FOOD WASTE PREVENTION:

YOU ARE WHAT YOU EAT ... OR DON’T EAT

Woody Raine
Austin Resource Recovery
Your friend: “I don’t eat leftovers.”

What do you say?
Will work for food
Wasted Food: U.S. Awareness, Attitudes, and Behaviors

Johns Hopkins University survey (6/10/15)

Discarding food *doesn’t bother them* because:

- They compost it (41%)
- It breaks down in a landfill (31%)

http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0127881
LANDFILL GAS WELLS

08/14/2014

Landfill gas wellhead
U.S. Methane Emissions, By Source

- Natural Gas & Petroleum: 29%
- Enteric Fermentation: 26%
- Landfills: 18%
- Coal Mining: 10%
- Manure Management: 10%
- Other: 8%

from the Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2013
SYSTEMS-BASED VIEW OF US GHGs (2006)

- Provision of Goods: 29%
- Building HVAC & Lighting: 25%
- Local Passenger Transport: 15%
- Provision of Food: 13%
- Use of Appliances & Devices: 8%
- Other Passenger Transport: 9%
- Infrastructure: 1%

Total: 100%
LIFE CYCLE ANALYSIS

GHG Emissions per Ton of Food (MTCO$_2$e) Composted

- Composting: 0.15
- Landfilling: 0.71

Total avoided: 0.86 MTCO$_2$e
GHG Emissions per Ton of Food (MTCO$_2$E) Source Reduced

- 3.66 Upstream
- 4.37 MTCO$_2$e avoided
- 0.71 Landfilling
Avoided Emissions

<table>
<thead>
<tr>
<th></th>
<th>Farm Supplies</th>
<th>Farm</th>
<th>Processing</th>
<th>Distribution</th>
<th>Cooking &amp; Storage</th>
<th>Waste</th>
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</thead>
<tbody>
<tr>
<td><strong>Avoided Emissions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not Landfilling</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Composting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

| Avoided Emissions              | Not Landfilling | 0.71 |
| Composting                     | 0.15            |
| Total                          | 0.86            |

<p>| Avoided Emissions              | Not Landfilling | 0.71 |
| Source Reduction               | 3.66            |
| Total                          | 4.37            |</p>
<table>
<thead>
<tr>
<th>Item</th>
<th>Farm Supplies</th>
<th>Farm</th>
<th>Processing &amp; Storage</th>
<th>Distribution</th>
<th>Total CO₂e/250g</th>
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<tbody>
<tr>
<td>Lettuce</td>
<td>0.16</td>
<td>0.58</td>
<td>0.42</td>
<td>0.05</td>
<td>1.2</td>
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<tr>
<td>Strawberries</td>
<td>0.11</td>
<td>0.43</td>
<td>0.21</td>
<td>0.06</td>
<td>0.8</td>
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<tr>
<td>Mushrooms</td>
<td>0.41</td>
<td>0.03</td>
<td>0.04</td>
<td>0.03</td>
<td>0.5</td>
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</table>

<table>
<thead>
<tr>
<th>One Ton of ...</th>
<th>Upstream (Emissions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food</td>
<td>3.66</td>
</tr>
<tr>
<td>Beef</td>
<td>30.05</td>
</tr>
<tr>
<td>Poultry</td>
<td>2.47</td>
</tr>
<tr>
<td>Bread</td>
<td>0.67</td>
</tr>
<tr>
<td>Fruits, Veggies</td>
<td>0.44</td>
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</table>
### GHG Emissions per Pound of Food

**From driving passenger vehicle __ MILES**

<table>
<thead>
<tr>
<th>One Pound of ...</th>
<th>Upstream (Miles)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food</td>
<td>4.4</td>
</tr>
<tr>
<td>Beef</td>
<td>35.8</td>
</tr>
<tr>
<td>Poultry</td>
<td>2.9</td>
</tr>
<tr>
<td>Bread</td>
<td>0.8</td>
</tr>
<tr>
<td>Fruits, Veggies</td>
<td>0.5</td>
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</table>

EPA.gov/WARM
DO THE RIGHT THING

• **Good**: Compost and recycle
• **Better**: Be choosy about what you eat
• **Best**: Don’t eat it!
Recovering Food

Keeping food out of the landfill not only saves money, conserves natural resources, and reduces climate change impacts caused by the methane produced by food waste, it is also a critical step in reducing food insecurity. The City of Austin is pursuing the goal of zero waste through various composting initiatives and pilot programs. Any efforts to reduce wasted food should follow the Food Waste Hierarchy: first, food for humans; then animals; then compost; and finally, for the landfill. This approach ensures that food is redirected to those in need—while also ensuring a safe food chain.

City of Austin Actions

To demonstrate how restaurants can help meet Austin’s Zero Waste goal, Austin Resource Recovery (ARR) launched a Restaurant Composting and Recycling Pilot Program in September of 2012. Fourteen local restaurants participated in the pilot; more than half of these participating businesses experienced a considerable reduction in their trash collection service. In April of 2013, Council approved an ordinance requiring all Austin restaurants to begin composting by 2018, as well as start recycling paper, plastics, and aluminum by 2017.

Austin Resource Recovery also launched the Curbside Organics Collection Pilot for residents in 2012. Currently, approximately 14,000 households are offered weekly curbside collection of food scraps, food-soiled paper, and yard trimmings. Organic materials collected at the curb are turned into nutrient-rich compost.

Austin Resource Recovery also promotes composting through rebates and training. Since the program’s inception, more than 500 rebates have been issued and more than 1,000 residents have taken the composting training, which is offered free of charge at various locations or online, in both English and Spanish.

Value of wasted food: $208,144,169 (City of Austin)
Children who are food insecure: 25% (Travis County)
Households with curbside composting: 14,322 (City of Austin)
Food wasted annually: 194,527,260 pounds (City of Austin)
ARR composting classes offered: 50 (City of Austin)
Organic materials diverted: 3,674,000 pounds (City of Austin)
Amount of food wasted (United States): 40%
AUSTIN UNIVERSAL RECYCLING ORDINANCE
AUSTIN UNIVERSAL RECYCLING ORDINANCE

Multifamily Residential Properties

- Dwelling Units: ≥ 50 → Oct. 1 2013
- recycling: Oct. 1 2013
- Dwelling Units: ≥ 25 → Oct. 1 2014
- recycling: Oct. 1 2014
- Dwelling Units: ≥ 10 → Oct. 1 2015
- recycling: Oct. 1 2015
- Dwelling Units: ≥ 5 → Oct. 1 2016
- recycling: Oct. 1 2016
- Dwelling Units: All → Oct. 1 2017
- recycling: Oct. 1 2017

Commercial Non-Residential Properties

- Sq. Ft: ≥ 75,000* → Oct. 1 2013
- recycling: Oct. 1 2013
- Sq. Ft: ≥ 50,000 → Oct. 1 2014
- recycling: Oct. 1 2014
- Sq. Ft: ≥ 25,000 → Oct. 1 2015
- recycling: Oct. 1 2015
- Sq. Ft: ≥ 5,000 → Oct. 1 2016
- recycling: Oct. 1 2016
- Sq. Ft: All → Oct. 1 2017
- recycling: Oct. 1 2017

* ≥ 75,000 sq. ft.
Austin Universal Recycling Ordinance

- Permitted area (Sq. Ft.):
  - ≥ 15,000
  - ≥ 5,000
  - All Properties

- Organics Diversion:
  - Oct. 1, 2016
  - Oct. 1, 2017
  - Oct. 1, 2018
Affected Food Establishments:

- Restaurants
- Food retail (grocery stores)
- Catering operations
- Commercial kitchens
- Food banks
- Food processing plants and food distribution centers
- Temporary food establishments
- Mobile food vendors or food courts
COMMERCIAL FOOD SERVICE

ZERO WASTE TIP SHEET

COMMERCIAL FOOD SERVICE

ZERO WASTE TIP SHEET

SAVE MONEY, REDUCE WASTE AND COMPLY WITH THE UNIVERSAL RECYCLING ORDINANCE.

Conduct a food waste assessment to measure and track the amount, type and reason for food generation and disposal. For a quick assessment, look in containers and document the weight and types of food scraps at the end of service.

<table>
<thead>
<tr>
<th>Deadline</th>
<th>Oct 1, 2016</th>
<th>Oct 1, 2017</th>
<th>Oct 1, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Size</td>
<td>&lt; 3,000 Sq. Ft</td>
<td>&lt; 5,000 Sq. Ft</td>
<td>ALL</td>
</tr>
</tbody>
</table>

SET-UP YOUR KITCHEN (BACK OF HOUSE) FOR ZERO WASTE:

1. Disposal Stations - Landfill trash, compost and recycling containers should be located near each other and be clearly marked. Recommend black for trash, blue for recycling and green for organics.

2. Staff Training - Using disposable containers correctly is critical to the success of your program. Clearly communicate expectations and hold employees accountable. Use signs, color containers and posters for quick reminders.

3. Green Team Lead - Designate at least one supervisor or manager to regularly check containers to ensure items are properly disposed in the correct container.

4. Materials - Replace disposable items with reusable, compostable or recyclable options. For example, switch Styrofoam cups for paper cups and cloth napkins instead of paper.

5. Ask Your Staff - When designing your recycling and composting program, include staff in the decision-making process. Engaged employees can lead to better decisions, improved morale and reduced costs.

REDUCE FOOD WASTE:

- Reduce Over-Purchasing - Consider local groceries and more frequent deliveries to prevent bulk food purchases from expiring. Less than perfect food can be used in soups and casseroles or donated to local food pantries.

- Reduce Prep Waste - Train staff to use proper food preparation techniques, purchase pre-cut food and reduce batch sizes when reheating.

- Secondary Uses - Leftover bread can become croutons, leftover fruit can be a dessert topping or vegetable trimmings can form a base for soups and sauces.

- Inventory Management/Mind Your Menu - Create a system to manage foods near expiration. Promote daily specials that use foods near expiration. Consider donating to local charities.

AustinTexas.gov/URO  (512) 974-9727
AUSTIN UNIVERSAL RECYCLING ORDINANCE

MINIMUM ORGANICS DIVERSION URO REQUIREMENTS:

1. Reuse, reduction, food donation or compost
2. Back of House diversion
3. Diversion capacity $\geq$ trash
AUSTIN UNIVERSAL RECYCLING ORDINANCE

Reduce Food Waste (Back of House):

• Reduce over-purchasing
• Reduce prep waste
• Secondary uses
• Inventory management
  – Daily specials for foods near “best by” date
Reduce Plate Waste (Front of House):

- Menu modifications
- Change serving sizes and garnishes
- Encourage guests to take only what they can consume
- Go tray-less
- Condiments and cutlery behind the counter
EAT MORE TRIMMINGS TO HELP TRIM AMOUNT OF FOOD WASTED

Several Austin-area restaurants prepare dishes from often-rejected animal parts.

Several Austin-area restaurants, such as Odd Duck, prepare dishes made from often-rejected animal parts such as turkey wings, pig cheeks and ears.
RESIDENTIAL ORGANICS DIVERSION

- Curbside Organics Collection
- Home Compost Rebate
CURBSIDE ORGANICS COLLECTION

- Food Scraps
- Food-Soiled Paper
- Yard Trimmings
- Natural Fibers
HOME COMPOST REBATE

Originally

1. Take a free composting class
   
2. Downsize to a 24-gallon or 32-gallon trash cart
   
3. Purchase a home composting system
   
4. Earn your rebate
HOME COMPOST REBATE

Currently

• Choose a classroom:
  – Community classes
  – Online tutorial

• Rebate or Advance
  – Go Local Plan: $75 coupon before purchase
  – Go Anywhere Plan: $75 rebate after purchase

www.austintexas.gov/composting
<table>
<thead>
<tr>
<th></th>
<th>4 Years</th>
<th>FY10-13</th>
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<tbody>
<tr>
<td>Total Attendees</td>
<td></td>
<td>7,665</td>
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<tr>
<td>Classes</td>
<td></td>
<td>215</td>
</tr>
<tr>
<td>Total Rebates</td>
<td></td>
<td>2428</td>
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