

Food Waste:  
Framework for  
Increased Government Focus

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# Outline

- Landfilled Food Waste:  
21<sup>st</sup> Century Issue
- Historical Context
- Vision and Opportunities

# Food Waste Disposal: A 21<sup>st</sup> Century Problem

- Largest single part of municipal solid waste
- 34 million tons per year disposed in U.S.
- 4% recycling rate
- Fewer soil products
- Landfilling food waste → climate change



# Main Points

- Local government responsibility to protect public health and safety
- Need new food waste policy and programs for the 21<sup>st</sup> Century



# Shifting Public Health Risk

From Reducing Infectious Disease



To Reducing Climate Change's Effects



# Urbanization: Early U.S. Municipal Solid Waste Management



**Transportation Pollution, c 1900**



**Food Waste/Horse Manure**

# Local Governments Create Public Health and Sanitation Departments



# Early Public-Private Partnership: Food Waste for Pigs

- Los Angeles in 1930s used private pig farms for food waste
- Example: Fontana Farms, 500 tons/day (1940)



# World War II: Food Waste Reduction Becomes Patriotic



# 1950s: Baby Boom, Suburbanization



# 1960s: Weekend Farmers in Suburbs



New Wasted Resource



Burning More Popular Than Composting



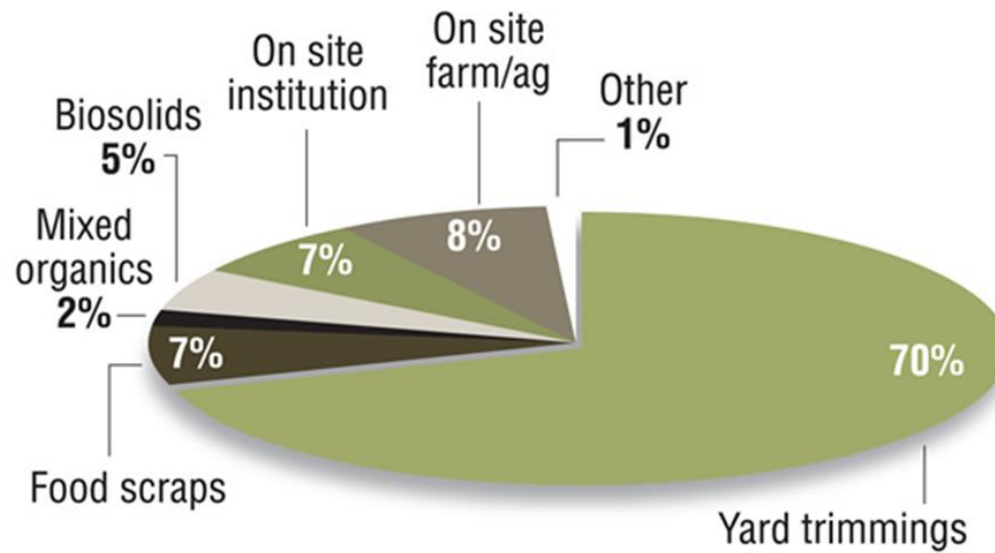
# 1987-2000: Growth of Composting of Yard Trimmings

## Number of Yard Waste Composting Programs



# Composting in the U.S. (2014)

**Figure 1. U.S. composting facilities by type**



Yard trimmings compost sites represent 70% of the 4,914 total compost sites reported

Source: BioCycle

# Thousands of Small- and Medium-Size Composting Facilities in U.S.

**Front-end loader**



**Some food waste**



**Dedicated  
windrow turner**

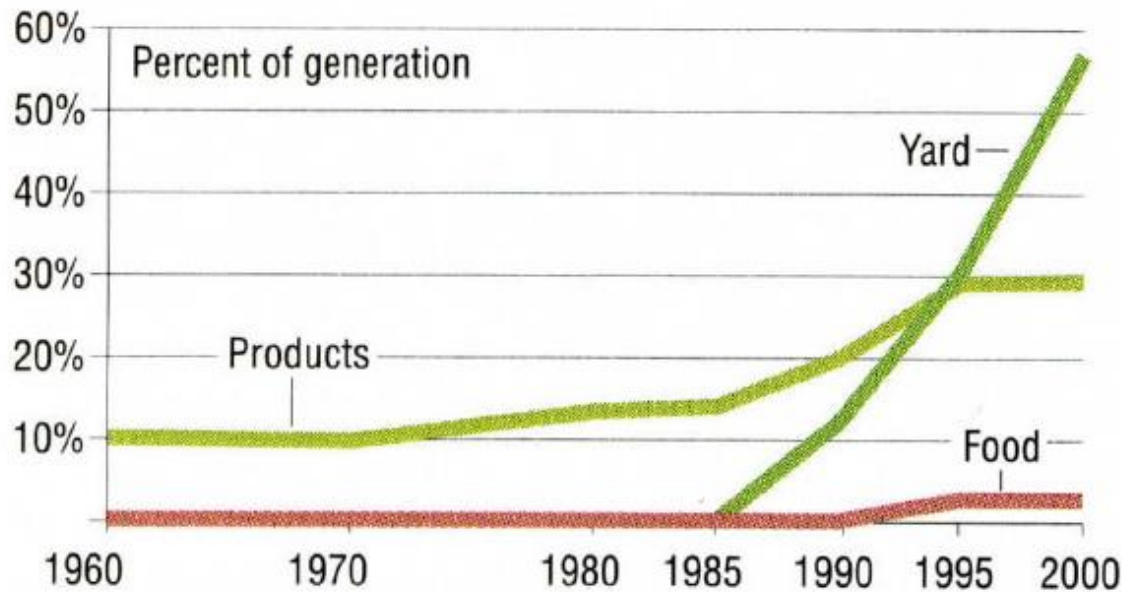


# Large-Scale Composting of Yard Trimmings and Food Waste



# Success with Yard Trimmings, And More Work Ahead

**Figure 2. Recovery of products wastes and biowastes (yard and food), as a percent of total generation of each waste**



Sources: US EPA 2005; Franklin Associates, Ltd.

# Today: U. S. West Coast Success with Food Waste



**Commercial Food Started**



**Residential Food Added**

# New Approaches: Urban Anaerobic Digestion

Local food waste,  
processed locally



Creating renewable  
energy, soil products

# What Actions Can Governments Take?

- National: Environmental Protection Agency
- State: Landfill Restrictions, Program Grants
- Local: Program Development

# U.S. Environmental Protection Agency: Greenhouse Gases Endanger Public Health

Historic *finding of endangerment* (2009) under the Clean Air Act:

“six key greenhouse gases in the atmosphere  
threaten public health”

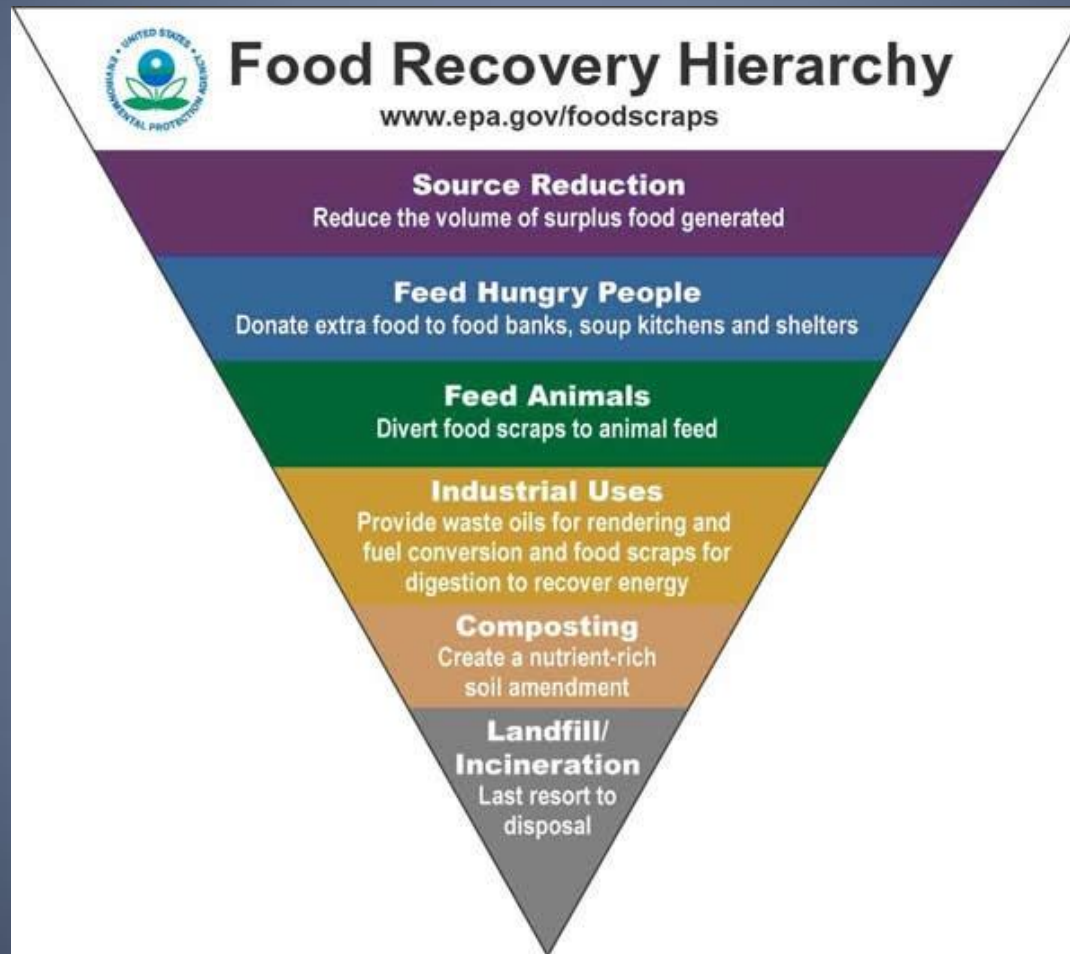
# EPA: GHG Endangers Public Health



# Four Steps to Effective Policy

1. **CONCENTRATE** on discards that
  - a. harm public health
  - b. lack market value.
2. **PROTECT** public health and safety:
  - a. use GHG endangerment finding
  - b. use bans and incentives.
3. **REQUIRE** source separation:
  - a. commercial food scraps, at least.
4. **PURSUE multiple** paths to success:

# Pursue Multiple Paths to Success



# Examples of State and Local Government Actions

State Policy: Ban Landfilling of  
Commercial Food Waste



Local Policy: Required Source  
Separation of Food Scraps

San Francisco requires all residents and businesses to keep food waste out of trash.

# Organics Management: An Enduring Public Health Issue

- 1900: Reduce Transmissible Diseases
- 2000: Protect the Environment
  - save landfill space
  - reduce GHG emissions
- 2020: Support Community Resilience
  - water conservation
  - local food supply
  - local energy supply

# Summary: Why a Government Role in Organics Management?

- To protect **PUBLIC HEALTH**
- To improve the **ENVIRONMENT**
- To strengthen **COMMUNITY RESILIENCE**

# Future is in Our Hands



# San Francisco



# Long History of Resource Recovery



Photo courtesy of Ines Be

# Three Streams



Photo courtesy of Recology



- Establish convenient programs
- Conduct extensive public outreach
- Provide generator and service provider incentives
- Adopt policies and enforce



## FOOD SCRAP RECYCLING



# Training for Effective Source Separation





# Source-separated Collection Results

<u>Year</u>	<u>Food Waste/Yard Trimmings (tons/year)</u>
2000	21,000
2005	85,000
2010	139,000
2012	159,000

# Compostables



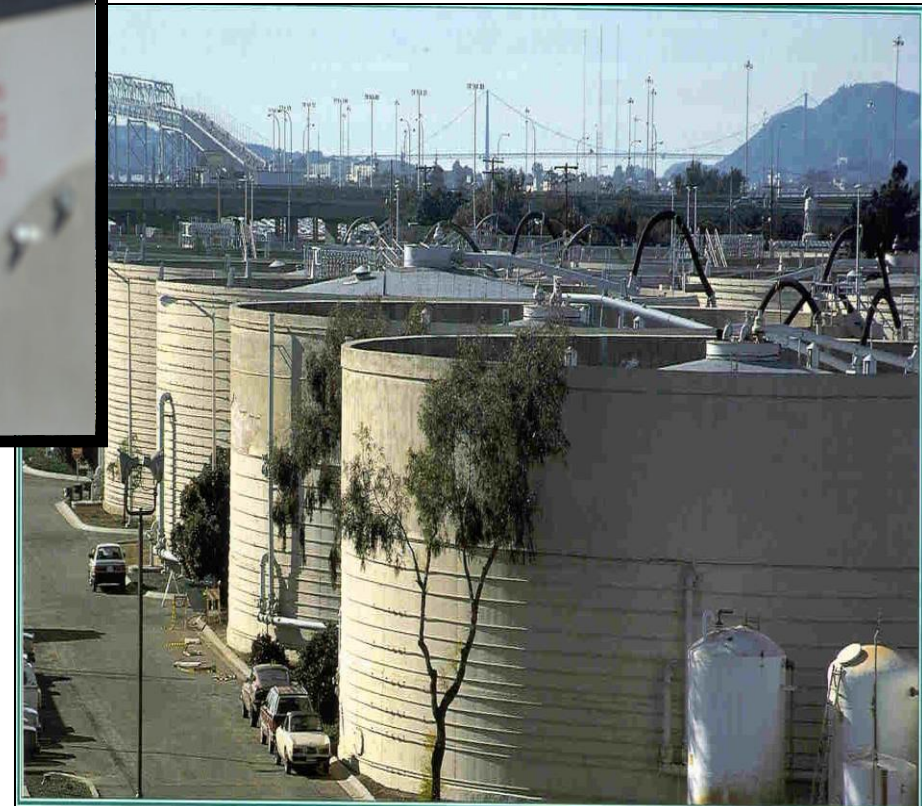
# Large Generators



# Composting Facility



# Food Scrap Digestion to Energy Process



# Organics Loop



# Compost Makes Healthy Soil & Great Wine



# Compost Used On Organic Farms And Vineyards To Build Healthy Soils



# Compost Also Makes Healthy Fruit



# And Happy Farmers



This is soothing to the climate



# We Need to Rebuild Soils



# Future is in Our Hands



# Solutions Are In Our Hands

