



Strategies to Prevent Wasted Food: Two Toolkits and More!

www.westcoastclimateforum.com

Wednesday, November 30, 2016



West Coast Climate
& Materials Management Forum

West Coast Climate and Materials Management Forum

The West Coast Climate and Materials Management Forum is an EPA-convened collaboration of state, local, and tribal government

- ▣ Develop ways to institutionalize sustainable materials management practices.
- ▣ Develop tools to help jurisdictions reduce the GHGs associated with materials



Check out the Forum's Resources

- [Original Report Connecting Matls/Climate](#)
- [Research Summaries](#)
- [Turnkey Materials Management Presentation](#)
- [Climate Action Toolkit](#)
- [Food Too Good to Waste Toolkit](#)
- [Climate Friendly Purchasing Toolkit](#)
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West Coast Climate Forum

Webinar Series Disclaimer

This webinar is being provided as part of the West Coast Climate and Materials Management Forum Webinar Series. The Forum is convened by EPA Regions 9 and 10 and operates under statutory authority in the Pollution Prevention Act, the Resource Conservation and Recovery Act (RCRA), and the Clean Air Act. We invite guest speakers to share their views on climate change topics to get participants thinking and talking about new strategies for achieving our environmental goals. Mention of trade names or commercial products does not constitute endorsement or recommendation for use.

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Strategies to Prevent Wasted Food: Two Toolkits and More!

Speakers



Ashley Zanolli
Oregon DEQ



Leslie Kochan
Oregon DEQ

Moderator



Shannon Davis
EPA Region 9





Climate Friendly Purchasing Toolkit



Construction



Asphalt



Concrete



Carpet & Flooring



Food



Fuels



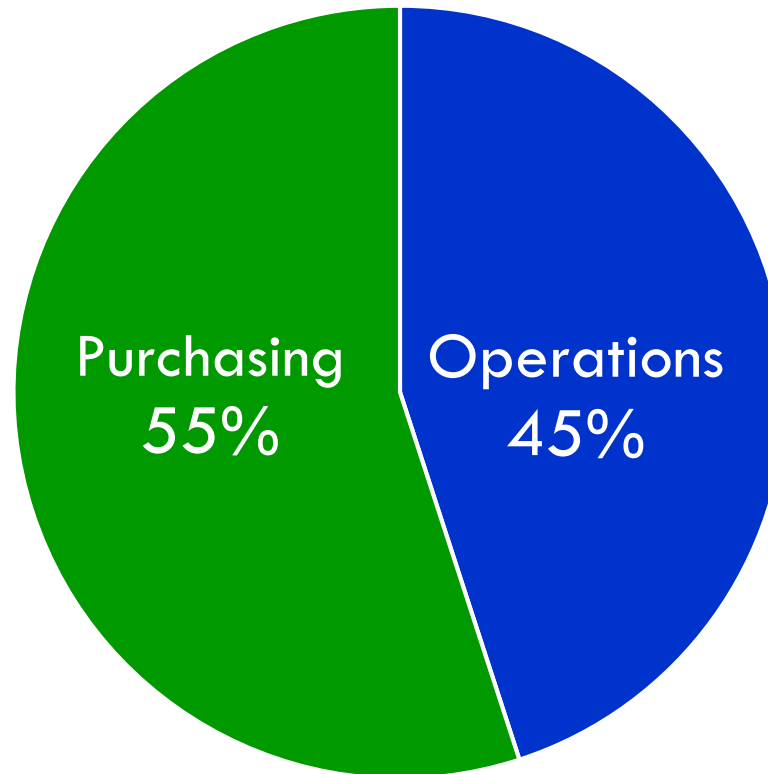
Information &
Communications Technology



Professional Services



GHG Emissions from Public Institutions



Targeting Tools

Targeting Tools

To help government target their efforts on the most significant GHG emissions in the supply chain.



How to complete a supply chain GHG inventory

This detailed primer shows how to combine purchasing data and available LCA tools to get a complete picture of the GHG emissions in your organization's specific supply chain.



Trends Analysis

Instructions are provided on how to use the data from trends analysis to target GHG reductions. It is a compilation of more than 40 supply chain GHG inventories, sortable by organization type, size, and total supply chain budget.

www.westcoastclimateforum.com/cfpt



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Scope & Goals of Toolkit

Scope

- Cities, counties, public utilities, higher education
- Carbon lens

Goals

- Reduce carbon footprint from purchases
- Identify the most carbon-intensive products and services
- Provide how-to guide for purchasing professionals



Guidelines

- Why the category matters
- Demand reduction
- Key purchasing strategies
- How to measure reductions
- Case studies and resources

Introduction

Strategies

Procurement Planning and Contract Specifications

Measurement, Resources & Case Studies

THANK YOU

Please fill out the survey you receive after the webinar

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FOOD IS TOO GOOD TO WASTE

ASHLEY ZANOLLI - OREGON DEQ

ON TEMPORARY ASSIGNMENT FROM EPA REGION 10

Overview

- Wasted Food Intro
 - Why Framing and Mindsets Matter
- Why Household Wasted Food Matters
- The Power of Collaborative Design through Community-Based Social Marketing
- Food: Too Good to Waste Evaluation
 - Successes
 - Lessons Learned
 - Opportunities in Your Community
- Case Study:
 - Preventing Wasted Food in Oregon



Preventing Wasting of Food

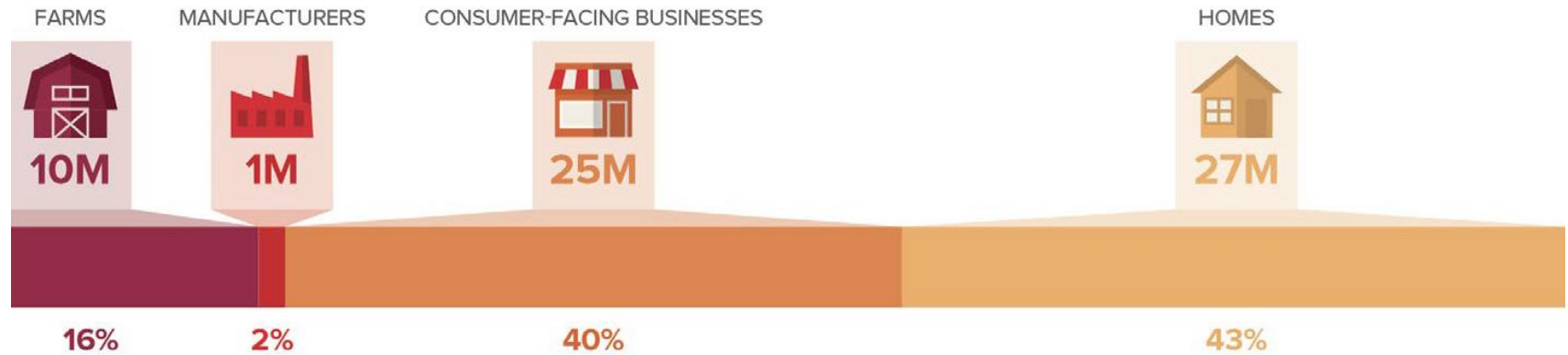
Why be concerned about wasting of food?

- Food is one of the most significant materials from an environmental standpoint
 - Resource use
 - Chemical use
 - GHGs
- Yet, 25 to 40% of food grown in the US is never eaten
- From a materials management viewpoint, food is a pretty big deal

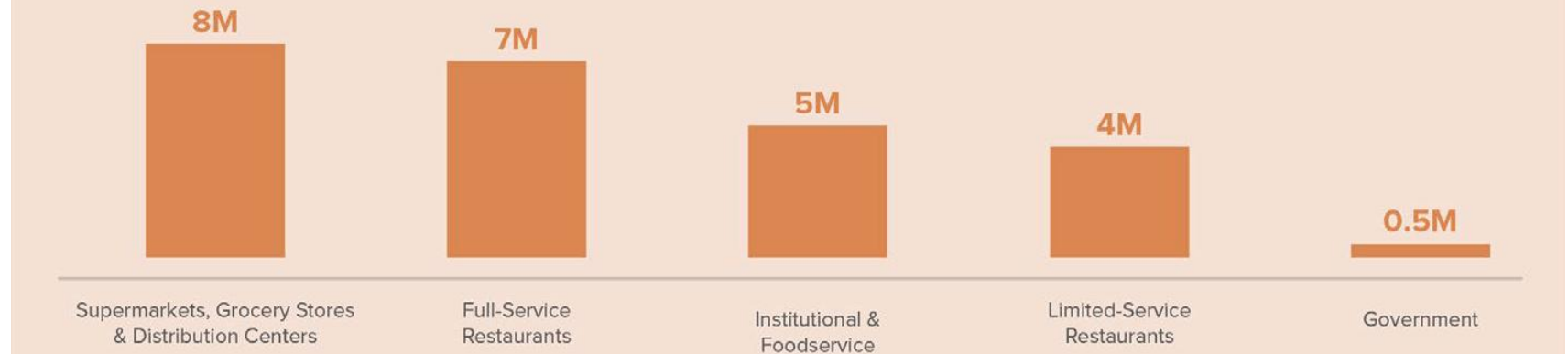


ReFED Supply Chain Assessment*

FOOD WASTED BY WEIGHT — 63 MILLION TONS



CONSUMER-FACING BUSINESSES INCLUDE



*ReFED analysis of existing data sets including preliminary data

Bold National Goal

U.S. goal to reduce food waste and loss by half by 2030

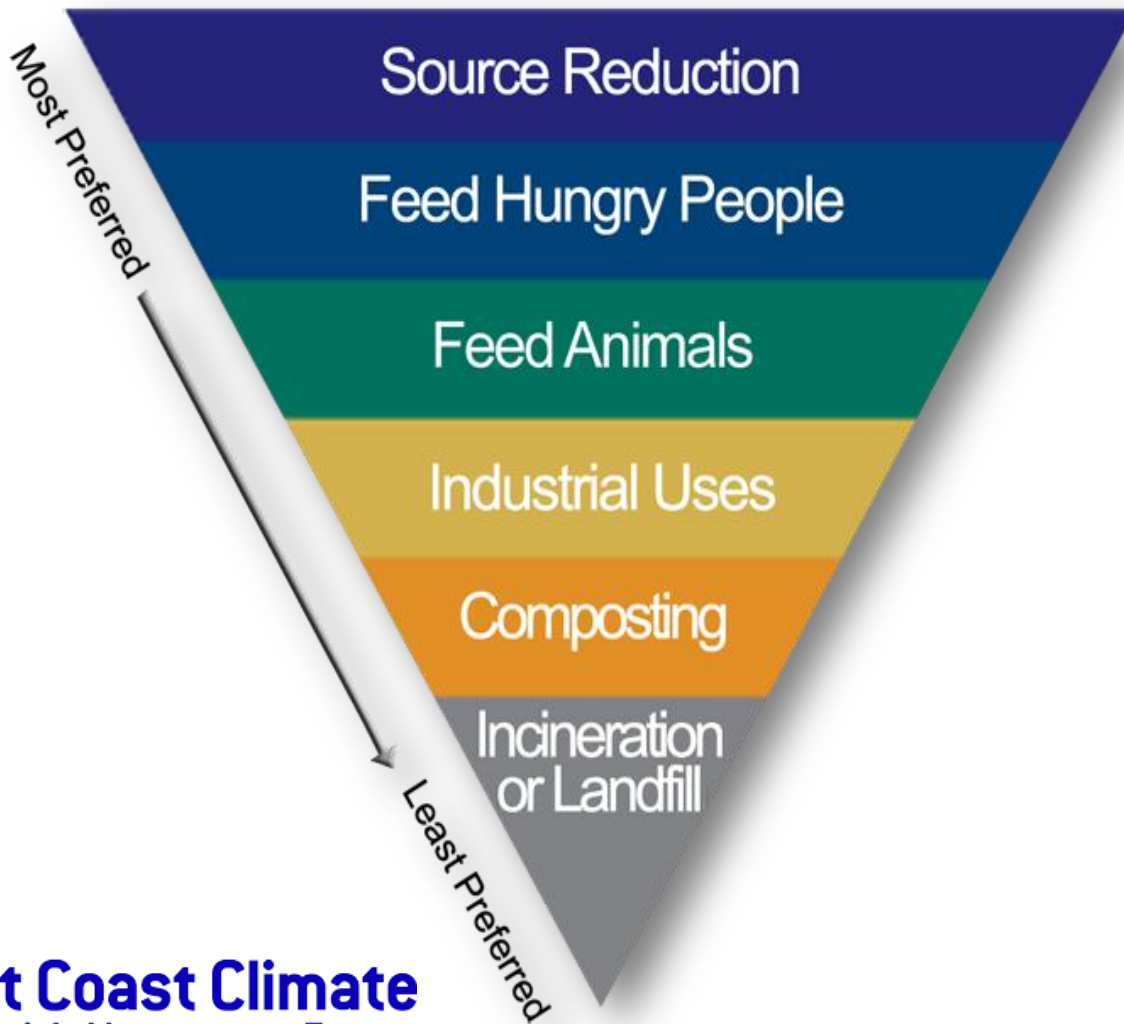
EPA Goal – halve food waste going to landfills from retail, food service and households

- 218.9lbs/person/year in 2010 → 109.4 lbs/person/year in 2030
 - ✓ Includes inedible fraction

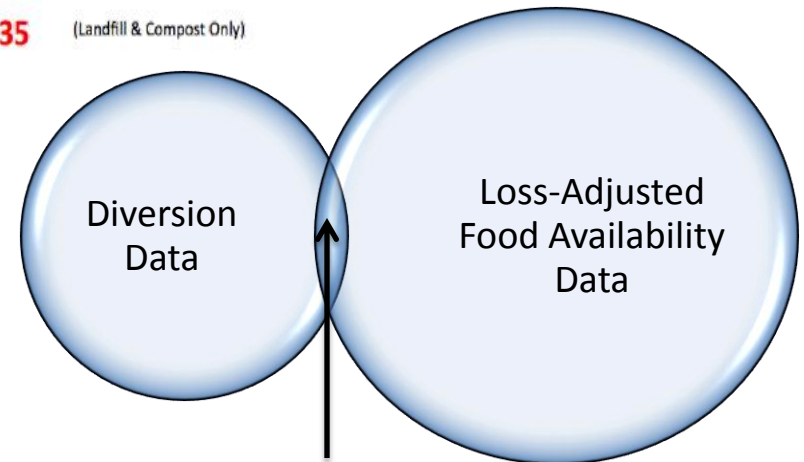
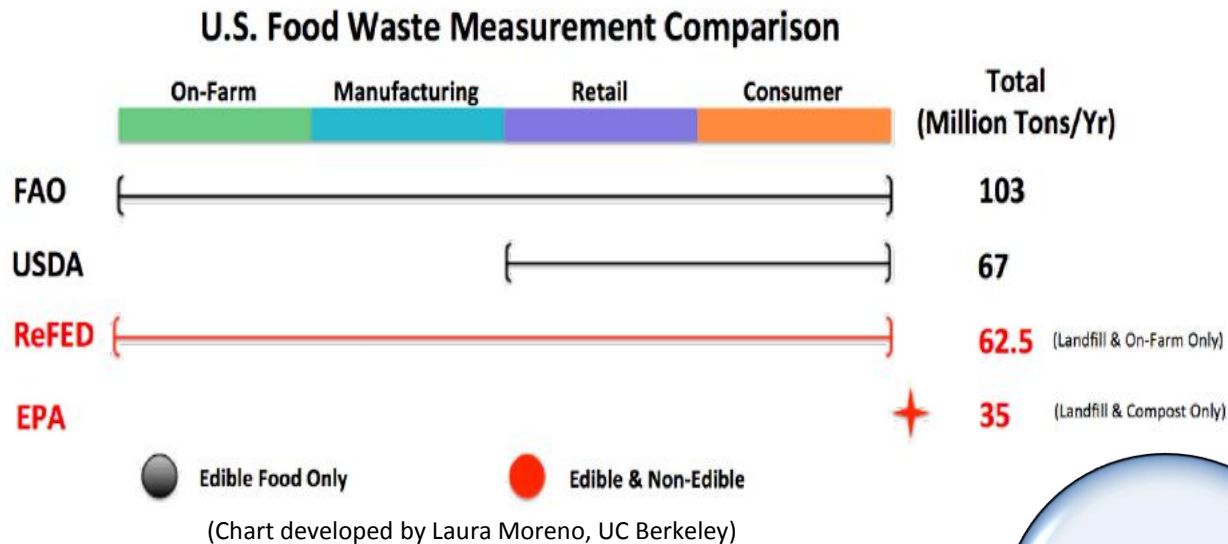
USDA Goal – halve food loss at the retail and consumer level (includes food eaten at home and away from home in restaurants, etc.)

- 133 billion pounds in 2010 → 66.5 billion pounds in 2030
 - ✓ Does NOT include inedible fraction

Focus on the hierarchy



Need More Actionable Data



Usable US data to reduce the generation of wasted food in businesses, institutions and households

Mindset Matters



What's Wrong With This Picture?

Food Waste



All food waste and coffee grounds

 No compostable products, cardboard, waxed paper, liquids, grease, cooking oil, plastic, metal, glass, yard debris, wood

www.oregon.gov/oregon

What's Wrong With This Picture?

Food Waste



i

All food waste and coffee grounds

 No compostable products, cardboard, waxed paper, liquids, grease, cooking oil, plastic, metal, glass, yard debris, wood

www.oregon.gov/oregon

The True Cost of Food Waste

Visible costs

Disposal costs

Invisible costs

Lost materials

Energy cost

Natural resources

Liabilities and risks

Lost labor

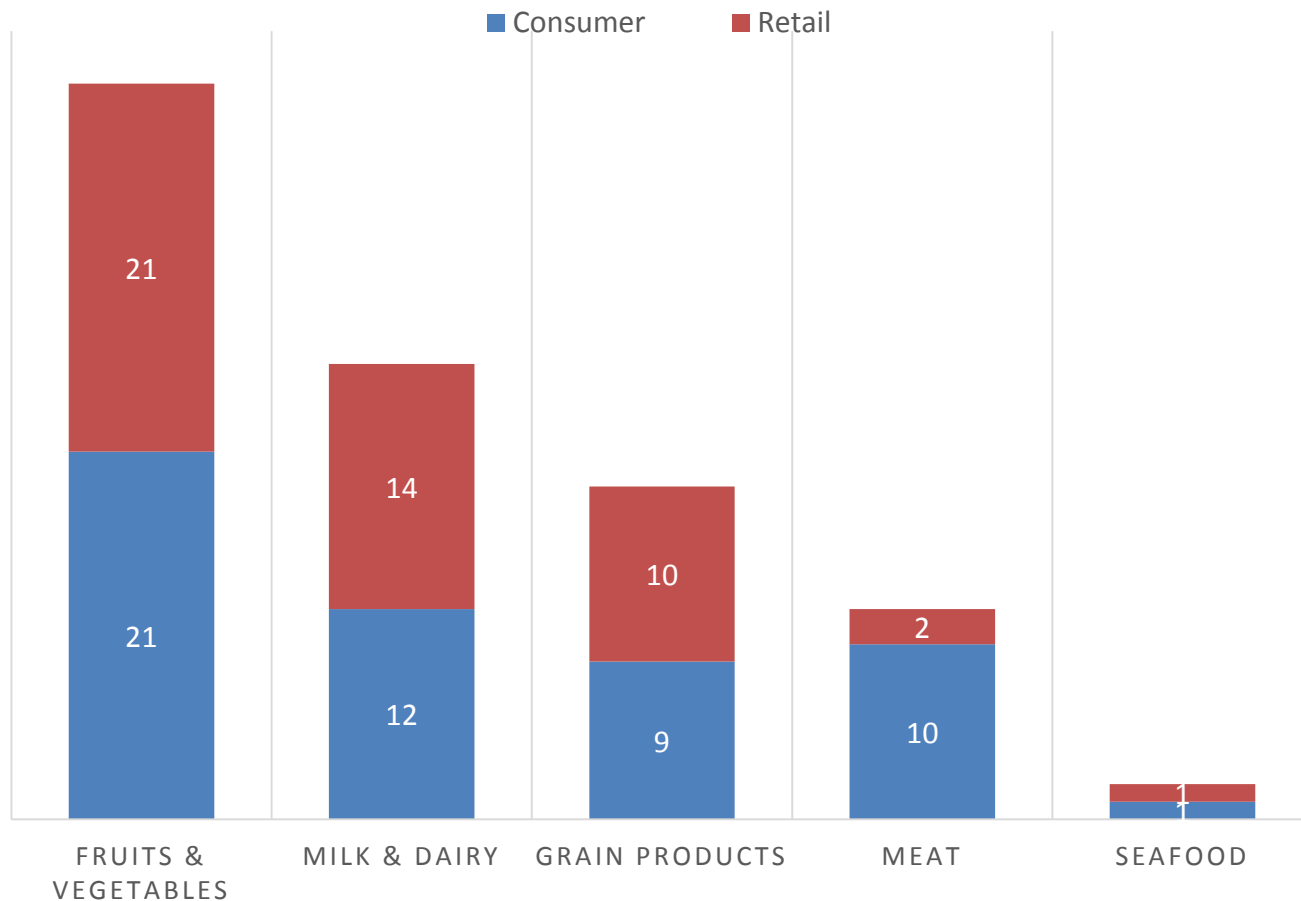
Nutrients

Other costs

On average, the true cost of wasted materials is about 10 times the cost of disposal

(Hall, PLOS 2009)

FOOD WASTE BREAKDOWN (BY WEIGHT AND TYPE)



In one month, a family of 4 wastes ...



Bill Marsh and Kari Haskell/The New York Times; Photograph by Tony Cenicola/The New York Times

[ReFED Report](#) estimates **43%** of all the food wasted in the US comes from households

Food: Too Good To Waste

Facts and Impacts

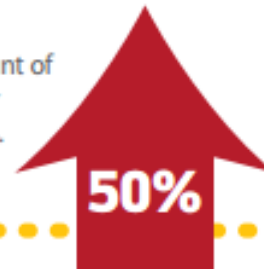
Food waste is a growing problem with profound financial and environmental impacts.

Food is typically wasted when we buy more than we need, store it incorrectly, throw away leftovers or cook too much.

Americans waste **25 percent** of the food they purchase.



Increase in amount of food **wasted** per capita since 1974.



Consumer level stats



Wasted Food = Wasted Resources

Average **amount spent** each year by a family of four on wasted food.

When we throw away food, we also waste all the water and energy used to produce, package and transport food from the farm to our plates. U.S. food waste uses:

25% of all our **fresh water**.

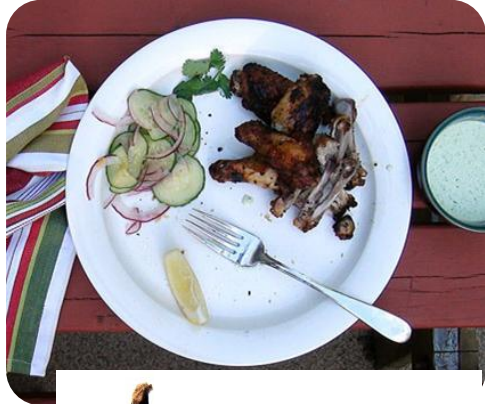


Enough **energy** to power the country for more than a week.



Supply Chain stats

Why do we waste food?



By Keeping Good Food from Going to Waste ...

We can:

- Toss less
- Eat well
- Simplify our lives
- Save money
- Teach children healthy habits



National Agricultural Library, Special Collections, State poster, Pennsylvania, 1917

Food: Too Good To Waste Toolkit

Strategy: Develop and test scalable model featuring a Community-based Social Marketing (CBSM) approach to foster food consumption behaviors that reduce wasted food in households

Target Audience: families with young children and millennial workers.

Key Behaviors to Reduce Wasted Food:

- **Get Smart:** See how much food (& money) you're throwing away
- **Smart Shopping:** Buy what you need
- **Smart Saving:** Eat what you buy
- **Smart Storage:** Keep fruits and vegetables fresh
- **Smart Prep:** Prep now, eat later





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2014-2015 West Coast Climate Forum Webinar Series

The West Coast Climate Forum hosts an annual webinar series featuring speakers who are experts in the field of climate change, sustainable materials management, life cycle analysis, sustainable consumption and production, and other relevant areas. Our webinar series is intended to get participants thinking and talking about new strategies for achieving our environmental goals.

Webinars from the 2014-2015 Series:

Topic	Date	Speakers	Files
Reducing Greenhouse Gas Emissions in the Construction Sector	May 12, 2015	Wes Sullens, Stop Waste in Alameda County (Moderator); Aaron Toneys, Good Company; Stacy Ludington, Oregon Department of Environmental Quality; Jennifer Willer, City of Eugene	<ul style="list-style-type: none"> • Webinar recording • Slides
Community-Based Social Marketing and Food Waste Training	March 24, 2015	Amanda Godwin, Colehour + Cohen; Ashley Zanolli, EPA Region 10	<ul style="list-style-type: none"> • Webinar recording • Slides
Food: Too Good to Waste - Successes and Lessons from Communities	February 10, 2015	Ashley Zanolli, EPA Region 10; Miki Sonntag, Ph.D, FTGTW lead researcher; Karen May, King County Solid Waste; Jennifer Jordan, Iowa City Landfill & Recycling Center; Dave Rocheleau, Rhode Island Food Policy Council (Speaker bios)	<ul style="list-style-type: none"> • Webinar recording • Slides
Measuring Public Attitudes About Consumption	January 27, 2015	Wendy Philleo, Center for New American Dream; Tom Bowerman, PolicyInteractive; Babe O'Sullivan, City of Eugene (moderator)	<ul style="list-style-type: none"> • Webinar recording • Slides
The Role of Cities in Advancing Sustainable Consumption	December 2, 2014	Babe O'Sullivan, City of Eugene (moderator); Maurie Cohen, SCORAI ; Brenda Nations, USDN , Iowa City; Terry Moore, ECONorthwest	<ul style="list-style-type: none"> • Webinar recording • Slides
Funding and Managing Organics and Recyclable Materials to Reduce GHG Emissions	October 21, 2014	John Davis, Mojave Desert and Mountain Recycling Authority; Pete Pasterz, Oregon Department of Environmental Quality - See Oregon DEQ's report on environmental impacts of food waste management	<ul style="list-style-type: none"> • Webinar recording • John Davis' slides • Pete Pasterz's slides
Climate Change: Current and Future Impacts, and the Link between Climate	September 16, 2014	Dr. Philip Mote, Oregon State University, co-author of National Climate Assessment Northwest section; David Allaway, Oregon	<ul style="list-style-type: none"> • Webinar recording • Dr. Philip Mote's slides

(Free!) CBSM Training! →

Background on FTGTW Toolkit Development →

Remove Barriers/Emphasize Benefits

- **Significant Barriers**

- Automatic Behavior
- Dynamic Lifestyle
- Time/Convenience
- Knowledge/Skills

- **Significant Benefits**

- Waste Aversion (getting value out of what you have)
- Saving Money
- Health
 - Focus group participants significantly likely to spend a little more time and money if healthier for their families

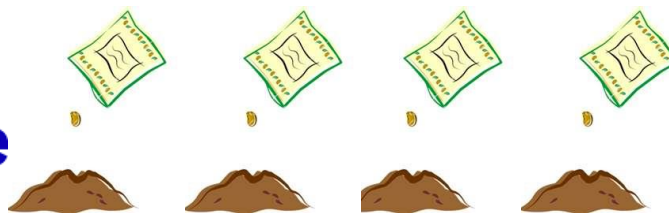
Food: Too Good to Waste Toolkit Components

Goal: To prevent household wasted food

- **Main message:** *Food is too essential to throw away.*
- **Implementation guide**
- **Message map**
- **Behavior change tools, including:**
 - fruit and vegetable storage guide
 - shopping list template with meals in mind
 - “eat first” refrigerator prompt
- **Outreach Tools, including:**
 - Infographic /poster
 - Facts on supply chain impacts
 - workshop presentation for community participants



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Community-Based Social Marketing Outreach Methods

- Campaigns to engage social norms were more effective
- Engage at the community level
 - Personal recruitment with public commitment is most effective
 - Work through trusted community leaders
- Speak to community values
- Leverage existing networks to build capacity
- Contextualize preferred behaviors
 - (ex. prompts, feedback to overcome barriers)
- Collect evidence to evaluate impact and cost-effectiveness
 - Refine approaches and fill research gaps



Photo Credit: King County Solid Waste

Implementing Partners

Original 2012 Implementing Partners:

- King County (WA)
- San Benito County (CA)
- Boulder County (CO)

Evaluation Results:

Based on 17 pilot campaigns, it is possible for households **to reduce preventable food waste up to 50% or more by weight** (~0.5lb/person/week).

Creating food waste awareness is key to lasting impact in food waste reduction – **measurement is key!**

Saves the average family of four **\$1600** (USDA estimate)

Recent/Future Implementing Partners:

- Oregon
 - Gresham
 - Beaverton
 - WA County
 - City of Portland
 - OR Metro
- Washington
 - Seattle Public Utilities
 - King County
 - Thurston County
- Others
 - Iowa City
 - RI
 - Vermont
 - Honolulu (HI)
 - Capital Regional District (British Columbia)
 - Ann Arbor (MI)

Major Findings

- There are strong indications that households have a significant interest in reducing their wasted food.
 - 96% of the participants said they are likely to continue to use the strategies and tools
- FTGTW behavioral changes are relatively easy for households to make.
- Creating awareness is key to motivating people to sustain their behaviors.
- It is possible for households to reduce preventable food waste up to 50% and more by weight.
 - **A 50% reduction is roughly a half pound per person per week or 20% of total food waste.**
 - In addition, it is likely that the inedible fraction of waste is also reduced as households purchase less food.

Leveraged Resources

- Planning Team
 - Including communities that implemented the pilot
- Other food waste prevention pilots
 - UK WRAP Love Food, Hate Waste
 - City of Portland's Be Resourceful Campaign
 - Minnesota food waste prevention pilot with Eureka Recycling

National “Save the Food” Campaign

Spread the Word With the Ad Council!

HOME | JOIN US | INFO | CONNECT

WE WASTE

40% OF THE FOOD
PRODUCED IN AMERICA.

SAVETHEFOOD.COM

LET'S SAVE THE FOOD

The good news: there's something we can do. The better news: it's easy. And we've already got everything we need—it's right in the refrigerator. Let's do this.

<http://socialmediakit.adcouncil.org/presskit/save-the-food/>

Opportunities to Get Involved

You can 'Take the Challenge' with your Co-workers or Neighbors!

State and Local Governments

- Implement Food: Too Good to Waste as a state or county-wide campaign and leverage the national Ad Council/NRDC Campaign

Producers, Retailers, Restaurants, Haulers and other businesses

- Provide outreach and incentives to help consumers waste less and leverage the national Ad Council/NRDC Campaign

Colleges, Universities , and K-12 Schools

- Integrate information to support sustainability programs aimed at the young adult demographic. Additional opportunities with K-12 Schools.

Community groups or non-profits

- Link with food system efforts, social media outreach. Partner with local governments and mayors for a community-wide challenge.

Takeaways

Collaboration can:

- Leverage financial resources and people power
- Increased likelihood of replicating (customizable) scalable solutions
- Lead to creative results
- Tap into shared values to achieve results
- Bring diverse groups together
- Serve individual and greater good



What's Next?

- ~~• Wasted Food Intro~~
 - ~~— Why Framing and Mindsets Matter~~
- ~~• Why Household Wasted Food Matters~~
- ~~• The Power of Collaborative Design through Community-Based Social Marketing~~
- ~~• Food: Too Good to Waste Evaluation~~
 - ~~— Successes~~
 - ~~— Lessons Learned~~
 - ~~— Opportunities in Your Community~~
- Case Study:
 - Preventing Wasted Food in Oregon



Oregon DEQ Strategy to Prevent Wasted Food

(Draft) GOALS

- ❑ **Develop the state of knowledge and building blocks to help reduce wasted food** in Oregon, and elsewhere, in the most cost-effective and environmentally beneficial manner.
- ❑ **Increase business and consumer actions to prevent wasted food**, consistent with the Oregon DEQ's 2050 MM Vision.
- ❑ **Reduce GHG emissions, water use, energy use and wasted resources by reducing the generation of wasted uneaten food** by 15% by 2025 and 40% by 2050.

***Oregonians in 2050 produce and use materials responsibly
conserving resources • protecting the environment • living well***

<http://tinyurl.com/OregonJourneyVideo>

DEQ Strategy to Preventing Wasting of Food

Where did we land?

- 9 Projects encompassing research, best business practices, campaign development. 2017 projects include:
 - Messaging research
 - SB 263 campaigns
 - Wasted Food Measurement study
 - Commercial food prep and grocer business case

Learn more about Oregon's 2050 Vision, Strategy to prevent wasted food during EPA's SMM Webinar on Jan. 19, 2017

Oregon DEQ / Portland State University

Wasted Food Measurement Study

- Scope: Residential and subset of food service providers and grocery retailers
- Goals:
 - Understand drivers (economic, informational, social, structural, and psychological) leading to preventable wasted food.
 - Collect reliable data on wasted edible food including loss reasons.
 - Assess cost effectiveness and environmental impact of several waste prevention interventions in food service environments.
 - Develop methods for baseline measurement and assessing progress in preventing wasted food.

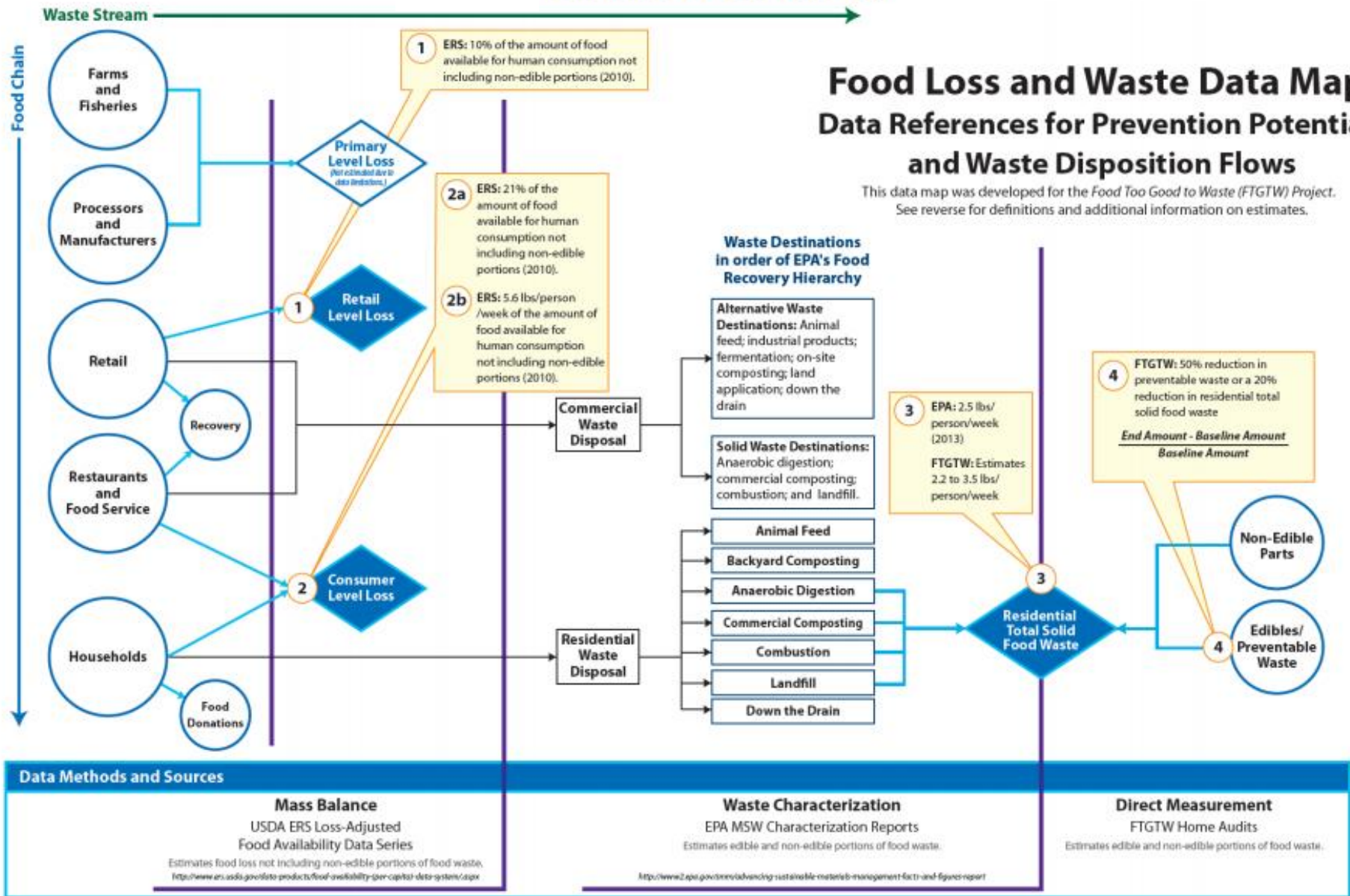


Ashley Zanolli
*Oregon DEQ**

**Temporarily assigned from EPA Region 10 to
Oregon DEQ until 2018*

Extra Slides for Questions

Food Loss and Waste Data Map

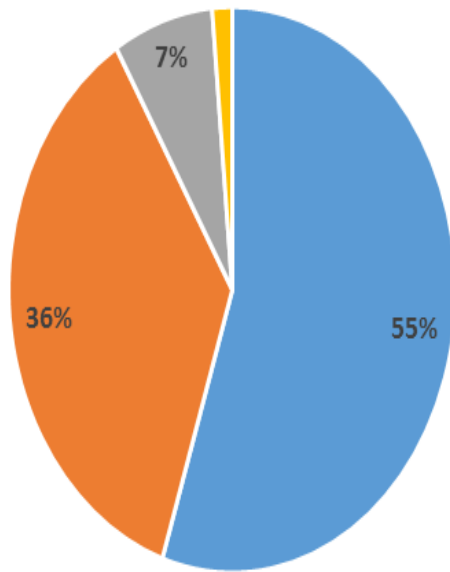


Food Loss and Waste Data Map: Data References for Prevention Potentials and Waste Disposition Flows

This data map was developed for the *Food Too Good to Waste (FTGTW)* Project. See reverse for definitions and additional information on estimates.

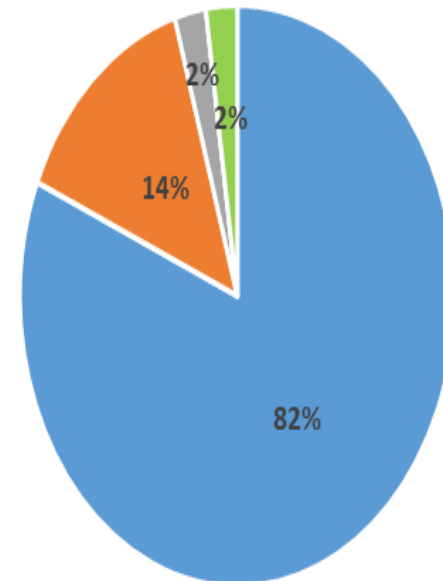
Challenge Effectiveness

Effect on Increasing Awareness of Wasted Food in Household
"I am now more aware of food going to waste in my household"



■ Strongly agree ■ Agree ■ Neutral ■ Disagree ■ Strongly disagree

Likelihood of Continuing to Use Strategies and Tools



■ Agree ■ Somewhat agree ■ Somewhat disagree ■ Disagree ■ Don't know/unsure

My Lessons Learned

1. Focus on mutual goals
2. Check your assumptions
3. Maintain a “beginners mind” during project formulation
4. Relationships are the currency of collaboration
5. Implementable innovation requires a tirelessly persistent champion(s)
6. Go fast alone or much farther together



Climate Friendly Purchasing Toolkit – The Food Module

www.westcoastclimateforum.com

Reducing the Carbon Impacts of Food & Food
Service Purchasing



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Toolkit Modules: Sector Specific Strategies



Carpet & Flooring



Construction

Asphalt, Concrete
and More



Diesel Fuels



Food



Information &
Communications
Technology (ICT)



Professional
Services





Toolkit Module: What to Expect

Reducing the Carbon Impacts of the Purchasing of Food & Food Service at Public Institutions

1. Training and measurement
2. Menu planning and low-carbon purchasing
3. Reducing the wasting of food at the storage and preparation stages
4. Energy efficient storage and cooking
5. Reducing food waste at the delivery stage
6. Food rescue





Toolkit Module: Food



**Why focus on the
carbon impacts of
food purchasing by
public institutions?**



Public Institutions & Food Services





Toolkit Module: Food



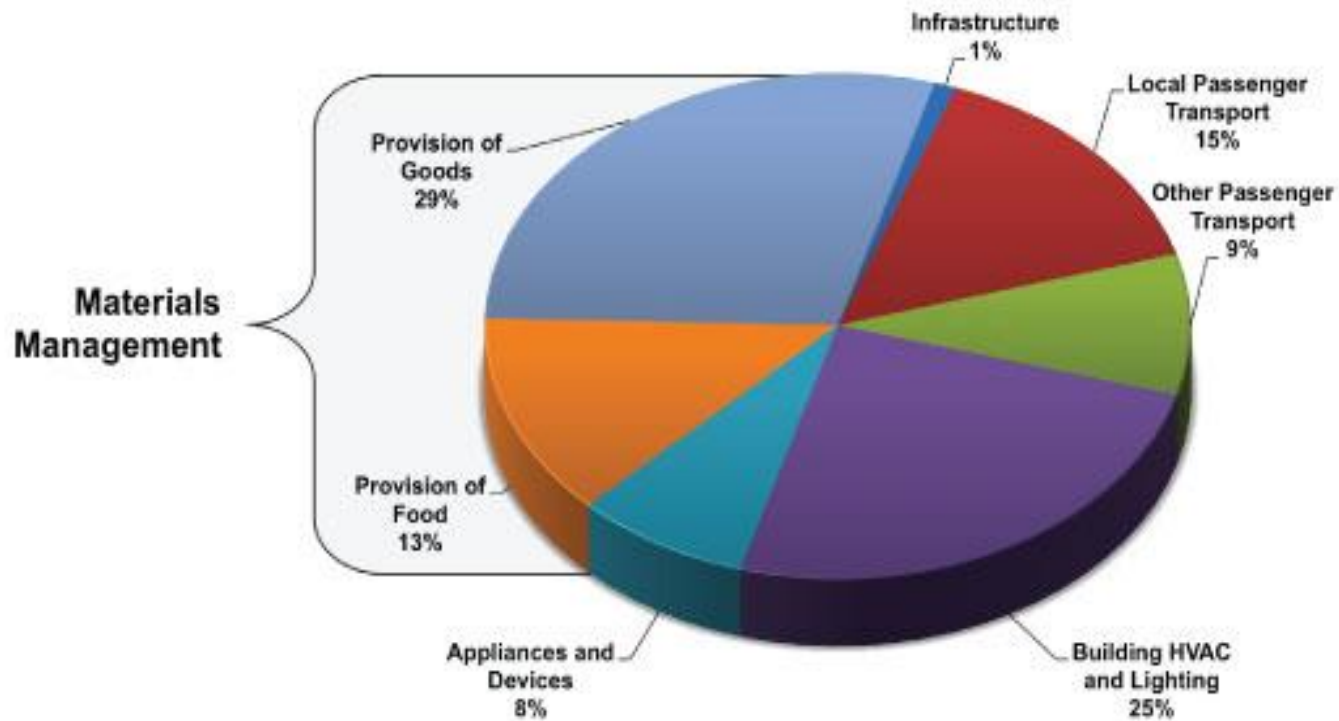
Environmental impacts of food's life cycle





Systems Based GHG Emissions

Systems-Based GHG Inventory US (Domestic) Emissions, 2006





Environmental Life Cycle

Impacts of Food

- ❑ Providing food in the U.S. uses 10% of the nation's energy budget, 50% of the land, and 80% of freshwater consumption.
- ❑ Food production releases fertilizers and pesticides into the environment and displaces natural habitat.
- ❑ Food disposed of to landfills contributes to methane emissions.





Toolkit Module: Food



Strategies for reducing the carbon impacts of food & food service purchasing





Approaches to Reducing the Carbon Impacts of Food

Three primary approaches:

- ❑ Focus on life-cycle carbon intensity of different food types.
- ❑ Reduce the generation of food waste from the food production stage through food delivery.
- ❑ Address food at the end-of-life stage.





Specific Strategies

1. Training and measurement
2. Menu planning and low-carbon purchasing
3. Reducing the wasting of food at the storage and preparation stages
4. Energy efficient storage and cooking
5. Reduce food wasting at the food delivery stage
6. Food recovery





Specific Strategies

1. Training & Measurement

→ *Staff training*

→ *Track & measure
food waste*

Staff using LeanPath
tracking system.





Specific Strategies

2. Menu Planning & Low-Carbon Purchasing

- *Efficient menu planning and ordering*
- *Buy imperfect food items*
- *Buy local (next slide)*





Specific Strategies

2. Menu Planning & Low-Carbon Purchasing

→ *Buy local*



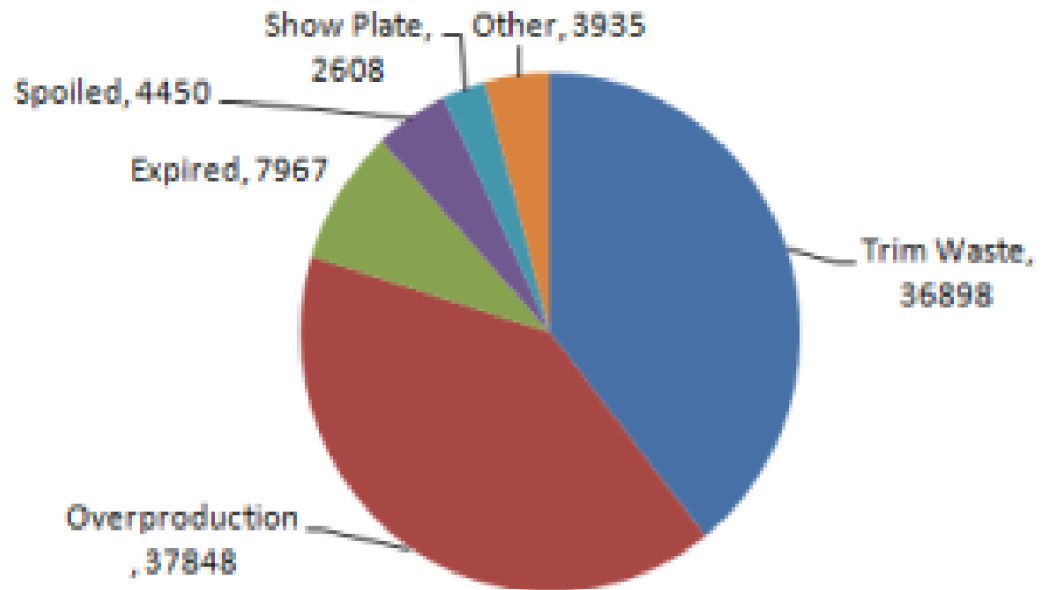


Specific Strategies

3. Reducing Food Wastage at Storage & Preparation Stages

- *Proper storage of food to prevent spoilage*
- *Reducing food preparation waste*

Cafe's Top 5 Loss Reasons-Pounds





Specific Strategies

4. Energy Efficient Storage & Cooking

- *Food storage & energy use*
- *Energy efficient kitchen equipment & technologies*





Specific Strategies

5. Reduce food wasting at the food delivery stage

- *Trayless dining*
- *Reduced plate and portion sizes*
- *Repurposed food and use of specials*





Specific Strategies

6. Food rescue

→ *Donate edible surplus food*



Thank You

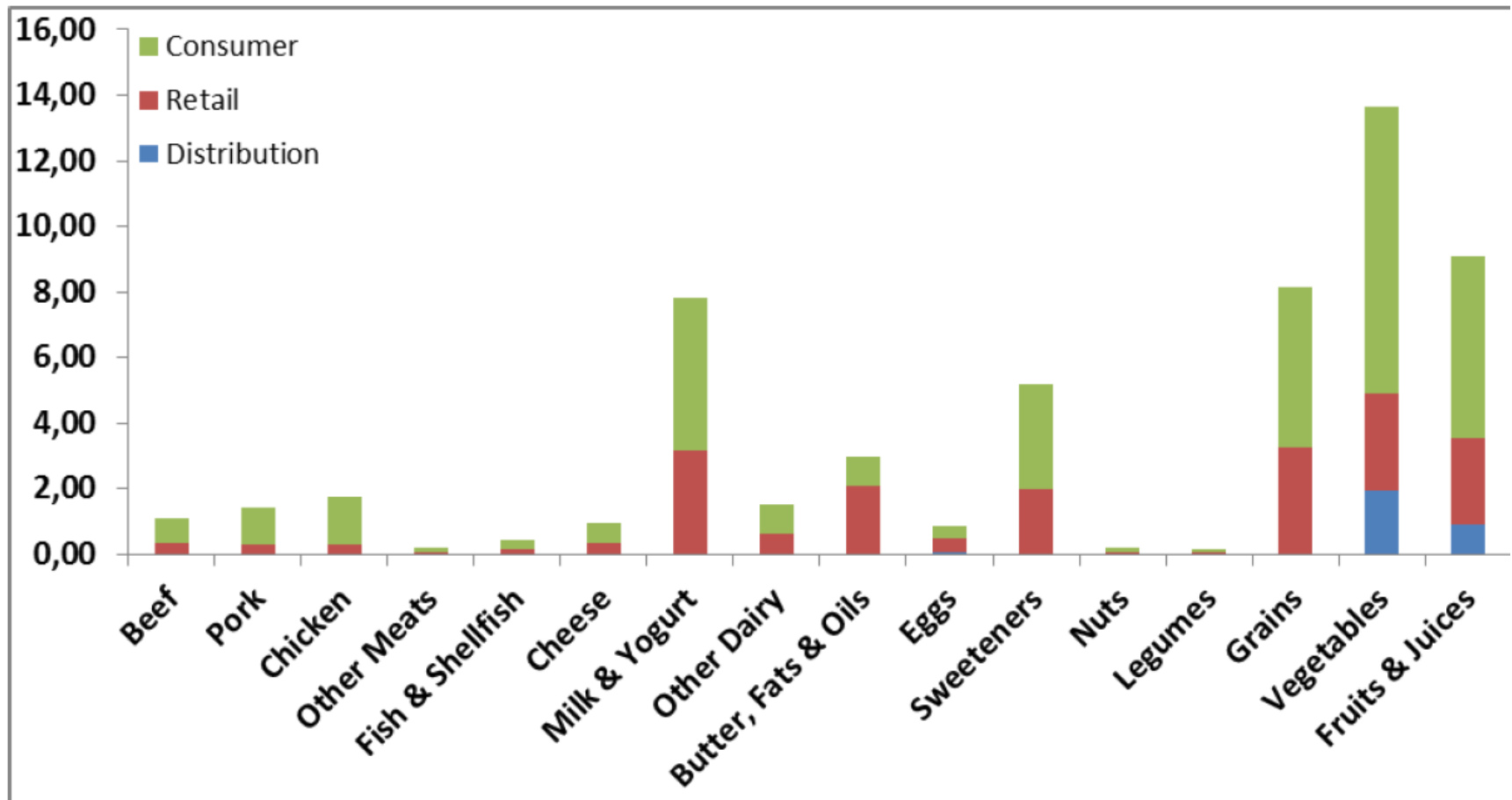
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Which foods are the most wasted?

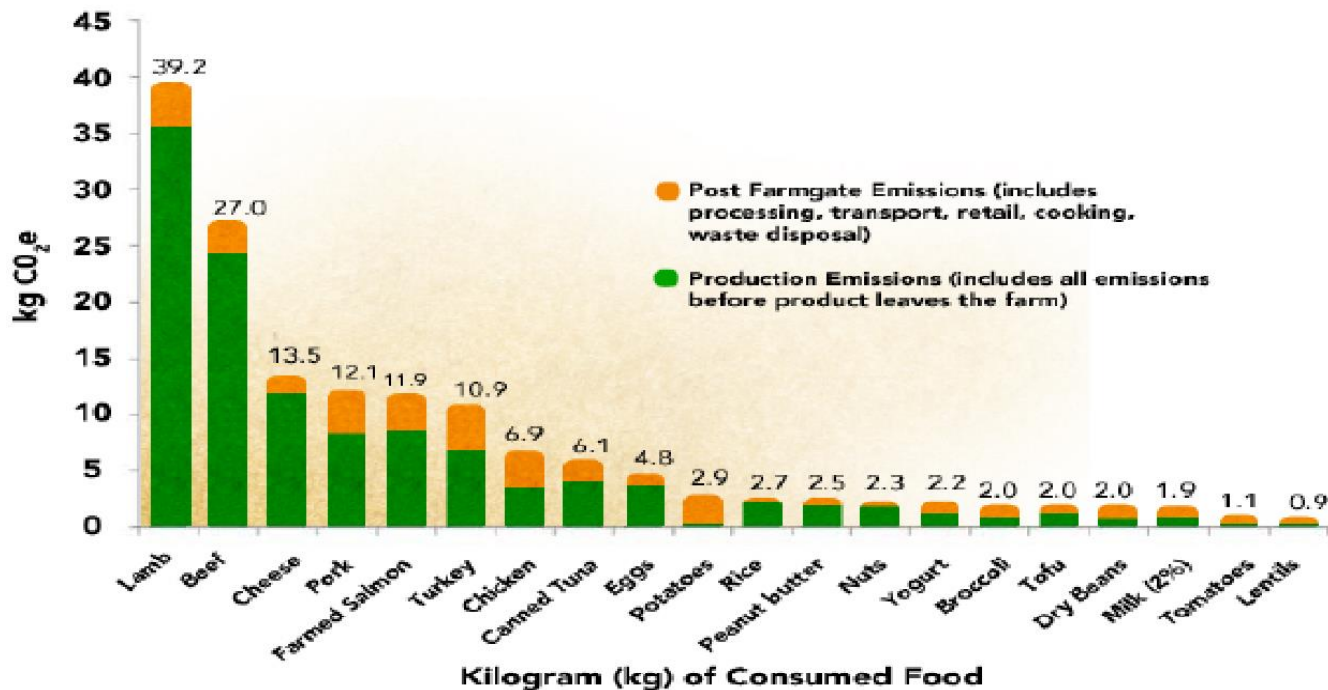




Specific Strategies

2. Menu Planning & Low-Carbon Purchasing

→ *Low-carbon purchasing*



How Much Food is Wasted by the Institutional Sector?

