Climate Change and Food – an Overview

Climate Protection Committee
February 20, 2020

Geraldina Grünbaum
Senior Environmental Planner
Climate Change and Food

How climate change affects food production

How the food cycle (production-to-waste) contributes to Greenhouse Gas (GHG) emissions

How food choices influence GHG emissions

Opportunities to reduce GHG emissions from food
Climate Change Affects Food Production

- Heat, drought, severe weather events
- Higher temperatures → more evaporation from soil
- Drought → depletion of aquifers
- Wildfires
- Crop & forage losses
- Ocean warming & greater acidity → impact on fisheries

Supply, cost, and quality of food will all be affected
Food Cycle Affects Climate Change

- Land Use
- Equipment and machinery
- Water and chemical use
- Animal waste and gas
- Transportation
- Refrigeration
- Food waste decomposition

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Bay Area Air Quality Management District
Global emissions from food production account for 26% of all global food-related GHG emissions. More than 53% of these emissions come from the raising of livestock. An additional 25% of global GHG emissions from the food cycle come from food waste (3.6 billion tons CO₂e), leading to 35% of all GHG emissions in Alameda County being from food waste.
GHG Emissions from Food Consumption

SF Bay Area Average Household GHG Footprint

44 metric tons CO$_2$e per household

Blue = direct emissions
Green = indirect emissions

- Transportation 33%
- Housing 14%
- Food 19%
- Goods 17%
- Services 17%

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Bay Area Air Quality Management District
GHG Emissions from Food (per kilo)

Food Choice Affects GHG Emissions

• Individual food choices affect GHG emissions from food cycle
• Climate-friendlier diets rely on lower GHG-intense foods:
  • Lower consumption of ruminant meat - beef, sheep, goat, deer
  • Eat lower on the food chain:
    • e.g., today’s breakfast
  • Make some meals plant-based:
    • e.g., Meatless Mondays
• Eat within the season
Air District Efforts to Reduce Food GHG Emissions

• Incentives for lower-emission farm equipment
• Regulate methane emissions at landfills and composting facilities
• Create a regional message on climate and food through outreach and partnerships:
  • Collaborate with StopWaste and other expert organizations
  • Develop messaging and education/outreach campaigns
    • e.g., to reduce food waste or influence food choices
• Engage with food “influencers”
  • Convene regional climate and food event
  • Food industry professionals and public agencies
AGENDA: 5

Food Waste Reduction in Alameda County

Cassie Bartholomew, Program Manager
StopWaste Organics Priorities - 2018

**Upstream**
- **Redesign**
  - Increase in materials optimization
  - Increasing state and local policies addressing reduction of wasted food

**Rethink**
- Increase in awareness
  - 10% increase of families likely to reduce food waste at home

**Reduce / Reuse**
- Less waste generated
  - 10% of food service and grocers participate in food donation

**Downstream**
- **Recycle / Rot**
  - Increase in proper sorting
  - <20% organics in landfill
The Food Cycle

- Smart Kitchen/Cafeteria Initiative
  - Stop Food Waste campaign
    - SWEET Training

- Packaging

- Harvest & Distribute

- Landscape Services
  - Carbon Farming
  - WELO Implementation

- Plan, Shop & Store

- Cook & Eat

- Sort & Collect

- Food Cycle

- Make Compost
  - Technical Assistance

- Mandatory Recycling Enforcement & TA:
  - Free Bin Program
  - Generator Tools
  - Contamination Minimization Study
  - Plant Debris Ban
The Problem and Opportunity

• ReFED Report estimates 43% of food wasted in the US comes from households

FOOD WASTED BY WEIGHT - 63 MILLION TONS

Waste occurs throughout the supply chain, with nearly 85% occurring downstream at consumer-facing businesses and homes.
Stopping Food Waste at Home

5 Key Behaviors

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

Can save a family of four about $1600 per year!
Stop Food Waste Campaign

• Goal:
  ▪ 10% increase in families reducing wasted food at home
  ▪ Reduction in wasted food going to landfill

• Target audience:
  ▪ Women 35-54 with kids under 18
  ▪ Families with kids under 18

• Call to action:
  ▪ Learn how to reduce food waste at StopFoodWaste.org:
    • Plan
    • Store
    • Eat
    • Compost

For the Love of Food

Keep that tasty bread fresher, longer.

Storage tips at StopFoodWaste.org
Baseline Research: September 2016

• **Quantitative Survey:**
  - 400 phone interviews with parents of kids under 18
  - Person primarily responsible for either grocery shopping or cooking at home

• **Qualitative Survey:**
  - Two 2 hour focus groups with moms of kids under 18
Along with milk and dairy, vegetables and fruit were the most likely to be thrown out due to spoiling.

<table>
<thead>
<tr>
<th>Items</th>
<th>Spoiled</th>
<th>Partially Uneaten</th>
<th>Leftovers</th>
<th>Excess Food</th>
<th>DK/NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh vegetables and fruit</td>
<td>66%</td>
<td>11%</td>
<td>9%</td>
<td>2%</td>
<td>12%</td>
</tr>
<tr>
<td>Beverages</td>
<td>19%</td>
<td>12%</td>
<td>8%</td>
<td>5%</td>
<td>57%</td>
</tr>
<tr>
<td>Milk and dairy products</td>
<td>56%</td>
<td>3%</td>
<td>5%</td>
<td>4%</td>
<td>32%</td>
</tr>
<tr>
<td>Meat and seafood</td>
<td>29%</td>
<td>16%</td>
<td>28%</td>
<td>3%</td>
<td>23%</td>
</tr>
<tr>
<td>Prepared foods</td>
<td>23%</td>
<td>23%</td>
<td>26%</td>
<td>2%</td>
<td>26%</td>
</tr>
<tr>
<td>Eggs</td>
<td>22%</td>
<td>10%</td>
<td>8%</td>
<td>10%</td>
<td>51%</td>
</tr>
</tbody>
</table>
Date labels are by far the most common reason parents throw out food.

- You use date labels, like best by, sell by, or use by, to decide whether or not food is okay to eat: 60%
- You purchase more groceries than necessary or buy in bulk because you worry about not having food in the house: 19%
- There are leftovers from a meal that go bad: 19%
- You purchase more of a specific food than you normally would because they are discounted: 17%
- Servings at meals are too large for you and your family members: 16%
- Food spoils before you eat it: 15%
Parents who compost or use a green bin are more likely to prevent food waste than are those who use the garbage bin for food scraps.

Initial Likelihood by Disposal Method

- Garbage: 35% Ext. Likely, 15% Very Likely (50% total)
- Green Bin: 41% Ext. Likely, 16% Very Likely (56% total)
- Compost Pile: 43% Ext. Likely, 16% Very Likely (59% total)
When parents learned more about the issue their likelihood of preventing waste grew.
Stop Food Waste Campaign & Tactics

- Five creative phases
- Food saving tools
  - Website, Tools, Videos
- Paid advertising
- Social media
- Consumer-facing materials
- Community outreach & grants

CRUNNNCH!

It’s Back to School time.
Get tips to keep lunch favorites tasty.

Plan Well  Store Well  Eat Well
Creative (March - October 2017)

• Phase 1 - Food Storage
  ▪ Back to School refresh

FRESSSSH!
Keep your food fresher, longer.

Plan Well Store Well Eat Well

Do you know the best way to store berries?
Holiday Campaign (November - January 2018)

• Phase 2- Using Leftovers

No crumb wasted.
StopFoodWaste.org

No slice wasted.
StopFoodWaste.org

STOP WASTE
START SAVORING

STOP WASTE
START SAVORING
Stop Food Waste Campaign (April 2018- June 2018)

- Phase 3- Revisiting Food Storage with Compost Tips

For the Love of Food

Keep those leafy greens fresher, longer.

Do you know the best ways to save food?
Because every carrot counts, when it comes to fighting climate change.

Learn how at StopFoodWaste.org
Prevention + Food Scrap Composting Tips

For the Love of Food

Together, we can waste less

For Compost from Food Scraps helps:
- Create healthy soil
- Save water
- Reduce pesticide use
- Reduce waste sent to the landfill
- Reduce greenhouse gas emissions

Learn more at StopFoodWaste.org

COMPOSTING TIPS

Make collecting food scraps a part of your daily routine.

Tub It
Keep a small tub on the counter. Collect trimmings then dump into the curbside green bin.

Line It
Line your pail with a bag to keep things tidy. Just make sure the bag is compostable.

Bag It
Use a paper bag to collect food scraps. Then toss it all into the green bin.

Peel It
Keep your compost clean. Remove all stickers before placing food scraps in your bin.
I watched the StopFoodWaste video about reviving wilted lettuce with my kids. A day or two later, my 6 year old brought me a sprig of wilted mint and asked if we could try reviving it. We put the mint in a bowl of ice water and my son was so excited to see that it actually worked! The mint leaves looked fresh and tasted good as new.
Advertising & Social

- **Print**
  - BART ads
  - Publications

- **Digital**
  - Google/Gmail
  - Social media
  - Comcast
  - Movie Theaters
  - E-news
  - Website
Community Outreach

- Farmers Markets
- Food Festivals
- Event Tabling
- Scout Nights
- Lunch & Learns
- Grants
JURISDICTION REQUIREMENTS

Identify Existing Food Recovery Capacity

Expand Existing Food Recovery Capacity (if needed)

Ensure Commercial Edible Food Generators Have Access to Food Recovery Services

Monitor Commercial Edible Food Generators for Compliance

Establish Edible Food Recovery Program
Creating Solutions: Donation Guide for Alameda County Businesses

• A one-stop guide for food service operators
• Details how CA state laws AB 1219 and SB 1383 support donation of surplus food
• Provides information on:
  ▪ Federal & state legislation protecting donors from liability
  ▪ Information on enhanced tax deductions
  ▪ A checklist on how to get started with a donation program
  ▪ How to find a donation partner
  ▪ Reminders on safe food handling procedures
Thank you!

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Regional Food & Climate Event

Climate Protection Committee
February 20, 2020

Lisa Fasano
Communications Officer
Regional Food & Climate Event

- Build on success of 2018 Climate Friendly Cuisine
- Food and Diet – the low hanging fruit of greenhouse gas (GHG) reduction
- Get the message out – enable public to make informed choices
Regional Food & Climate Event (cont.)

- Why focus on food?
- What is known?
- How to initiate this concept with the public?
Regional Food & Climate Event (cont.)

- Event in Fall 2020
- Focus on food waste, sustainability, and diet
- Cooking demonstrations
- Introduce induction cooking
Regional Food & Climate Event (cont.)

Goals of food event:
• Initiate a dialogue on food, sourcing, diet, AND waste
• Take a new look at cooking – induction vs. gas
• Teach/Learn by example