

Tennessee Tech University
Waste Audit
Cookeville, TN



eatable

Why food waste?

Project Drawdown lists food waste reduction as the third most impactful solution to climate change.

Solutions by Rank

Rank	Solution	Sector	TOTAL ATMOSPHERIC CO ₂ -EQ REDUCTION (GT)	NET COST (BILLIONS US \$)	SAVINGS (BILLIONS US \$)
1	Refrigerant Management	Materials	89.74	N/A	\$-902.77
2	Wind Turbines (Onshore)	Electricity Generation	84.60	\$1,225.37	\$7,425.00
3	Reduced Food Waste	Food	70.53	N/A	N/A
4	Plant-Rich Diet	Food	66.11	N/A	N/A
5	Tropical Forests	Land Use	61.23	N/A	N/A
6	Educating Girls	Women and Girls	59.60	N/A	N/A
7	Family Planning	Women and Girls	59.60	N/A	N/A
8	Solar Farms	Electricity Generation	36.90	\$-80.60	\$5,023.84
9	Silvopasture	Food	31.19	\$41.59	\$699.37
10	Rooftop Solar	Electricity Generation	24.60	\$453.14	\$3,457.63

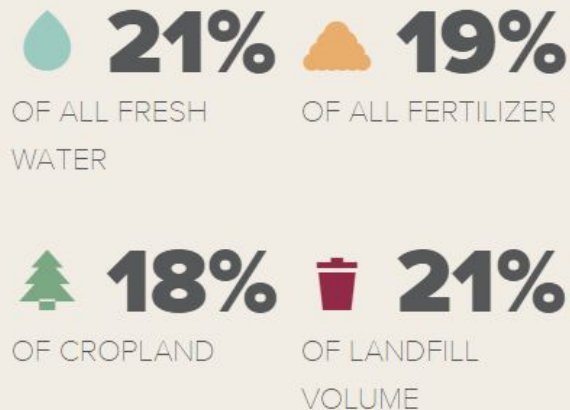
Why food waste?

THE MULTI-BILLION DOLLAR FOOD WASTE PROBLEM

Every year, American consumers, businesses, and farms spend \$218 billion a year, or 1.3% of GDP, growing, processing, transporting, and disposing of food that is never eaten. That's 52 million tons of food sent to landfill annually, plus another 10 million tons that is discarded or left unharvested on farms. Meanwhile, one in seven Americans is food insecure.

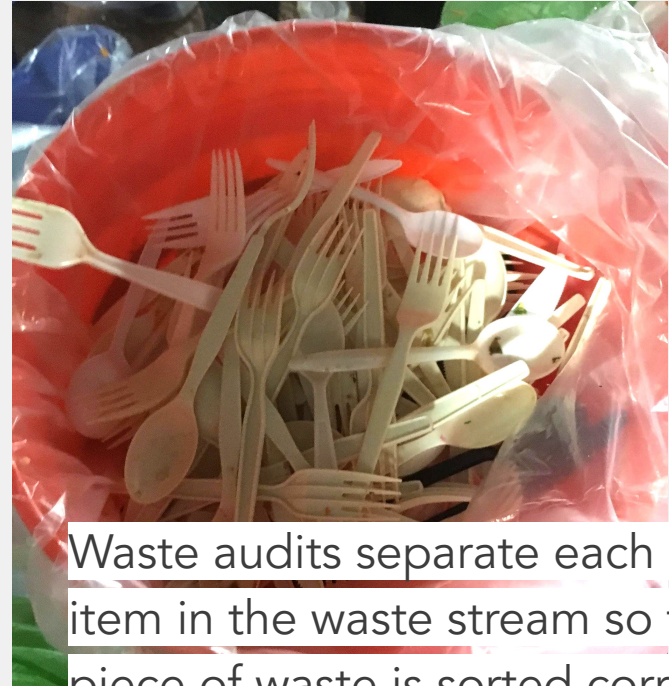
ReFED, 2018

FOOD WASTE CONSUMES:



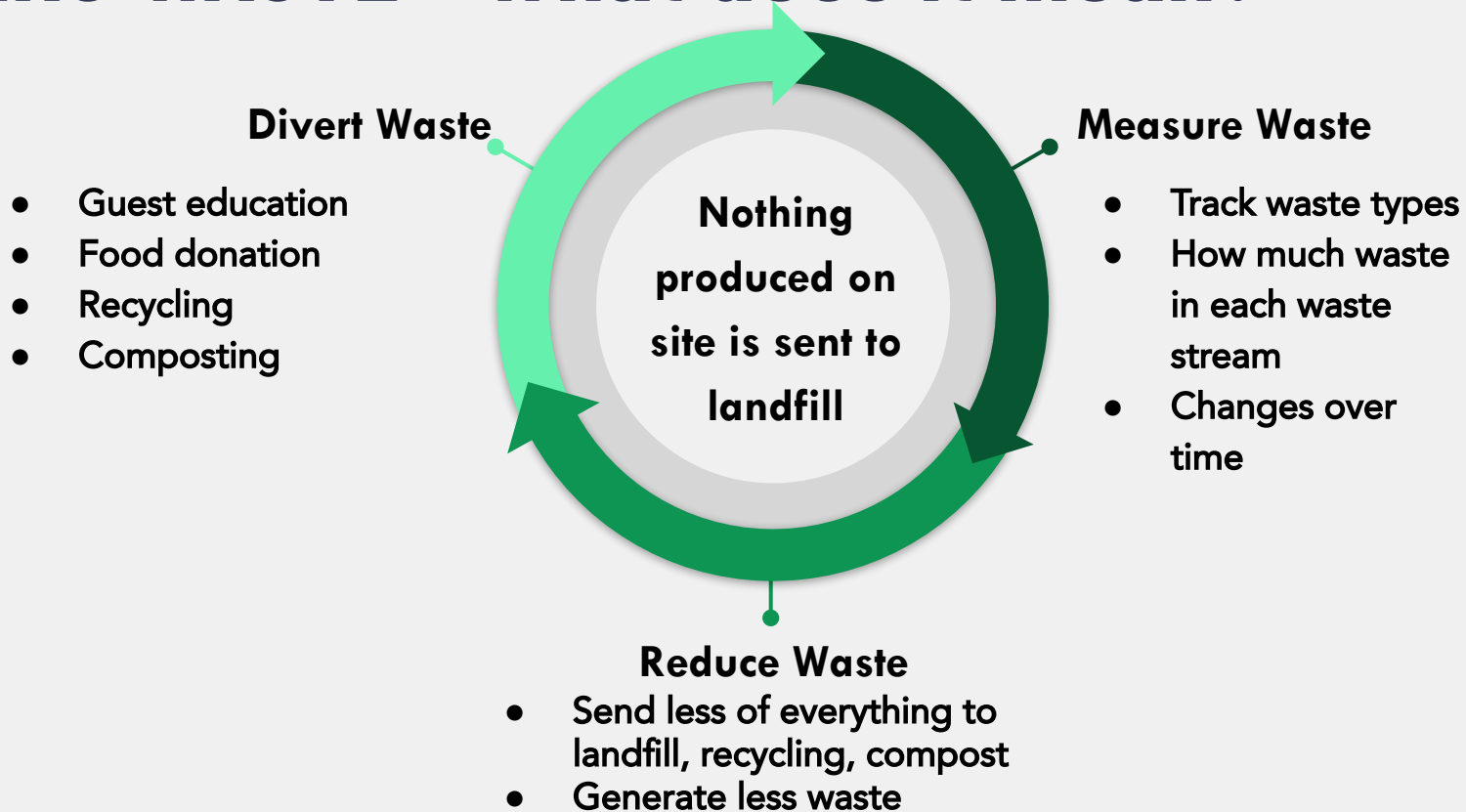
Why audit?

- Waste audits provide a snapshot of a waste stream.
- A waste audit is conducted by hand-sorting a café's waste streams into categories, and weighing the sorted waste
- Subsequent audits can be compared to the first waste audit to track progress



Waste audits separate each specific item in the waste stream so that each piece of waste is sorted correctly.

ZERO WASTE - What does it mean?



Zero Waste Approach

REDUCE waste

- Food Waste Reduction
 - Set and track par levels station by station
 - Reuse surplus product in chef specials
 - Sharing products across catering and café service
 - Guest education
- Packaging Waste Reduction
 - Encourage FOH use of chinaware, reusable containers
 - Upstream BOH solutions include switching products and working with suppliers to minimize packaging

DIVERT from landfill

- Recycling
- Food Donation
- Compost
- Food waste processors

WASTE AUDIT SETUP

Scope



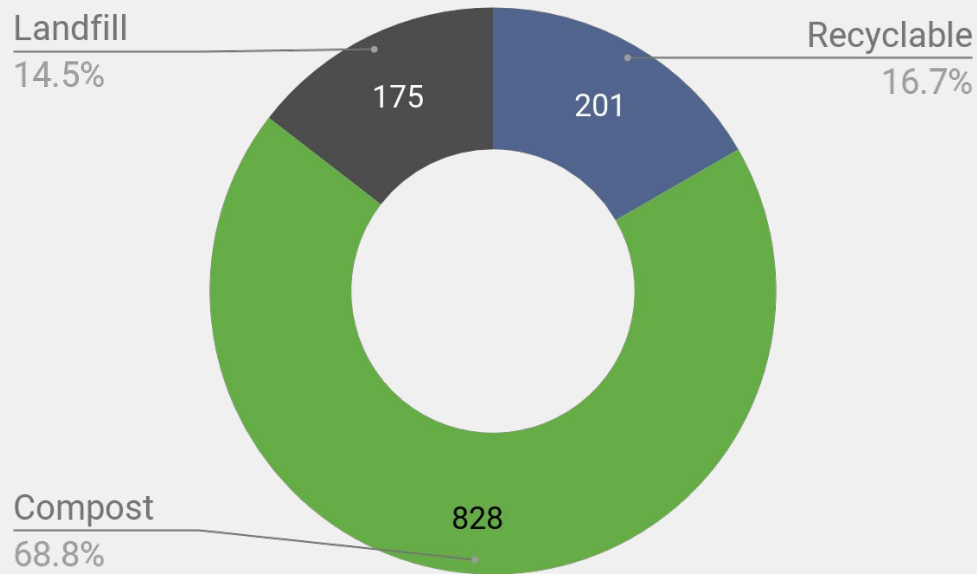
Waste Audit Scope



Waste audit setup at Tennessee Tech loading dock.

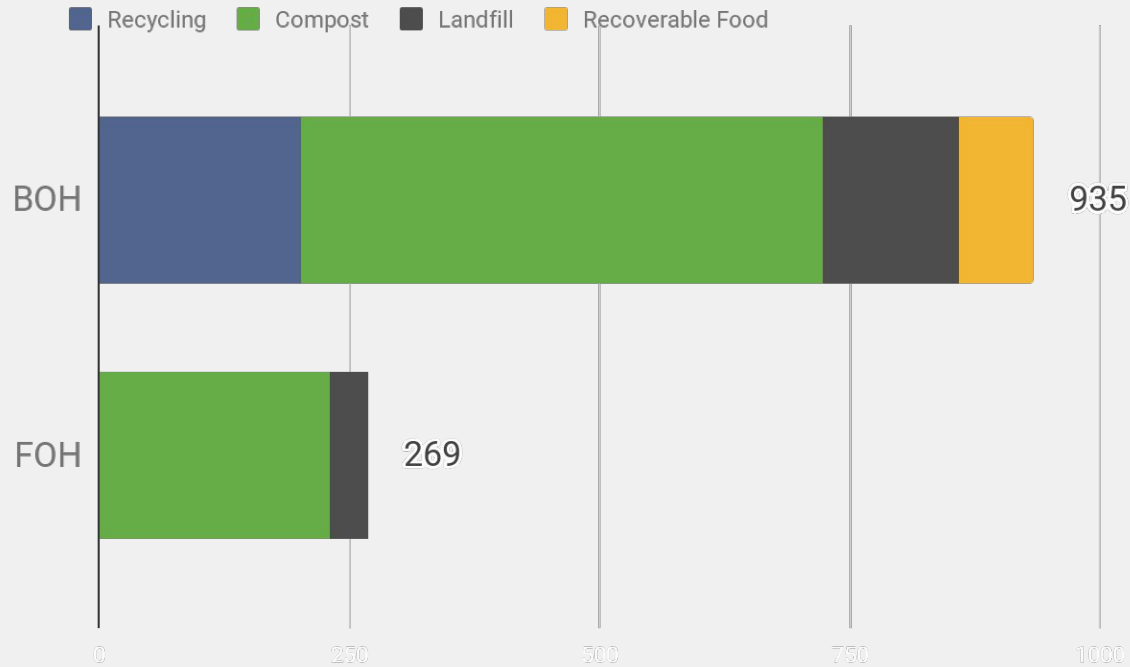
- Over 1200 pounds of waste sorted
- Sort included FOH waste designated for landfill sent to the dishroom, BOH waste designated for landfill and cardboard recycling
- Waste was collected from the entire operating day on Monday, stored overnight, and then sorted on Tuesday

Measured Daily Waste Streams



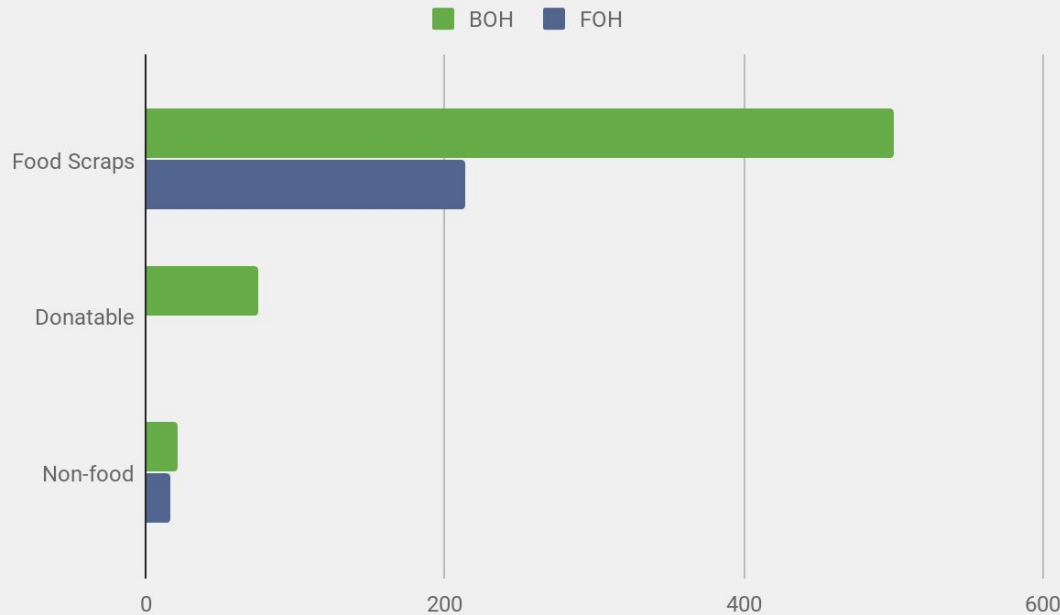
- Total FOH & BOH material surveyed:
1204 lbs
- Waste stream does not include donation numbers
 - At the end of lunch, dining hall donates 10 meals to campus pantry (from food surplus)

BOH vs. FOH Waste Streams



Compostable

Breakdown of 828 pounds of compostable material.



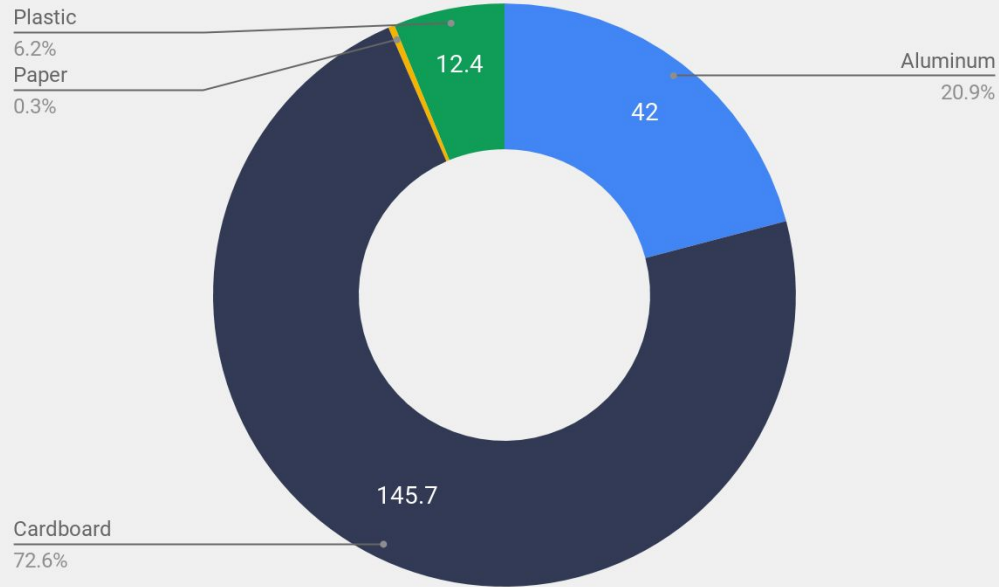
- Donatable category consists of food items that have the potential to be donated
- Non-food compostables consist of brown paper napkins and any other products that may be composted

Recyclable

BOH breakdown of 201 pounds of recyclable materials.

Almost all cardboard waste produced is recycled.

Aluminum is the next largest category to consider.



KITCHEN WASTE

Back-of-House Results



BOH Waste Reduction Recommendations

Implement composting, recycling	<ul style="list-style-type: none">• Explore opportunities for composting, could divert 70% of waste from landfill
Maximize Donations	<ul style="list-style-type: none">• Nearly 100 pounds of food in waste stream was potentially donateable
Training Opportunities	<ul style="list-style-type: none">• Inventory management• Increased training and communication at stations
Explore creative reuse of foods	<ul style="list-style-type: none">• Assess opportunities to repurpose foods into new dishes

DONATE

DIVERT WASTE BOH



*Food safety is the most important part of food donation. Not all food pictured may be safe to donate, but we believe there's an opportunity for more donations.

DONATE

DIVERT WASTE BOH

Maximize Surplus Food Send for Donation

- Add to current donations made to Campus Pantry
 - Bakery items
 - Breads
 - Pizzas
- Donate surplus products before expiration
- Nearly 100 pounds of food waste composition potentially donateable
 - There maybe even more (difficult to assess foods in green bins)



COMPOST



Compostable food scraps and non-food compost made up >750lbs.

RECYCLE

Opportunities for BOH recycling

- Aluminum recycling : 42 lbs
- Plastic Recycling: 12.4 lbs
- Cardboard recycling total: 145.7
 - Cardboard designated for landfill: 9.4



DIVERT WASTE BOH



TRAINING

Inventory Management



REDUCE WASTE BOH

- 54 pounds of raw chicken
 - Pack date Feb 11th
- 22 pounds of diced onions
 - Pack date April 10th
- Increased awareness of inventory could have prevented food waste

TRAINING *at stations*

Increase Training and Communication

REDUCE WASTE BOH & FOH



- Make waste reduction part of the conversation at pre-service meetings and monthly meetings
- Designate one associate to spearhead food waste reduction
- Review Waste Not bins and provide training based on assessments

TRAINING

Best Practices

REDUCE WASTE BOH & FOH

- Hold team meetings discussing commonly wasted foods.
- Chef will look at all Waste Not bins at the end of the day to see what waste could be avoided.
- All leftover food pulled at the end of the day to look at what can be reused -- most everything is frozen or saved.
- Sharing leftover ingredients between stations is encouraged.
- Existence of both positive incentives and “write-ups”/consequences motivates associates to waste less.

CREATIVE REUSE

Creating a culture of no waste.



REDUCE WASTE BOH

Day old bread was being turned into croutons for salad bar. What are other opportunities for reuse?

- Repurpose leftovers into new dishes
- Vegetable peels and ends into vegetable stock

GUEST WASTE

Front-of-House Results



FOH Waste Reduction Recommendations

Student education	<ul style="list-style-type: none">• Provide educational materials for students on sustainability and the importance of food waste
Eliminate disposables from Stations	<ul style="list-style-type: none">• Bring FOH to zero waste by eliminating the few existing disposables
Compost	<ul style="list-style-type: none">• FOH food scraps from students can be composted along with BOH compost (see slide 17)

STUDENT EDUCATION

REDUCE WASTE FOH



- Almost 100% of students interviewed reported seeing peers waste food because they took too much.
- Educate students on food waste through:
 - Documentary screenings
 - Table tents
 - Challenges

*Note: students mentioned February food waste reduction challenge and that it had an impact on them.

ELIMINATE DISPOSABLES

Very little from FOH is waste that must go to a landfill. Paper that burgers and paninis were served on will be sent to landfill. Could be served on china instead.



REDUCE WASTE FOH



Zero Waste Approach



Next Steps

- Questions?
- Pilot waste initiative support/Eatable support moving forward
 - Quick wins:
 - Increase donations with campus food pantry
 - Implement composting
- Audit follow-up

CONTACT EATABLE

Eatable is a team of waste reduction experts whose mission is to empower food businesses to sustainably manage and reduce their waste. For more information, visit our website at www.eatablefood.com.

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