July 8, 2015
H-GAC Commercial Food Waste Collection Workshop
Workshop Agenda

- Project Background
- Purpose of Project
- Project Research
- Project Interviews
- Findings
- Recommendations
- Action Plan
Project Background
Project Background

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

![Individual Waste Generation Rate](image.png)

- Disposed: 66%
- Recycled: 25%
- Composted: 9%

Individual Waste Generation Rate: 4.40 Pounds/Person
Materials Generation in MSW, 2013

- Food (14.6%)
- Glass (4.5%)
- Metals (9.1%)
- Other (3.3%)
- Paper (27%)
- Plastics (12.8%)
- Rubber, Leather & Textiles (9%)
- Wood (6.2%)
- Yard Trimmings (13.5%)
Project Background (cont.)

- 34 percent of the 254 million tons were recovered.
- Less than five percent of food scraps generated were recovered.

![Materials Recovery in MSW, 2013](chart)

**Materials Recovery in MSW, 2013**

- Food (2.1%)
- Glass (3.6%)
- Metals (9.0%)
- Other (5.6%)
- Paper & Paperboard (49.8%)
- Plastics (3.5%)
- Wood (2.8%)
- Yard Trimmings (23.6%)

(In thousands of tons and percent of total generation)

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<tbody>
<tr>
<td><strong>Thousands of Tons</strong></td>
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<tr>
<td>Generation</td>
<td>88,120</td>
<td>121,060</td>
<td>151,640</td>
<td>208,270</td>
<td>243,450</td>
<td>253,730</td>
<td>244,600</td>
<td>250,540</td>
<td>251,040</td>
<td>254,110</td>
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<tr>
<td>Recovery for recycling</td>
<td>5,610</td>
<td>8,020</td>
<td>14,520</td>
<td>29,040</td>
<td>53,010</td>
<td>59,240</td>
<td>61,890</td>
<td>66,400</td>
<td>65,240</td>
<td>64,740</td>
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<tr>
<td><strong>Total Materials Recovery</strong></td>
<td>5,610</td>
<td>8,020</td>
<td>14,520</td>
<td>33,240</td>
<td>69,460</td>
<td>79,790</td>
<td>82,640</td>
<td>86,970</td>
<td>86,570</td>
<td>87,180</td>
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<td>82,510</td>
<td>113,040</td>
<td>137,120</td>
<td>175,030</td>
<td>173,990</td>
<td>173,940</td>
<td>161,960</td>
<td>163,570</td>
<td>164,470</td>
<td>166,930</td>
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<tr>
<td>Combustion with energy recovery**</td>
<td>0</td>
<td>400</td>
<td>2,700</td>
<td>29,700</td>
<td>33,730</td>
<td>31,820</td>
<td>29,010</td>
<td>31,800</td>
<td>32,200</td>
<td>32,660</td>
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<td>Discards to landfill, other disposal†</td>
<td>82,510</td>
<td>112,640</td>
<td>134,420</td>
<td>145,330</td>
<td>140,260</td>
<td>142,320</td>
<td>132,950</td>
<td>131,770</td>
<td>132,270</td>
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<td><strong>Pounds per Person per Day</strong></td>
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**Notes:**
- Recovery for composting
- Total Materials Recovery
- Discards after recovery
- Combustion with energy recovery**
- Discards to landfill, other disposal†

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<tr>
<td><strong>Negative</strong></td>
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<tr>
<td><strong>Total Materials Recovery</strong></td>
<td>0.17</td>
<td>0.22</td>
<td>0.35</td>
<td>0.73</td>
<td>1.35</td>
<td>1.48</td>
<td>1.47</td>
<td>1.53</td>
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<td>Discards after recovery</td>
<td>2.51</td>
<td>3.03</td>
<td>3.31</td>
<td>3.84</td>
<td>3.39</td>
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<td>2.90</td>
<td>2.88</td>
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<td>Combustion with energy recovery**</td>
<td>0.00</td>
<td>0.01</td>
<td>0.07</td>
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<td>0.58</td>
<td>0.52</td>
<td>0.56</td>
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<td>Discards to landfill, other disposal†</td>
<td>2.51</td>
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<td>3.24</td>
<td>3.19</td>
<td>2.73</td>
<td>2.63</td>
<td>2.38</td>
<td>2.32</td>
<td>2.31</td>
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<td>Population (thousands)</td>
<td>179,979</td>
<td>203,984</td>
<td>227,255</td>
<td>249,907</td>
<td>281,422</td>
<td>296,410</td>
<td>307,007</td>
<td>311,592</td>
<td>313,914</td>
<td>316,129</td>
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Texas Recycling Data Initiative (TRDI)

• Led by the State of Texas Alliance for Recycling (STAR)
• Collaborative effort to measure recycling in the state of Texas
• Voluntary approach to data gathering
• Confidential process
• Baseline MSW recycling rate for 2013 is 18.9 percent
TRDI Data

Food and Beverage Materials

The Story
The primary method to divert discarded food and beverage materials from disposal is through composting. Select municipalities in Texas have developed curbside programs to divert food scraps generated from households. In addition, select food service establishments have developed programs to divert this material. In some cases, agricultural operations and food product manufacturers may divert pre-consumer food and beverage materials via composting. The Project Team asked that compost/mulch production facilities report this material separately in order to distinguish between MSW and non-MSW material. However, many compost/mulch production facilities were not able to separately report non-MSW materials; therefore, the total number of food and beverage materials reported above does include some non-MSW material.

19,768 tons

Confidence: Strong

TRDI Survey Data: 19,768 tons
Facilities Responding: 6 compost/mulch production facilities

The responsive facilities represent most of the key compost/mulch production facilities in Texas that compost food and beverage materials. In fact, the Project Team identified only two unresponsive facilities known to compost food and beverage materials.

As previously discussed under “Biosolids,” conducting a comprehensive survey of compost/mulch production facilities in Texas is a significant challenge. There were 81 compost/mulch production facilities that did not respond to the TRDI survey. However, the Project Team expects that very few of these facilities, if any, compost food and beverage materials.

Supplemental Data: None

The Project Team relied on the TRDI survey to collect all data related to food and beverage materials and did not identify available supplemental sources of statewide data covering Texas.
Purpose of Project
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
Purpose of Project (cont.)

Participation by City of Houston

- One of largest cities in the U.S.
- Population over 2.1 million
- Desire to more cost effectively divert food waste from commercial establishments

Participation by City of Sugar Land

- Rapidly growing suburb
- 25 miles southwest of Houston
- Population of 85,000
- Continued growth increases need for economical food waste diversion
Scope of Analysis

1. Finalize scope
   - Strategy meeting with H-GAC, Houston, and Sugar Land

2. Interviews and research
   - Develop list of challenges

3. Develop solutions to address challenges
   - Practical and economical

4. Produce action plan
   - Specific steps to jump start commercial food waste collection

5. Prepare and conduct workshop
   - Detail findings and recommendations
Research
The Project Team conducted a thorough and exhaustive research of statewide initiatives regarding food waste collection in the United States.

State Programs
The Project Team conducted a thorough and exhaustive research of current successful commercial food waste collection programs in select cities across the United States.
Research – Other Entities

The Project Team conducted a thorough and exhaustive research of current successful commercial food waste initiatives within the United States.
Food Waste Research Map – Entities Researched

- County, Non-Profit, Other Entities
- State Agencies
- Cities
Research (cont.)

Massachusetts

- <10 percent of food waste is currently being diverted
- Solid waste master plan goal: to divert at least 35 percent of source separated organics from landfills by 2020
- Tasks to meet master plan objectives include:
  - Increased Composting Capacity
  - Regulations
  - Route Density
  - End Markets
Research (cont.)

New Hampshire

- Current rules are a barrier for successful food waste diversion
- State offers two types of composting permits
  - **Permit-by-Notification**: <30 tons per day. Does not allow the processing of meat or dairy products.
  - **Standard Permit**: >30 tons per day. Allows the processing meat and dairy.
Research (cont.)

Vermont

- Most aggressive ban on organics
- Phased approach
  - Recyclables by July 1, 2015
  - Leaf, yard debris, and clean wood by July 1, 2016
  - Food scraps (in phases) by 2020

<table>
<thead>
<tr>
<th>Year</th>
<th>Tons/Week</th>
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<tr>
<td>2014</td>
<td>&gt;2</td>
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<tr>
<td>2015</td>
<td>&gt;1</td>
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<tr>
<td>2016</td>
<td>&gt;1/2</td>
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<tr>
<td>2017</td>
<td>&gt;1/3</td>
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<tr>
<td>2020</td>
<td>&gt;0</td>
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Research (cont.)

Vermont (cont.)

• Materials Management Map
  – Connects haulers, generators, and composters
City of Plano (TX)

- Grant funded program in 2000
- Peaked in 2006 with 120 stops
- Removed schools and businesses due to contamination – only 10 percent decrease
- City collects and transports to the City’s compost site (NTMWD Landfill)
- Material marketed as Texas Pure Products
Research (cont.)

City of Atlanta (GA)

- Four Zero Waste Zones
  - Downtown Atlanta
  - Midtown Atlanta
  - Hartsfield-Jackson Atlanta International Airport
  - Buckhead

- Goal of diverting the maximum amount of recyclable items and organic matter from landfills

- Zero Waste Zone participants pledge to implement and maintain certain criteria
City of Portland (OR)

- Goal to increase recycling rate to 75 percent by 2015
- To assist, City created *Sustainability at Work* department.
  - Offers a listing of over 40 permitted commercial haulers
  - Assists Portland businesses advance green initiatives in the workplace
Fork it Over! (OR)

• Created by Portland Metro Department in 2004, now managed by Portland State University
• Promotes connections between food rescue agencies and food generating businesses.
• “Match + Find” feature
  – Allows entities to select various food types
  – Supplies a listing of food rescue agencies
Match + Find

Always call ahead to confirm hours of operation, acceptable food types, and available services.

Central City Concern
232 NW 6th Ave
Portland, OR 97209
Website

New Avenues for Youth
1220 SW Columbia St
Portland, OR 97201
Website

Urban Gleaners
15 SE 6th Ave
Portland, OR 97214
Website

Janus Youth Programs
707 NE Couch
Portland, OR 97232
Website

All Saints Episcopal Church - Hot Meals
4033 SE Woodstock
Portland, OR 97206
Website

Neighborhood House, Inc. Emergency Food
Research (cont.)

Onondaga County Resource Recovery Agency (NY)

- Non-profit waste management organization that manages waste for 33 of 35 municipalities in the county. Facility opened in 1994 to compost yard trimmings and initiated a food waste pilot program in 2008. The facility was redesigned and retrofitted in 2013 to better handle large amounts of food waste.

- 44 businesses and institutions participate in the food waste program. The facility is permitted for 9,600 tons/year of food waste and 48,000 cy/year of yard trimmings.
Research (cont.)

Charleston County (SC)

- Largest compost producer in the state, and one of the largest on East Coast
- Program was initiated as a pilot in 2010. In 2012, the county received a permit to process food waste; the facility processes approximately 59,000 tons per year of material
Hilton Americas-Houston

• Connected to George R. Brown Convention Center
• Green Seal – Silver Level
• Started food composting in 2008
• Just started 60-day beta test
Illinois Food Scrap Coalition

- Includes approximately 150 organizational and individual members who encourage food scrap composting across the state. Assists in developing contracts for universities, hospitals, grocery stores, schools, etc.

- Vast resources such as:
  - Spotlights
  - EATS (A How To Guide)
  - FAQs
Ample Harvest (NJ)

- 501(c) charitable organization
- Started in 2009
- Internet resources to enable food pantries to accept excess harvest from local growers.
Interviews
## Project Interviews

The project team conducted over 25 interviews with cities, generators, processors, and haulers located in the H-GAC area.

<table>
<thead>
<tr>
<th>Generators</th>
<th>Haulers</th>
<th>Processors</th>
<th>Other</th>
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<tbody>
<tr>
<td>El Tiempo (Restaurant)</td>
<td>Waste Management</td>
<td>New Earth</td>
<td>City of Houston</td>
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<td>Radical Eats (Restaurant)</td>
<td>Liquid Environmental Solutions</td>
<td>Living Earth</td>
<td>City of Sugar Land</td>
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<td>Ruggles Green (Restaurant)</td>
<td>Nexus Disposal, LLC</td>
<td>Nature’s Way</td>
<td>Pat Greer, Chef and Eco-Ology Host</td>
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<td>University of Houston, Sustainability Dept.</td>
<td>Little Joy Recycling</td>
<td>Waste Management</td>
<td>SMART Recycling of South Carolina, LLC</td>
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<td>Tap, Inc.</td>
<td></td>
<td>Texas Restaurant Association</td>
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<td>Sysco</td>
<td>City of Tucson</td>
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<td>Greater Houston Restaurant Association</td>
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<tr>
<td>Hilton Americas - Houston</td>
<td>City of Plano</td>
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<td>Feeding America</td>
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<td>Houston Food Bank</td>
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Generator Questions

- How much and what types of waste does your business generate?
- Do you currently separate materials for recycling and/or food waste diversion?
- Are you open to other collection options for your current services?
- Do you believe your business would be able to decrease its current trash services through a food waste diversion program?
- What would discourage you from establishing a food waste diversion program?
Ruggles Green

- Houston’s 1st certified green restaurant
  - Awarded a 4-star certification from the green restaurant association
- Restaurant currently separates pre-consumer food waste in 6-10 gallon containers
- Created a local network with farmers who retrieve food waste once per week for composting
- Noted educational barriers, liabilities, and higher contamination rates associated with food composting
Radical Eats

- Provides locally sourced cuisine in the Montrose corridor of Houston
- Currently uses private trash and recycling services
- Restaurant does not currently generate much pre-consumer food waste, however would be interested in participating in a local program if one were available
- Diverts excess edible food to local women’s shelters
- Owner is familiar with restaurants and associations in the area who may be interested in participating in a food waste program

Restaurant is closed as of May 24, 2015
Texas Restaurant Association (TRA) & Greater Houston Restaurant Association (GHRA)

- Associations were initially formed to assist the State and City address health code issues.
- Restaurant industry trends are focused on sustainability, locally sourced cuisine, and food packaging.
- GHRA was instrumental in providing NewGen with a list of restaurant contacts in the Houston area.
- The following issues were cited as major obstacles in establishing a food waste program:
  - Restaurants operate on narrow profit margins
  - Complying with health code regulations
  - Inherent opposition to more oversight and paperwork
Collector Questions

• Do you have any experience collecting food waste?
• What is your interest in food collection?
• What concerns would you have about adding food waste collection as a service?
• Where would the food waste be diverted?
• What barriers do you anticipate with the implementation of a food waste collection program?
Liquid Environmental Solutions (LES)

- Recycles the following forms of liquid and environmental waste:
  - Grease traps, cooking oil, food waste, grit traps, wastewaters, liquefied food waste
- Typically services large food manufacturers, grocery stores, and college institutions
- Utilizes a food liquefying system that is installed onsite for LES’ customers
- All types of food can be easily disposed of into this system as it reduces 10 lbs. of food into a 1 gallon container
Nexus Disposal, LLC

- Mid-sized collection company located in the City of Houston
- Operates front-load collection and roll-off container trucks
- Provides food waste collection services on a limited basis
- A lack of route density is the primary collection challenge for the company
- Interested in collecting more food waste if route density issue could be resolved
Little Joy Recycling

• Operates a small scale recycling collection operation

• Developed a niche recycling service designed to meet company specific needs

• Currently collects mixed glass, mixed paper, all plastics, cardboard, metal, aluminum, and all electronics.

• Company would consider expanding into the commercial food waste collection business if enough interest and commitment is generated from the community
Processor Questions

- What tier of regulatory authorization do you operate under?
- Do you have any experience processing food residuals?
- Are you operating at site capacity?
- Where would the food waste be diverted?
- What barriers do you anticipate with the implementation of a food waste collection program?
New Earth

• Currently operates a registration-tier site in Conroe, TX
  – Accepts vegetative material, biosolids, and food residuals
  – Processes food residuals from large food manufactures (up to three roll-off containers a week) and emulsified feedstocks from the Houston Food Bank
  – Facility can accept an additional 400 tons of food residuals per week

• A notification-tier and registration-tier site is underway near Katy, TX
  – Facility will accept food waste, various feedstocks, and biosolids
  – Facility will be able to accept up to 800 tons of food residuals per week
Nature’s Way Resources

• Currently operates a facility in Conroe, TX under a notification-tier, with special authorization to accept food residuals
  – Accepts meat and animal products, dairy tank wash-down and beverages, and other feedstocks

• The active composting process is located on approximately 26 acres and employs static-pile processing

• Presently accepts some material from “Produce Row” and management would be interested in the potential of expanding services to also accept food residuals from the Exxon campus being developed in the Woodlands
Living Earth (LETCO)

• Operates 11 mulch and compost sites in the Houston area
  – All sites are currently exempt-tier facilities and process vegetative feedstocks using static pile techniques
  – LETCO will consider upgrading selected facilities to notification-tier on a case-by-case basis

• Cutten Road is the largest LETCO facility and processes pre-consumer vegetative food residuals

• Cutten Road and Iowa Colony facilities are the most conducive to expansion

• The Beltway 8 facility currently processes about 3 loads of food residuals per day, mostly from “Produce Row”

• LETCO does not currently accept liquid wastes
Processing Panel
11:30 AM – NOON
Findings
1. Benefits

Benefits of diverting food waste from landfills are innumerable.
Food Recovery Hierarchy

Most Preferred

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

Least Preferred
2. Excess Capacity

H-GAC area compost processors have significant excess capacity to accept additional food waste.

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.
3. Current Activity

Some grocery stores and commercial food processors in the H-GAC region are currently active in food waste diversion.
Increased awareness and education regarding TAC Title 30, Chapter 332, which outlines the requirements for composting, is important.
5. Lack of Collection Companies

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.

Premium Costs for Service

Route Density Challenges
6. Building Layouts

Building designs/layouts present challenges for food waste collection containers.
7. Pre-consumer Food Waste

Restaurants are not typically large generators of pre-consumer food waste.
8. Contamination

Most compost processors are hesitant to accept post-consumer food waste due to contamination issues.
Many businesses who already participate in a food waste program do so because of their dedication to sustainable practices.
10. On-going Education

Successful commercial food waste collection programs require on-going education.
Keep Good Food Out of Your Garbage Pail and Kitchen Sink

Don't Feed High-Priced Human Food to Hogs or Chickens

WASTE NO FOOD!

HOUSEHOLD WASTE ABOUT 700 MILLION DOLLARS

For partial immediate relief, every individual and community should consider carefully the matter of food conservation and the limitation of waste. As a nation we seem to have a disdain of economizing. In many homes there is a strong feeling that it is only decent to provide more food than will be eaten and that it is demeaning to reckon closely. The experts of the Department of Agriculture report to me that the dietary studies made by them point to an annual food waste of about $700,000,000. Of course, the waste in families of very limited means is slight, but in the families of moderate and ample means the waste is considerable. Even if the estimate were reduced by half, the waste would still be enormous.

The food waste in the household, the experts assert, results in large measure from bad preparation and bad cooking, from improper care and handling, and in part to deficiencies, from serving an undue number of courses and an over-abundant supply and failing to save and utilize the food not consumed.

As an instance of improper handling, it is demonstrated that in the preparation of potatoes 20 per cent of the edible portion in many cases is discarded. —Secretary of Agriculture, March 5, 1917.

FOOD IS WASTED

When anything edible is allowed to go to the garbage pail or allowed to spoil for lack of proper handling

FOOD IS WASTED

When too much is served at a meal. Unsold portions are left on the plate and later thrown into the garbage pail. Learn to know the needs of your family and serve each no more than you think he will want.

When too much is prepared for a meal. Unsold portions are likely to be thrown into the garbage pail or allowed to spoil. Many housekeepers do not know how to use left-over foods to make appetizing dishes.

FOOD IS WASTED

When burned or spoiled in cooking. Improperly prepared or poorly seasoned food will be left on the table and probably wasted. Buy food wisely and then prepare it carefully.

When handled carelessly. Buy clean food, keep it clean until used, and be neat in all details of cooking and serving. This lessens waste and is a valuable health measure as well.

DEMONSTRATE THRIFT IN YOUR HOME
MAKE SAVING, RATHER THAN SPENDING, YOUR SOCIAL STANDARD

Begin to save today. For practical advice on how to feed your family efficiently and make the most of the food you buy or raise write to day to your State Agricultural College, to your county agent, or to the

U.S. DEPARTMENT OF AGRICULTURE
WASHINGTON, D.C.

U.S. Department of Agriculture Poster – 1917

(source: National Agriculture Library)
11. Three Primary Factors

Successful Food Waste Diversion Program
Whole Foods
1:30 PM – 1:50 PM
Southwest Region: Texas, Oklahoma, Arkansas, Louisiana.
Our Core Values
What’s truly important to us as an organization

1. We Sell the Highest Quality Natural and Organic Products Available
2. We Satisfy, Delight and Nourish Our Customers
3. We Support Team Member Excellence and Happiness
4. We Create Wealth Through Profits and Growth
5. We Serve and Support Our Local and Global Communities
6. **We Practice and Advance Environmental Stewardship**
7. We Create Ongoing Win-Win Partnerships with Our Suppliers
8. We Promote the Health of Our Stakeholders Through Healthy Eating Education
The Green Mission Team was created to focus on our Environmental Stewardship Core Value.

Over the years the Green Mission Team has expanded into many areas, including:

1. Energy efficiency
2. Alternative Energy
3. Packaging
4. Construction
5. Community clean ups
6. Transportation
7. Zero Waste

The Green Mission team has grown to include members from every level of the company.
In existing stores, with energy retrofits and behavioral changes, **we’ve reduced our kWh usage by an estimated 185 million kilo-watt hours**. Since most of our electricity is generated by burning fossil fuels, this means we’ve:

- **Reduced our CO2 emissions by 130,571 tons**
- That’s like taking 27,202 cars off the road for a year!
- That’s equivalent to the energy used to run 15,098 homes for a year

This only in **existing store retrofits**, not including new stores. **New stores are typically 20-40% more efficient than stores built just 5 years ago.**
WHOLE FOODS MARKET WOODLANDS
ONE OF THE LATEST ADDITIONS TO THE HOUSTON AREA MARKET
High efficiency, low flow plumbing fixtures are integrated throughout the store, contributing to a significant reduction in our overall indoor potable water usage.

WATER CONSERVATION

Indoor and Outdoor Water Efficiency
RECLAIMED MATERIALS

A majority of the materials installed throughout our store were reclaimed from old buildings, barns, and rural structures, including:

- **Brick** – The brick veneer used at the bar is cut from reclaimed St. Louis Red bricks.
- **Oak Wood** – The Oak wood that is used throughout the store is a combination of reclaimed antique Red Oak and locally sourced Texas Post Oak.
- **Route 66 Truck Deck Wood** – The dark wood at the bar is reclaimed from the truck decks of tractor-trailers. These trucks traveled Route 66 transporting goods across the country.
LOW VOC

Low-Emitting Materials - 100% of all paint, adhesives, and sealants used throughout the store are low in VOC’s (volatile organic compounds). To varying degrees, VOC’s contribute to the depletion of the ozone layer and can create adverse health effects in humans.
NATIVE LANDSCAPING

All new stores in the Southwest Region have native landscaping.
ELECTRIC VEHICLE CHARGING STATIONS

By ChargePoint

Our store has four Electric Vehicle Charging Stations for use by our guests and Team Members.
• **Night curtains** on multi-decks provide roughly 50% energy savings.
• **LED lights** are used in most cases.
• **High efficiency fan motors** are used in every case and walk-in
• A loop piping design was used for the DX low and medium temperature refrigerant piping to **minimize the total refrigerant charge** in the system.
• The refrigerant used in the system, **R-407a**, has an Ozone Depletion Potential of zero (0) and is more energy efficient for low and medium temperature operation than other comparable refrigerants that could have been used.
• **Anti-sweat controls** on doored cases.
ENERGY EFFICIENCY

• **Electricity usage monitoring** is used to identify energy wasting behavior, potential equipment damage, and plan for more efficient systems in future stores.
• **Automatic lighting controls, occupancy sensors**
• Daylight harvesting.
• **Energy efficient LED** installed throughout much of the store further reduce the energy consumption of the electric lighting system.
As the **first nationally certified organic grocer in the US**, we offer you the biggest and best choice we possibly can because it's an important part — perhaps the most important part — of our commitment to you and the planet.

Choosing organic supports farmers and producers who believe in good health, quality foods and earth-friendly sustainable agricultural practices. And that's good for everyone, from the farm worker to the planet to your family — and future generations too.
• We make sure whenever possible that the trucks are full both ways – by backhauling OCC Cardboard bales, stretch plastic bags, Seafood containers, pallets, #5 recyclables, Corks, etc.
• We also buy from local vendors when possible, to reduce transportation miles for our products.
• Biodiesel — We are gradually converting our truck fleet to biodiesel fuels
• Our fleet is also being fitted with aerodynamic aprons.
• By keeping speeds down, the trucks run more efficiently – all of our trucks are kept at 55 MPH
• These trucks also use a fuel-saving (and emissions-cutting) system that allows the engine to be turned off completely at loading and delivery, rather than remain idling.
ZERO WASTE GOAL
STARTING OUR PROGRAM

• We began by conducting waste audits, determining what kind of wastes we are generating.
• Then we began finding outlets to repurpose, reuse, and recycle as many categories of waste as we could.
• Team Members at all of our stores began looking to partner with local organizations to repurpose our materials. We work with Food Banks, Zoos, and community organizations to repurpose materials that would otherwise be wasted.
• We are working to educate our Team Members and guests with store events, store Team Member trainings, and signage.
• We are currently working on reporting. Currently, we are looking into working with the US Zero Waste Business Council to certify our stores Zero Waste. Reporting is an ongoing challenge for us, but it is the next step in monitoring our progress and improving our diversion rate.
Waste Materials to Repurpose:

- **Donations**
  - Food donations
  - Animal Food Donations
  - Products (Whole Body)

- **Recyclables**
  - Used cooking oil
  - Cardboard
  - Batteries
  - Lamps
  - Textiles
  - Ink cartridges
  - Shrink wrap/plastic
  - Plastic
  - Glass
  - Paper
  - Metal

- **Compostable**
  - Food Waste
  - Coffee Grounds

- **Landfill**
  - Food soiled plastic gloves
  - Food soiled Styrofoam

**WHAT ARE WE GENERATING?**
STRATEGY

• Have a diversion plan in place for all waste materials
• Make it easy for TM’s to use—have a place for everything.
• Get Team Members excited!
RECYCLING STATIONS:
Many Regions (North Atlantic, pictured here) also invite customers to bring in recyclables, including light bulbs, cell phones, batteries, etc.
Donations

Product/food that we are removing from the shelves is donated to local food banks, shelters, and other non-profit organizations.
Animal food donations create fun for the whole family… The primate family.

Whole Foods Market Vineyard donates bulk nuts and fruits to the Born Free Primate Sanctuary in San Antonio. They hide the nuts inside these cardboard tubes for a fun, problem solving game.
ARABELLA STATION LOVES ELEPHANTS

Whole Foods Market Arabella Station in New Orleans donates fruit to their local zoo. One elephant hides oranges and goes back to get them after her buddies have wandered off in search of their next adventure.
Whole Foods Market Baton Rouge donates compost to local pig farmers.
Many stores have a local comingling program, and many stores separate out plastics and send them to our go to the Southwest Distribution Center.

All stores have a comlinged recycling program where this service is available.
Plastics

Many stores in the Southwest Region separate out plastics and send them to the Southwest Distribution Center.

Tetra – Paks

Many stores in the Southwest Region partner with Break It Down, a local recycling company.
Many stores recycle their textiles (uniforms, aprons) with American Textile Recycling Services (ATRS) collects, sorts, donates and resells misfitting, used and out of style clothing, shoes, toys and household goods from all over the country. We create jobs in local communities and emerging nations and keep millions of tons of textiles out of landfills every year.
Many stores, including the Woodlands store in Houston, use a composting grinder. We are looking to expand this program in Houston.
SW REGION ZERO WASTE PROGRESS

38% 62%

1. Need to **improve Team Member and Guest Education**.

2. Need to do waste audits on stores with low diversion rates.

3. Looking for options to dispose of problematic waste streams, including:
   a. **Food soiled Styrofoam**
   b. **Food soiled plastic gloves**.

- Food bank donations
- Pet/Animal Food Donations
- Compost giveaway
- Single Stream Recycling
- Compost Pick Ups
- Backhauling cardboard to SWD
- Tetra Paks
- Used Cooking Oil
- Lamp recycling
- Battery Recycling
- Styrofoam Re-Use
THANK YOU!

Southwest Region Green Mission Program

Energy Efficiency  Construction  Transportation  Zero Waste
Recommendations
Project Recommendations

Short-Term Recommendations
(first twelve months)

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

2. Coordinate education and outreach
   – Develop educational materials and social media for different audiences

3. Clarify materials accepted by compost processors
4. Discuss potential tiered rate structure for food waste with compost processors
   - Food wastes high in liquid content may warrant a discount due to their water content, as it would reduce the amount of water required in the composting process

5. Focus initial food waste diversion efforts on commercial food processors, wholesale food distributors, and grocery stores
   - These entities account for 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

7. Pursue liquid food processors
   - Liquid material reduces the amount of water required during the composting process

8. Follow up with collection companies regarding expansion into food waste

9. Identify compost processing facilities with crush pads
   - The Houston Food Bank and Sysco are examples of entities that landfill certain foods because they do not have a process to extract the food from the containers in a cost effective manner
10. Examine Hilton Americas-Houston “beta results”
   – They are testing a machine that extracts all liquid from food waste so that food waste can be placed in a compactor and sent to a compost facility

12. Develop a database to track generators, collectors and processors of food waste – location, volumes, frequency, etc.

13. Coordinate with the Cities of Houston and Sugar Land’s Departments of Health (regarding the requirements for food donations).
14. Explore opportunities with Exxon Corporate Campus
   - EXXON is planning to develop a “green” campus for 10,000 – 12,000 employees in the Woodlands

15. Coordinate food waste diversion programs with restaurants

16. Explore food waste diversion to farms
17. Undertake a feasibility study regarding Produce Row to determine if there is available area to develop a compost processing site.

- This would be an advantageous siting opportunity, specifically as it relates to less expensive collection and hauling costs.
Collection Panel
2:20 PM – 2:40 PM
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**Short-Term**

1. Host quarterly commercial food waste roundtable
2. Coordinate Education and outreach
3. Clarify materials accepted by compost processors
4. Discuss the potential for a tiered rate structure for incoming food waste
5. Focus initial food waste diversion efforts on commercial food processors, distributors, and grocery stores
6. Pursue food waste on Produce Row
7. Pursue liquid food processors
8. Follow up with collection companies regarding expanding their services to include food waste
9. Identify compost processing facilities with crush pads
10. Examine Hilton Americas-Houston "beta results"
11. Begin development of a GIS database of food waste generators, collectors, and processors
12. Develop a database to track generators, collectors, and processors - locations, volumes, etc.
13. Coordinate with the departments of health regarding food donations "health requirements"

**Mid-Term**

14. Explore opportunities with Exxon Business Campus
15. Coordinate food waste diversion programs with restaurants
16. Explore food waste diversion to farms

**Long-Term**

17. Undertake a compost processing site feasibility study near Produce Row

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Legend:
- **Meeting**
- **Primary Focus**
- **Ongoing, but not a primary focus**
- Document generated regarding a conclusion/finding/materials developed/other
- **Update database/records**