit

Compost Lifecycle

- Gardens
- Vegetables and Fruits
- Compost Product
- Processing
- Food Scraps
- Collection
- Lunch Meal

Additional Benefits of Composting

- Economic
  - Cuts waste and disposal fees paid to trash pick-up companies and to the landfill for space used
  - Traditionally less expensive to dispose of food waste than of just landfill waste
  - Replaces the need to buy synthetic fertilizer for

- Environmental
  - Preserves valuable landfill space
  - Helps prevents methane pollution from harmful gases produced as a byproduct of decomposing food waste in the landfill
  - Helps sustain other important microbial, bacterial, and fungi lifecycles
  - Helps plants fight disease
  - Helps prevent erosion

Recipe for Making Compost

3 Parts of Yard Waste + 1 Part Food Waste + Water = Compost

Compost Critters + = Compost
Program Set-Up

- **Landfill**: Items to be disposed of in the landfill are indicated with a checkmark in the 'in' column and an 'X' in the 'out' column.
- **Recycle**: Items to be recycled are marked with a checkmark in the 'in' column and an 'X' in the 'out' column.
- **Compost**: Items suitable for composting are indicated with a checkmark in the 'in' column and an 'X' in the 'out' column.

These categories help in sorting waste effectively for recycling, composting, and landfill disposal.
Composting Station Set-Up

With a Bosch Station

Without a Bosch Station

Students should go from either left to right or right to left depending on the order of your bins.

LANDFILL → RECYCLE → COMPOST is preferred.
How To Sort It Out!

Place the following common lunch items in their appropriate waste streams:
- **LANDFILL**, **RECYCLE**, **COMPOST**

The recommended order of sorting is:
- **LANDFILL** → **RECYCLE** → **COMPOST** → **TAP & STACK**
  - By following this order, only food waste should be left on a tray or in a lunchbox once students arrive at the **COMPOST** station
Example of Sorting It Out

1. FOOD LEFT ON TRAY
2. COMPOST
3. LANDFILL
Other Program Components

Pre-Sorting

Alternative Set-Ups
Metrics and Assessment Tools

- Ability to reduce dumpster service at each location to cover costs of program and/or generate savings
- Anonymous online surveys to teachers and staff participants
- Follow-up in-person interviews for specific feedback
- Personal visits and first-hand observations of process
- Discussion with day porters and custodial staff supervisors
## The Ups & The Downs

### Successes
- Water park conversation
- Middle Schools added and knowledge transferred
- Waste and trash service reduction
- 1200 tons of food waste diverted from landfill and used to nourish our gardens and yards
- Farm to School Program
- Increased awareness of wastefulness

### Challenges
- Cost of compostable bags and weight of food waste
- Height of tote used to collect food waste
- Time to sort
- Monitoring of bins
- Administrative Buy-in & Teacher assistance
- Amount of food waste generated
- Food Services Department
  - No consistency between cafeterias in their use of serviceware
Curricular Ties

Farm to School

Food Waste Diversion
Farm to School Integration

- 62% of schools have gardens
  - 2 GAP certified
  - 1 micro-farm

- $1 million grant from Boeing to tri-county area for gardens/outdoor learning
  - Clemson University Extension
    - Training & Support
  - College of Charleston
    - Research
  - Green Heart Project
    - Management
Farm to School Learning Opportunities

- Closed loop lifecycle process demo on & off site
- Green liaison & student green team stewardship projects
- Renewed school admin engagement & commitment to sustainability
- Ability for students to connect with their community through volunteerism & sharing of produce
  - Nearby farmers stands & school culinary programs
- Increased propensity of students to taste food they grew
- Development of interpersonal skills
What’s Next?

● **Goals:**
  ○ Focus on reducing wastefulness and food packaging
    • Explore food waste recovery policy changes for uneaten food
  ○ Continued expansion of program to remaining K-8 schools and 2 HS pilots
    • Challenges:
      • Funding
      • Ability to make reductions at larger schools & at schools already in the program
      • Maintaining cost avoidance and cost savings realizations
      • Generating buy-in and monitoring participation and compliance
QUESTIONS?

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