May 2, 2017 | 10:00 AM – 12:00 PM

H-GAC Commercial Food Waste Diversion Roundtable
Agenda

Project Background

Phase 2: H-GAC and NewGen Efforts

Development of Database and GIS Mapping
  - Interactive demonstration

Outreach to Entities in Database
  • Stores / Food Processors/Manufacturers / Collectors

Conduct of Commercial Food Waste Diversion Round Table | May 2, 2017
  - Discussion with Food Waste Collection Companies (and Audience)

Recommendations

NEWGEN STRATEGIES AND SOLUTIONS, LLC
Project Background
Project Background

- Americans generated 254 million tons of municipal solid waste in 2013

Source: EPA Advancing Sustainable Materials Management: Facts and Figures 2013
34 percent of the 254 million tons were recovered\(^1\)

*Of the 37 million tons of food scraps generated in 2013\(^2\), only 1.82 million tons were recovered, or less than five percent\(^3\)*

\(^1\) 254 million tons * 14.6% = 37 million tons.

\(^2\) 2.1% * 87 million tons = 1.82 million tons. 1.82 million tons + 37 million tons = 4.94%.

\(^3\) EPA has since published the 2014 factsheet: [2014 EPA SMM Factsheet](http://example.com)
### Table 3. Generation, Recycling, Composting, Combustion with Energy Recovery and Landfilling of MSW, 1960 to 2014 (in millions of tons)

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Generation</td>
<td>88.1</td>
<td>121.1</td>
<td>151.6</td>
<td>208.3</td>
<td>243.5</td>
<td>253.7</td>
<td>251.1</td>
<td>251.8</td>
<td>255.0</td>
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<td>Recycling</td>
<td>5.6</td>
<td>8.0</td>
<td>14.5</td>
<td>29.0</td>
<td>53.0</td>
<td>59.2</td>
<td>65.3</td>
<td>65.6</td>
<td>65.1</td>
<td>66.4</td>
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<tr>
<td>Composting*</td>
<td>neg.</td>
<td>neg.</td>
<td>neg.</td>
<td>4.2</td>
<td>16.5</td>
<td>20.6</td>
<td>20.2</td>
<td>21.3</td>
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<td>Combustion with energy recovery†</td>
<td>0.0</td>
<td>0.5</td>
<td>2.8</td>
<td>29.8</td>
<td>33.7</td>
<td>31.7</td>
<td>29.3</td>
<td>32.5</td>
<td>33.2</td>
<td>33.1</td>
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<tr>
<td>Landfilling and other disposal†</td>
<td>82.5</td>
<td>112.6</td>
<td>134.3</td>
<td>145.3</td>
<td>140.3</td>
<td>142.2</td>
<td>136.3</td>
<td>132.4</td>
<td>134.3</td>
<td>136.0</td>
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</table>

* Composting of yard trimmings, food and other MSW organic material. Does not include backyard composting.

† Includes combustion of MSW in mass burn or refuse-derived fuel form, and combustion with energy recovery of source separated materials in MSW (e.g., wood pallets, tire-derived fuel).

‡ Landfilling after recycling, composting and combustion with energy recovery. Includes combustion without energy recovery. Details might not add to totals due to rounding.

Neg. Negligible = less than 5,000 tons or 0.05 percent.
Purpose of Project

• Food waste is one of the largest components of the waste stream
• Identify and analyze the challenges, opportunities, and solutions to cost effective commercial food waste collection
• How can commercial food waste diversion be implemented?
  – Voluntary
  – Collaborative

Findings from Prior Report

Select findings from August 2015 prior report (11 total)
2. H-GAC area compost processors have significant excess capacity to accept additional food waste

3. Some grocery stores and commercial food processors in the H-GAC region are currently active in food waste diversion

5. One of the biggest barriers to a more active commercial food waste program is the lack of food waste collection companies in the H-GAC region (“chicken or the egg” scenario”)
   - Premium costs for service
   - Route density challenges
   - Heavy loads

The estimated excess capacity and new capacity in the H-GAC region should be 85,000 to 95,000 tons per year of food waste
8. Most compost processors are hesitant to accept post-consumer food waste due to contamination issues.

9. Many businesses who already participate in a food waste program do so because of their dedication to sustainable practices.

10. Successful commercial food waste collection programs require ongoing education.

**ACCEPTABLE FOOD WASTE MATERIALS**

- All fruits
- All vegetables
- Bread, dough, bakery items, pastas, and grains
- Coffee grounds and tea with filters
- Cooked meats and fish, including shells and bones, wooden skewers, and wooden toothpicks
- Food waste, paper, paper tags, paper towels, and paper repairs, and waxed cardboard boxes

**ITEMS NOT ACCEPTED**

- No raw meat products (beef, poultry, pork, seafood)
- No plastic bags, serve ware, utensils, plates, bowls, rubber bands
- No fats, oils, greases or non-consumable liquids (vegetable oil or lard)
- No wood, metal, glass, or other non-food items

Image source: Charleston County Environmental Management
Recommendations from Prior Study

Select recommendations from August 2015 prior report (18 total)
Section 5 (Prior Study) – Select Recommendations (18 Total in Report)

1. H-GAC to host future roundtables
   – Identify and map a process to address the short-, mid-, and long-term recommendations

5. Focus initial food waste diversion efforts on commercial food processors, wholesale food distributors, and grocery stores
   – These entities are the largest generators of food waste
   – These facilities generate between 3 – 5 tons of food waste per week

6. Pursue food waste on Produce Row
   – NewGen believes there is material that can be diverted for consumption and composting from this facility
8. Follow up with collection companies regarding expansion into food waste

11. Begin development of a GIS database of food waste generators, collectors and processors in the H-GAC planning region

12. Develop a database to track generators, collectors and processors of food waste – location, volumes, frequency, etc.
Phase 2: H-GAC and NewGen Efforts
Phase 2: H-GAC and NewGen Efforts

- Develop a GIS database of food waste generators, collectors, and processors in the H-GAC planning region
- Outreach to entities in database
- Roundtable to address key issues concerning the generation, collection, and processing of food waste in the H-GAC region
Development of Database & GIS Mapping
Database and GIS Mapping

- Collaborative tool developed by H-GAC
- Connects haulers, composters, and generators
- Tool will evolve and expand over time
- Initial efforts include:
  - 175+ grocery stores (with sale volumes greater than $20 million)
  - 45+ food processors (with sale volumes greater than $20 million)
Database and GIS Mapping (cont.)

<table>
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<tr>
<th>Object ID</th>
<th>Company Name</th>
<th>City</th>
<th>County</th>
<th>NAICS Code</th>
<th>NAICS Description</th>
<th>Sale Volume</th>
<th>Sq Ft</th>
<th>Distance to Composter (Mile)</th>
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<td>Corporate Brand Foods Ameri</td>
<td>Houston</td>
<td>Harris</td>
<td>31199506</td>
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<td>Fort Bend</td>
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<td>Commercial Bakers</td>
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NEWGEN STRATEGIES AND SOLUTIONS, LLC
Database and GIS Mapping (cont.)
Database and GIS Mapping (cont.)

• Demonstration of GIS tool

H-GAC Food Waste Collaboration Tool
Outreach to Entities in Database
Outreach – Stores

- NewGen contacted grocery store chains (via phone and email)
- Information is still considered proprietary and is difficult to obtain
- Kroger provided anecdotal information: each store department (bakery, produce, etc.) will work with various food rescue organizations near the store to divert food scraps *(activities vary by store location)*
Outreach – Food Processors/Manufacturers

• NewGen contacted 30+ entities (via phone and email)
• Information is still considered proprietary and is difficult to obtain

• **Success story:** tortilla factory in Houston ($50-100 million sale volume) sends their scraps to area ranches for animal feed product(s)
Success Story: 8th Wonder Brewery

- Craft brewery in a dome-like warehouse located in East Downtown Houston
- Spent grain (material remaining after the brewing process) is collected by local farmers in 55 gallon drums
  - Collected 3 x week
    - Compost
    - Tilled into fields
    - Used for animal feed

150–200 drums per week!

8th Wonder Brewery
2202 Dallas Street
Houston, TX 77003

Aaron Corsi, Brewmaster | Co-Founder
832.818.3298
aaron@8thwonderbrew.com
• Third party management company for waste and recycling services
• Presently negotiating contracts with several grocery stores, restaurants, and food processors
• Planning to start collection services in May 2017
• Offering 32 & 64 gallon carts, looking at 1 CY container option

Corporate Waste Solutions, LLC
565 South Mason Road #457
Katy, Texas 77450

Candace Seger, LEED AP O+M
President
713.817.1062
cseger@divertmore.com
Outreach – Collection Companies (cont.)

Farm Dirt Compost
801 N. Emile St.
(entrance on Buck St.)
Houston, TX 77020

Danny Wilson
281.552.8119
email@farmdirtcompost.com

- Material travels no more than 41 miles in its entire life cycle
- Two-month process
- Fruit/vegetable (and some wood chips)
- Volume varies (50 to 100 tons per week)
- Farm Dirt collects 64-gallon containers from grocery stores
- Wholesalers deliver pallets and Gaylord boxes (~1.5 CY)
Outreach – Collection Companies (cont.)

Global Waste Services, LLC
7213 East Mount Houston Rd.
Houston, Texas 77050

Larry Gronewold
281.449.8500
http://globalwasteusa.com

- Houston company servicing commercial, residential, and industrial customers
- Fleet of over 80 collection vehicles
- Regarding food waste: customer base consists of mainly produce companies and grocery stores
- Material is transported to a third party composting facility
• Established in 2002
• Front load collection trucks as well as roll-off container trucks
• Limited food waste collection
• Challenges are route density and weight issues

Nexus Disposal
6131 Thomas Road
Houston, Texas  77041

Steven Zapata
713.996.9090
steven@nexusdisposal.com
Outreach – Collection Companies (cont.)

• Management company that delivers waste minimization services
• Serves a variety of industries including: grocery stores, retailers, and restaurants

**Success story:** Worked with a large grocery store chain to:
  – Recycle more than **27,000 tons of organics**
  – Recycle nearly **1,000,000 gallons of used cooking oil**
  – Recycle more than **5,500 tons of meat & seafood**

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**Quest Resource Management Group**
3481 Plano Pkwy
The Colony, TX 75056

Stacey Lyons
Senior Client Services Manager
877.321.1811
StaceyL@QuestRMG.com
Outreach – Collection Companies (cont.)

• One of the largest solid waste service providers
  – Commercial, industrial, municipal, and residential customers
• Food waste customers: large distributors
• *Material must be contamination free!*
• Collaborate with Living Earth

Republic Services
5301 Brookglen Drive
Houston, Texas 77017

Jaclyn Boltinghouse
281.850.9863
jboltinghouse@republicservices.com
Outreach – Collection Companies (cont.)

• Other collection companies
  – Liquid Environmental Solutions
  – Waste Management
  – TAP Environmental?
  – Town & Country Garbage?
  – Little Joy Recycling: no longer offers food waste collection; focusing on traditional recycling
Discussion with Food Waste Collection Companies
Discussion with Food Waste Collection Companies

- Company background
- Customer base
- Material collected
- Challenges
- Advice

Questions from the audience?
Recommendations
Recommendations

1. Utilize H-GAC’s GIS based mapping tool
   enter: generator location → collection company → composter (hauler)

2. Highlight success stories on H-GAC’s website, dedicated page on the following topics:
   • GIS mapping tool
   • Collection company contacts
   • Success stories
   • Other information…

3. Network (H-GAC members, trade associations, etc.)

4. Continue to encourage sharing of “proprietary” information (i.e., where food waste is going)

5. Keep “plugging away” – not easy, but important!
Thank You!
Questions?

Mr. David S. Yanke
dyanke@newgenstrategies.net
Direct: (512) 649-1254
Cell: (512) 773-5494