

EPA Sustainable Materials Management Web Academy



**Preventing Food Waste Upstream:
A Source Reduction Approach – Part II**

September 20th, 2018

<https://www.epa.gov/smm/sustainable-materials-management-web-academy>

Our Speakers



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Price Chopper/Market 32



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Cherokee Point Elementary School



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Disclaimer

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Preventing Food Waste Upstream: A Source Reduction Approach – Part II

September 20th, 2018

Sustainable Materials Management Web Academy



U.S. Environmental Protection
Agency



EPA mission:

To protect human health and the environment.



1970-2017: Cut air pollutants by 73%



93% compliance with drinking water standards.



>9 million tons of virgin materials avoided.



A decorative border of fresh fruits and vegetables, including tomatoes, corn, bell peppers, cucumbers, and pineapples, runs vertically along the right side of the infographic.

How much food is wasted in the U.S.?

Amount of food that goes uneaten each year:

1/3

Percentage of waste thrown away that is food:

21%

Cost of the food that goes uneaten each year:

\$161 BILLION

Amount of food waste that got diverted from landfills:

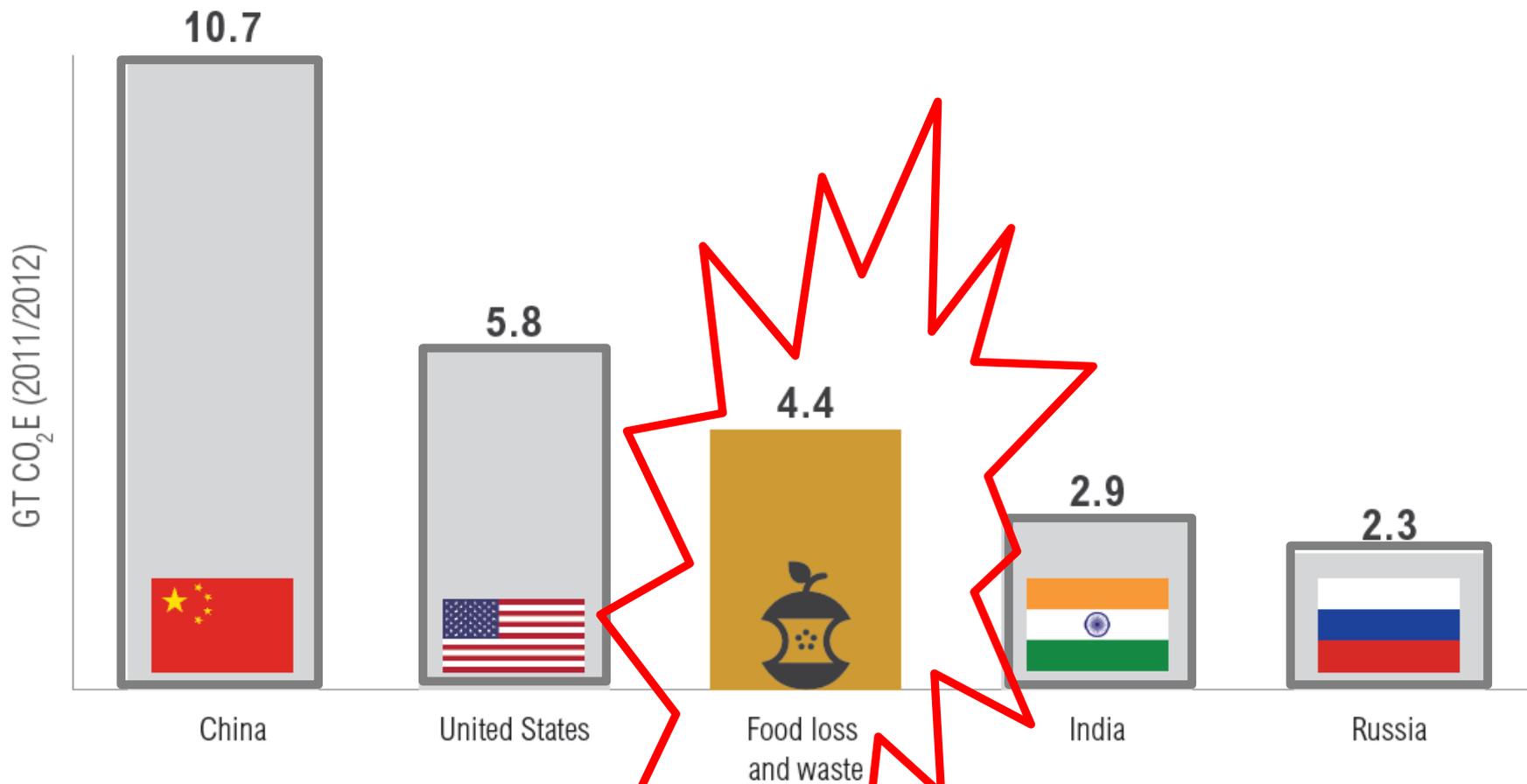
5%

Number of Americans from households that don't always have enough to eat:

48 MILLION



If food excess were a country: 3rd largest source of GHGs



Reducing wasted food ranks 3rd out of 100 for GHG reductions.

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

Project *Drawdown.org*



[NATION'S FIRST-EVER FOOD WASTE GOAL]

CUT FOOD WASTE IN HALF BY 2030

epa.gov/sustainable-management-food/united-states-2030-food-loss-and-waste-reduction-goal



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

EPA 食物回收等級

減少來源
減少食物的剩餘量

給飢餓的人們
將多餘的食物捐給食物庫貧民廚房和庇護中心

給動物
將食物餘渣轉為動物食料

工業用途
提供廢油脂和食物餘渣
用來回收和製造能源

堆肥
創造營養豐富的泥土

填埋/焚燒
最後一招是
填埋

最佳的選擇

最差的選擇

EPA Jerarquía de Recuperación de los Alimentos

Reducir la fuente
Reducir el volumen excedente de comida generada

Combatir el hambre en la población
Donar la comida sobrante a bancos de alimentos, comedores comunitarios o refugios

Alimentar a los animales
Utilizar las sobras de comida para la alimentación de animales

Usos Industriales
Destinar las sobras de comida y el aceite usado para su aprovechamiento energético

Composteo
Crear un abono rico en nutrientes

El basurero/ Incineración
Disposición al basurero

Más preferido

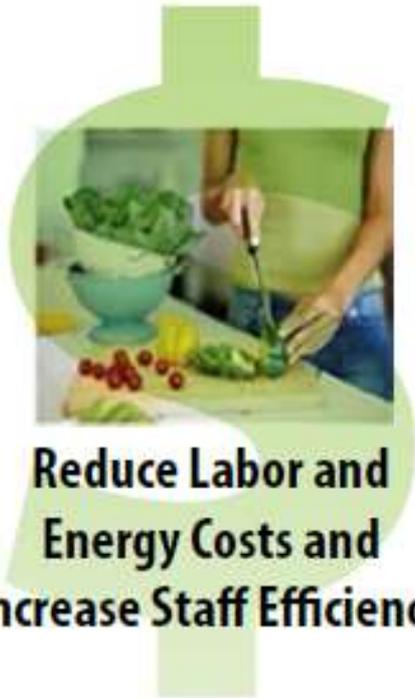
Menos preferido

Source Reduction: Reduce the volume of surplus food generated

SAVING FOOD SAVES MONEY



**Reduce Over-Purchasing
Costs through
Waste Prevention**



**Reduce Labor and
Energy Costs and
Increase Staff Efficiency**



**Reduce
Disposal
Costs**

The Business Case for Reducing Food Loss & Waste:

\$1 invested → \$14 saved!



Measuring waste 

Training staff 

Improving inventory management 

Changing packaging 

 Selling imperfect produce

 Creating new products

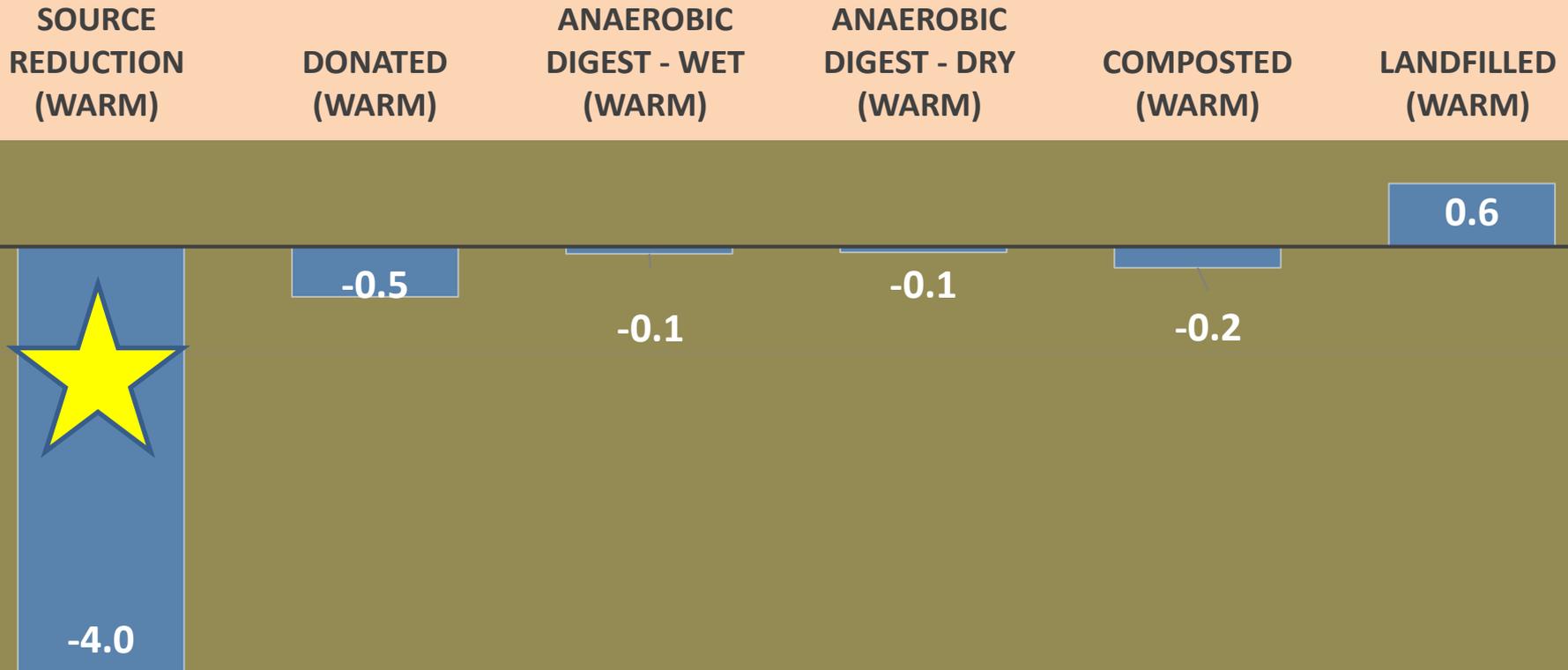
 Reducing waste management costs

 Avoiding cost of food not sold

https://champs123blog.files.wordpress.com/2017/03/report_-business-case-for-reducing-food-loss-and-waste.pdf

Source Reduction produces biggest GHG benefits on the Food Recovery Hierarchy

Food Recovery Activities compared to landfill
(lbCo2E per lb of food)



Food Loss Prevention Tip Sheets

epa.gov/sustainable-management-food/food-loss-prevention-options-grade-schools-manufacturers-restaurants

Food Loss Prevention Options for Manufacturers

Below is a list of ideas and activities that manufacturers may consider implementing to help prevent food loss and waste. Contact your local EPA representative for log sheets, signs, and other tools.

- Perform a food waste audit.** See what's being thrown out and why. Pick a day and be there at the waste bin with a few volunteers, buckets, a log sheet, and a weight scale. Record the following:
 - What is being thrown out
 - Weight or number
 - The reason for the loss
 - The expiration date
 - Whether the food is spoiled
 - The most affected area

Based on the results, consider the following:

- Clarify date labeling and expiration dates.**
 - Improve readability
 - Clearly label or delimit
 - Make "sell by" date
 - Use more "best by"
 - Remove "best by" date
 - Make sure all products are labeled
- Promote short supply chain.** Food has to travel. This can generate waste.
- Increase regular customer meetings.** Specifically to discuss waste issues that may be occurring.
- Evaluate size requirements.** Reduce waste.
- Send order estimates more often.**
- Send cuts, ends or other waste.**



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August 2012

Food Loss Prevention Options for Grocery Stores

Below is a list of ideas and activities that grocery stores may consider implementing to help prevent food loss and waste. Contact your local EPA representative for log sheets, signs, and other tools.

- Perform a food waste audit.** See what's being thrown out and why. Pick a day and be there at the waste bin with volunteers, buckets, a log sheet, a scale, and a weight scale. Record the following:
 - What is being thrown out
 - Weight or number
 - The reason for the loss
 - The expiration date
 - Whether the food is spoiled
 - Identify the area

Based on the results, consider the following:

- Clarify date labeling and expiration dates.**
 - Improve readability
 - Clearly label or delimit
 - Make "sell by" date
 - Use more "best by"
 - Remove "best by" date
 - Make sure all products are labeled
- Call a meeting to discuss food waste prevention strategies with kitchen staff and/or interested student groups.** Get their thoughts and ideas.

Prep and Storage Tips

- Reduce batch sizes.** Batch cooking is preparing foods ahead of time and storing them for future use.
- Provide cook-to-order instead of batch-cooking** either all day or toward the end of the day.
- Replace a buffet line with a cook-to-order line.** This allows you to prepare only what is ordered to minimize leftovers.
- Use smaller serving containers** toward the end of the day for the remaining portions of prepared foods.
- Use leftovers from the day before.** Stock one day can be used for beef stew the next day.
- Train staff on knife skills** to make more efficient knife cuts to use more of the food being prepared.
- Use as much of the food as possible.** Cook up carrot greens and don't peel sweet potatoes or potatoes.
- Reconstitute starchy vegetables that have wilted** by immersing them in warm water (100°F) for 15 minutes.
- Freeze surplus and near-to-spoil fresh fruits and veggies** instead of throwing them away.
- Finish preparation at the line.** Do not finish the food item until it's ready to go on the line or you can store easily use leftover ingredients in different recipes later on.
- Offer food in different storage conditions.** Train staff on storage techniques for different foods (e.g., don't store tomatoes and lettuce in the same container or near each other).
- Use see-through storage containers** to allow staff to see what is available and to keep an eye on freshness.



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August 2012

Food Loss Prevention Options for Universities

Below is a list of ideas and activities that university food services may consider implementing to help prevent food loss and waste. Contact your local EPA representative for log sheets, signs, and other tools.

- Perform a food waste audit.** See what's being thrown out and why. Pick a day and be there at the waste bin with a few volunteers, buckets, a log sheet and a weight scale. Record what is being thrown out, how much is being discarded and the reason the food is being disposed (ask students for detailed reasons why they didn't finish the food).
 - In the kitchen, have only one food waste trash can and provide each staff member a small container to fill with food waste at their station. Before they empty their container, have staff weigh it and record the amount, type and reason the waste is being discarded on a log sheet located near the trash can.
 - Use this information to adjust menus, purchasing and portion size.
- Call a meeting to discuss food waste prevention strategies with kitchen staff and/or interested student groups.** Get their thoughts and ideas.

Prep and Storage Tips

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United States Environmental Protection Agency (EPA)
Washington, DC 20460
800-456-6767
August 2012

For more information, including where to find your local EPA representative, visit: www.epa.gov/foodlossprevention



Vegetable Trimmings
Base for soups, sauces and stocks



Food Recovery Challenge

- **Participants:**
 - Track and measure their surplus food.
 - Move toward their food recovery goals.
- **Endorsers:**
 - Educate on the sustainable management of food.
 - Conduct Food Recovery Challenge outreach.



Track your source reduction in the Food Recovery Challenge



Food Waste Prevention and Recycling - Detailed Activities

SPECIFIC ACTION	TOTAL AMOUNT	ESTIMATE % FOOD	UNIT (TONS/LBS)	TOTAL TONS	TOTAL FOOD TONS
Source Reduction through purchase, storage and handling	<input type="text"/>	100% <input type="button" value="v"/>	Tons <input type="button" value="v"/>	<input type="text"/>	<input type="text"/>
Source Reduction through over-preparation and plate waste	<input type="text"/>	100% <input type="button" value="v"/>	Tons <input type="button" value="v"/>	<input type="text"/>	<input type="text"/>
Other Source Reduction Activities	<input type="text"/>	100% <input type="button" value="v"/>	Tons <input type="button" value="v"/>	<input type="text"/>	<input type="text"/>
Donation to Feed people	<input type="text"/>	100% <input type="button" value="v"/>	Tons <input type="button" value="v"/>	<input type="text"/>	<input type="text"/>
Animal Feed	<input type="text"/>	100% <input type="button" value="v"/>	Tons <input type="button" value="v"/>	<input type="text"/>	<input type="text"/>
Other Donations/Reuse	<input type="text"/>	100% <input type="button" value="v"/>	Tons <input type="button" value="v"/>	<input type="text"/>	<input type="text"/>
Composting - mixed organics (Please estimate % food)	<input type="text"/>	100% <input type="button" value="v"/>	Tons <input type="button" value="v"/>	<input type="text"/>	<input type="text"/>
Composting - Food Only	<input type="text"/>	100% <input type="button" value="v"/>	Tons <input type="button" value="v"/>	<input type="text"/>	<input type="text"/>
Anaerobic Digestion w/beneficial use of digest (Please estimate % food)	<input type="text"/>	100% <input type="button" value="v"/>	Tons <input type="button" value="v"/>	<input type="text"/>	<input type="text"/>

2016 Source Reduction Achievements

epa.gov/foodrecoverychallenge

- 950 participants and endorsers
 - Prevented 18,000 tons of wasted food.
 - Saved \$37.4 million in avoided tipping fees.

EPA Announces the 2017 Food Recovery Challenge Award Winners

- [Find out who the 2017 National and Regional Award Winners are](#)
- Read about how this year's winners achieved their successes
 - [About the national winners](#)
 - [About the regional winners](#)

1 2 3 4



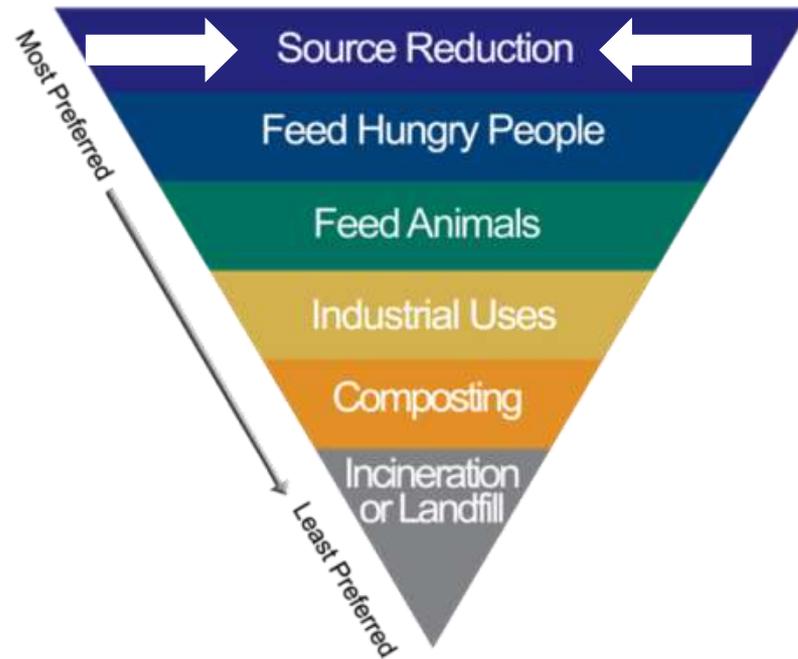
[NATION'S FIRST-EVER FOOD WASTE GOAL]

CUT FOOD WASTE IN HALF BY 2030

- Measure your wasted food and set goals.
- Implement source reduction.
- Participate in the Food Recovery Challenge.



Food Recovery Hierarchy



[EPA.GOV/SUSTAINABLE-MANAGEMENT-FOOD/HOW-PREVENT-WASTED-FOOD-THROUGH-SOURCE-REDUCTION](https://www.epa.gov/sustainable-management-food/how-prevent-wasted-food-through-source-reduction)

[epa.gov/sustainable-management-food/forms/contact-us-about-sustainable-management-food](https://www.epa.gov/sustainable-management-food/forms/contact-us-about-sustainable-management-food)

Sustainable Materials Management

Food Recovery Challenge



Changing how we think about our resources today for our children's tomorrow