

# Reduced Food Waste



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## Abstract

When it comes to delivering food from primary production, such as livestock farming, to the table in our homes, there is much inefficiency that comes with it. The many foods that are wasted in primary production, processing and manufacturing, distribution and wholesale, retail, food service/ institutions, and in the household have severe consequences, including emitting tons of CO<sub>2</sub> emissions into the atmosphere. Trying to close the gap between wasting tons of food every day and feeding people with food insecurity could help solve our hunger, poverty, and climate change dilemmas. Our preliminary ideas on how to implement the food waste strategy can be broken down in two main domains: supply chain and individual consumer.

**Goal: Reduce 50-75% of food waste by 2050**

## Introduction

The mission of the Drawdown strategy is to reduce the amount of carbon in the atmosphere through 100 solutions that are in-hand and practical to reverse global warming. Roughly a third of the world's food is never consumed, meaning unnecessary land and resources were used as well as avoidable greenhouse gasses were emitted in producing this food. This is an issue in both low-income countries and high-income countries. The waste occurs earlier in the supply chains for lower-income countries by poor infrastructure for storage, processing, and transportation, while in regions of higher income food is mostly wasted at the retail and consumer levels.

What does this mean for Wyoming and its residents? It means while the supply chain losses are less significant than individual consumer losses in Wyoming, we must still implement solutions to both types of losses. Wyoming's largest agricultural problem is beef production since it takes a lot of land and resources to upkeep. Although many of the solutions are the same solutions that can be implemented in other states across the nation, the faster we address these problems and reach of goals, the faster we can influence other states to follow our steps.

**Wasted food accounts for 8% of total emissions.**

## Relevance

Spread Awareness: What is the University already doing?

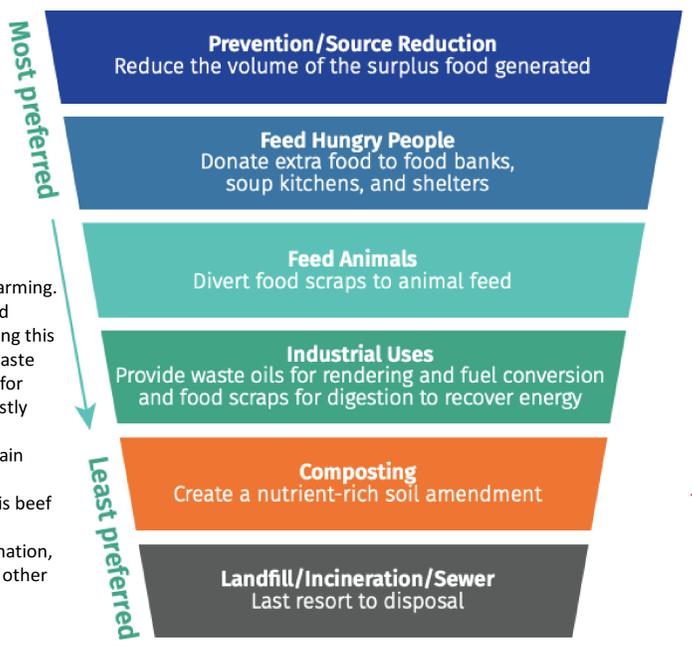
- Donate nonperishable food in exchange for reduced parking fines! December 6- 17, 2021
- Residence Life and Dining Services:
  - Track waste through "Serving Line" worksheets
  - Reuse "savable food" if handled correctly
  - Works with "Food Forward"
  - Works with other units on campus to share excess food
  - Works with the soup kitchen downtown
- Multiple food banks/pantries are available across campus
  - Knight Hall, Room 106 is main UW Food Pantry
- UW Community Supported Agriculture Program, which maintains a community composting project

## EPA FRC Solutions from Survey Results

Region 8 (n = 309)	Solution	Count
	Compost	28
	Food Donation	307
	Animal Feed	0
	Source Reduction	177
	Collaboration/Partnership	168
	Biodiesel	0

## Visual Aids

### Food Recovery Hierarchy



## Recommendations

### Supply Chain:

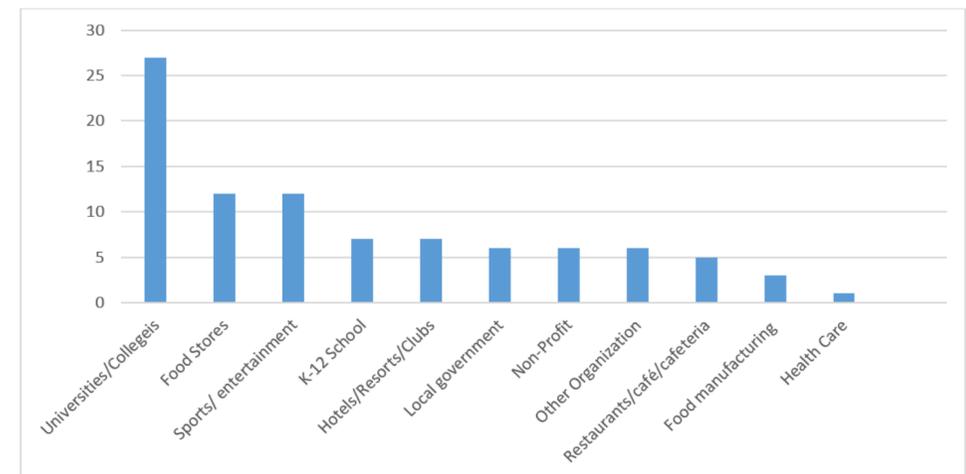
- Primary Production**
  - Reduce beef production based on local population
  - Reduce overall food production
- Processing and manufacturing**
  - Fund for updated and efficient equipment and processes
- Distribution and wholesale**
  - Improve transportation infrastructure through monitoring tools, better training for participants and performing regular audits
  - Train for proper temperature controls and fund/ research for effective cold-chain management
- Retail**
  - Limit the number of products offered
  - Incentivize donation programs (EPA FRC)
  - Reduce package size (loaves of bread, meat, cereal, etc.)
- Food service/ institutions**
  - Limit the number of products offered
  - Incentivize donation programs (EPA FRC)
  - Proper training for all food preparers
  - Restrict large portion sizes

### Individual Consumer:

- Food Donation**
  - Support local food banks or food drives, be sure to donate extra food to those who need it
  - Refrigerated food banks to allow for even better storage of recovered food
  - Incentivize food individuals donating food
- Carbon Sequestration**
  - Collection programs for food to be sent off to facilities that specialize in recycling food waste for animal feed
  - One can participate in individual or communal composting sites to enrich soil and give carbon back into the environment
- Energy Recovery**
  - Food waste (specifically oils and fats) can be recycled into biodiesel for maximum energy usage
  - Anaerobic bacterial digestion can be used to make natural gas
- Education/Awareness**
  - Educate for more effective cooking
  - Raise awareness of date labels, storage, and over-purchasing
  - Raise awareness for local and federal legislation against food waste and rewards/benefits that come with them
  - Make incentive programs clearly advertised
- Legislation**
  - Improve infrastructure to allow for better food waste collection services
  - Support legislation that works to reduce food waste

**The US on average has a current overproduction rate of 90% 35% of food in high-income economies is thrown out by consumers**

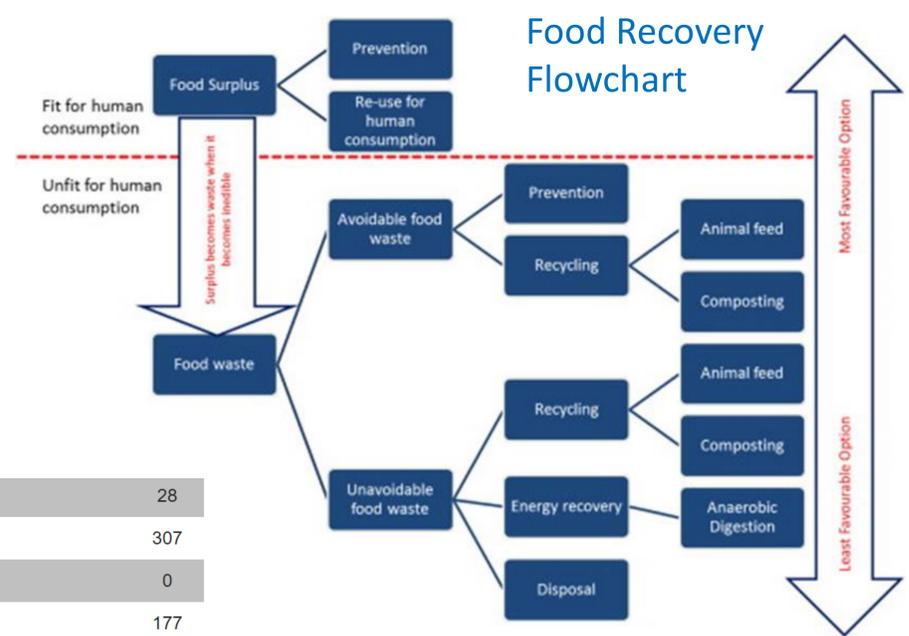
## EPA Food Recovery Challenge Award Winners by Category 2015-2017



## Conclusions

There are several methods that can be implemented to reduce food waste in Wyoming on both on the supply chain as well as with the individual consumer. Supply chain solutions include reducing overall production from the start, as well as developing better tools, training, and transportation. It may be difficult to create production regulations around food, but there are also several solutions that can be made at the consumer level, after the food is supplied to table. Implementing and supporting food redistribution campaigns for people who need it, resupplying carbon back into the environment through composting or animal feed, or even individually supporting education programs and legislation can all ensure that the food produced will have less of an overall impact on the energy drain and CO<sub>2</sub> production.

If the institutions and people of Wyoming can implement these changes, the state can lead the way for more effective energy usage and reduced CO<sub>2</sub> production for the developed world. Additionally, if the solutions are followed worldwide, it could result in up to 101.7 Gigatons of CO<sub>2</sub> reduced/sequestered within the next 30 years (Drawdown).



## References

