

# Sustainable Food Management

October 29, 2015

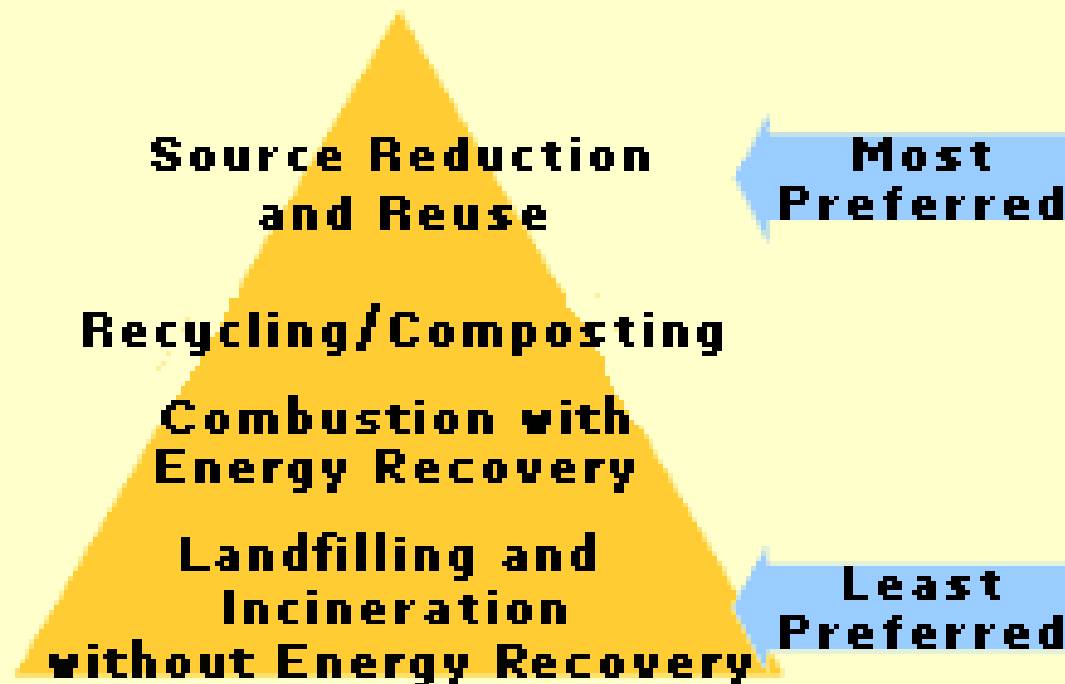
**Christine Beling**

United States Environmental Protection Agency



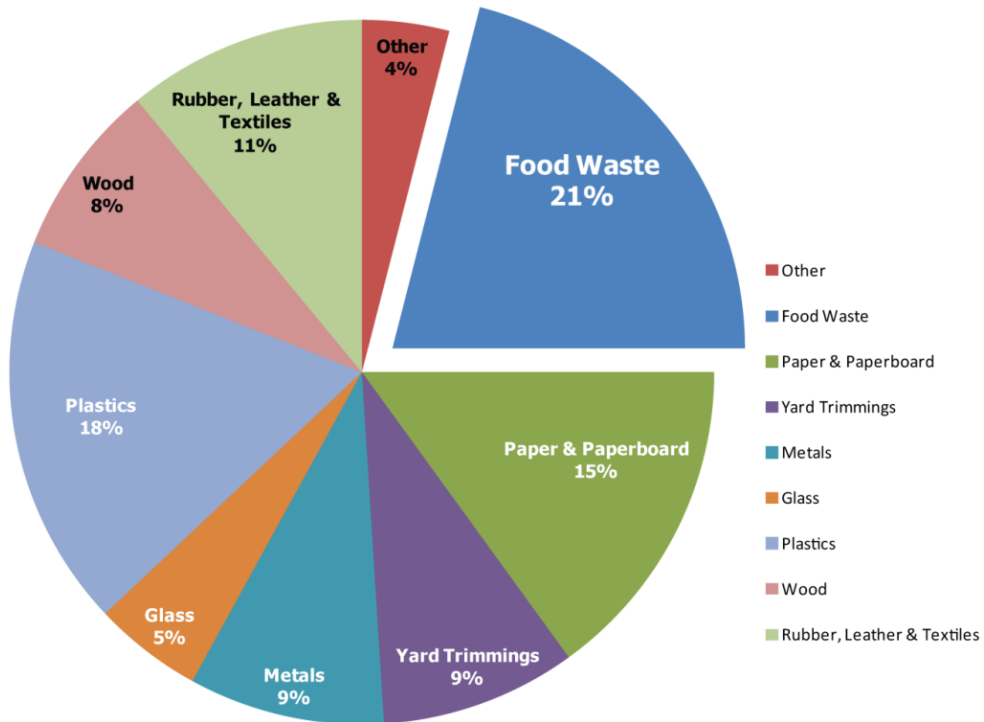
CHANGING HOW WE THINK ABOUT OUR RESOURCES FOR A BETTER TOMORROW

## Solid Waste Management Hierarchy



CHANGING HOW WE THINK ABOUT OUR RESOURCES FOR A BETTER TOMORROW

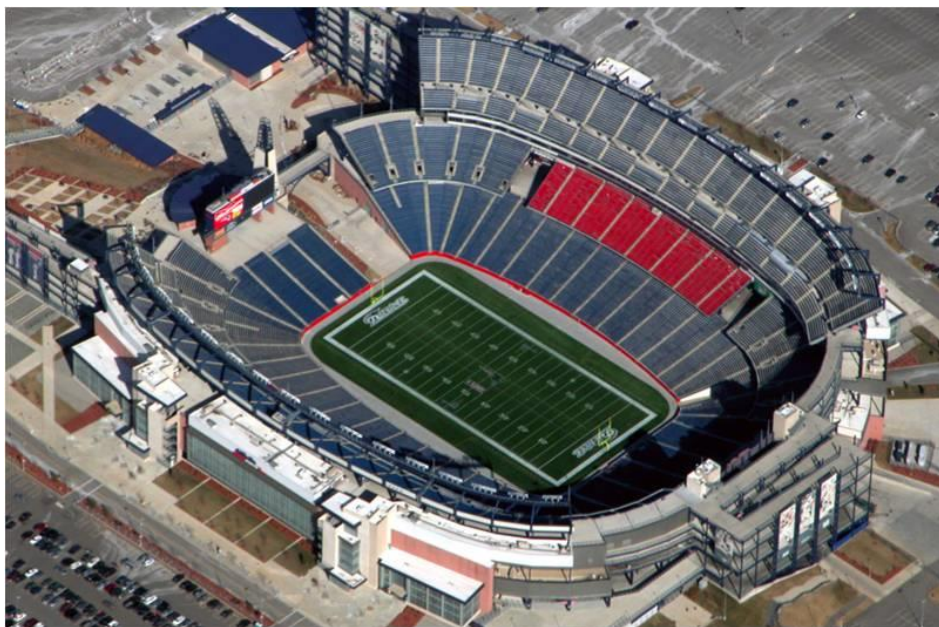
# U.S. Wasted Food Profile



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# Why Target “Wasted” Food?



**Americans waste enough food  
to fill the Rose Bowl  
every day.**

(Jonathan Bloom's *The American  
Wasteland* 2007)

Photo credit: Patriots Website



# Significant food waste

- **Businesses** lose \$900 million each year (2001 data)
- **Consumers** waste between \$275-455 per household on food thrown away because of the date label\*



Assumes household loss of \$1,365-2,275, as reported in *American Wasteland* by Jonathan Bloom, 2011.  
SLIDE from Harvard Food Law and Policy Clinic



NRDC REPORT

SEPTEMBER 2013  
R:13-09-A

## The Dating Game:

How Confusing Food Date Labels  
Lead to Food Waste in America



Confusion over expiration dates is a leading cause of food waste.

Report available at:

<http://www.chlpi.org/projects-and-publications/food-library>

Glide from Harvard Food Law and Policy Clinic

**1<sup>IN</sup>6**  
**AMERICANS**  
**STRUGGLES<sup>WITH</sup>**  
**HUNGER**



**FEEDING<sup>TM</sup>**  
**AMERICA**

# Wasted Food Impacts



## Our Economy

- Wasted food costs America **more than \$161 billion** annually. **A family of 4 could save \$1600 each year.**

## Society

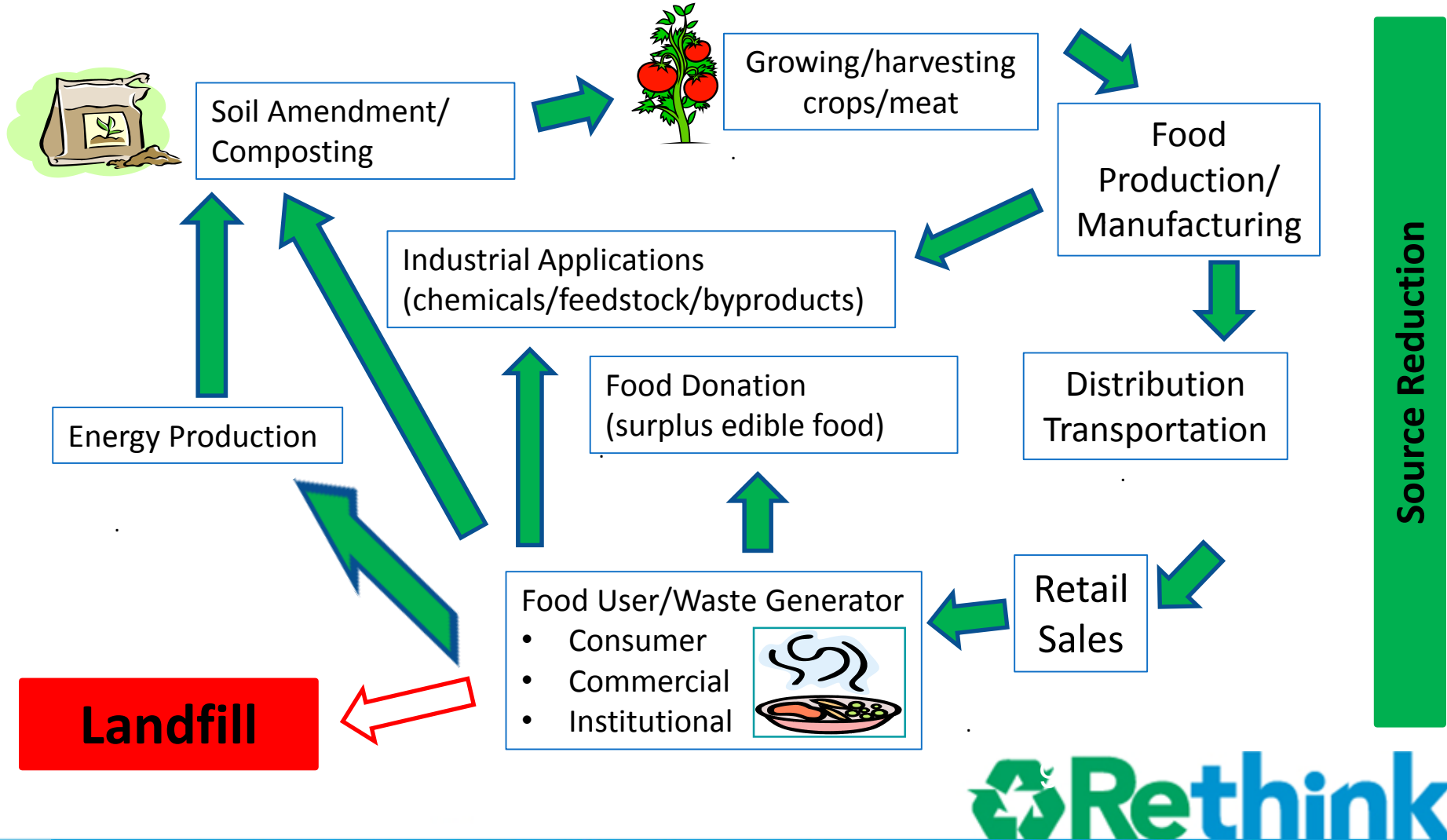
- 31% of all food produced or imported for US consumption annually is wasted, yet **48 million Americans didn't have access to sufficient, safe and healthy food in 2009**

## Our Environment

- food production accounts for:
  - 50% of land use.**
  - 80% of freshwater consumption.**
  - 10% of total energy use.**



# Sustainable Food Management



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# U.S. 2030 Food Waste Reduction Goal

- On September 16, 2015, US EPA Deputy Administrator Meiburg and USDA Secretary Vilsack announced the United States' first-ever national food waste reduction goal.
- Reduce wasted food by 50% by 2030.



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# U.S. Government Activity

- New domestic wasted food reduction goal: 50% by 2030.
- Bill Emerson Good Samaritan Act of 1996.
  - Encourages individuals or businesses to donate food to nonprofits by minimizing liability.
- All Federal Departments are implementing President Obama's new Executive Order 13693, which includes a goal to "divert at least **50 percent** of non-hazardous solid waste, including food and compostable waste."
- Under existing U.S. Tax Code (Section 170), corporations are able to deduct wholesome food donations from their tax liability.



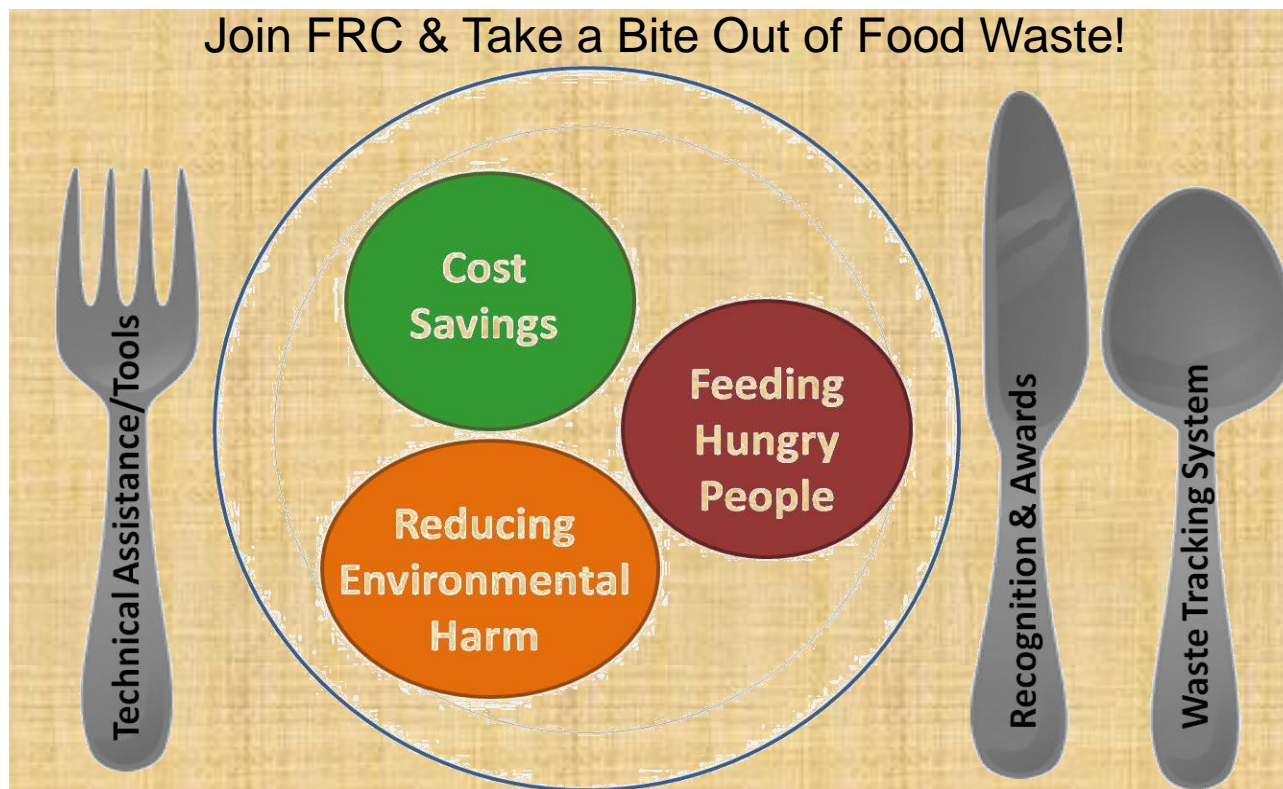
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# Food Recovery Challenge

Join FRC & Take a Bite Out of Food Waste!



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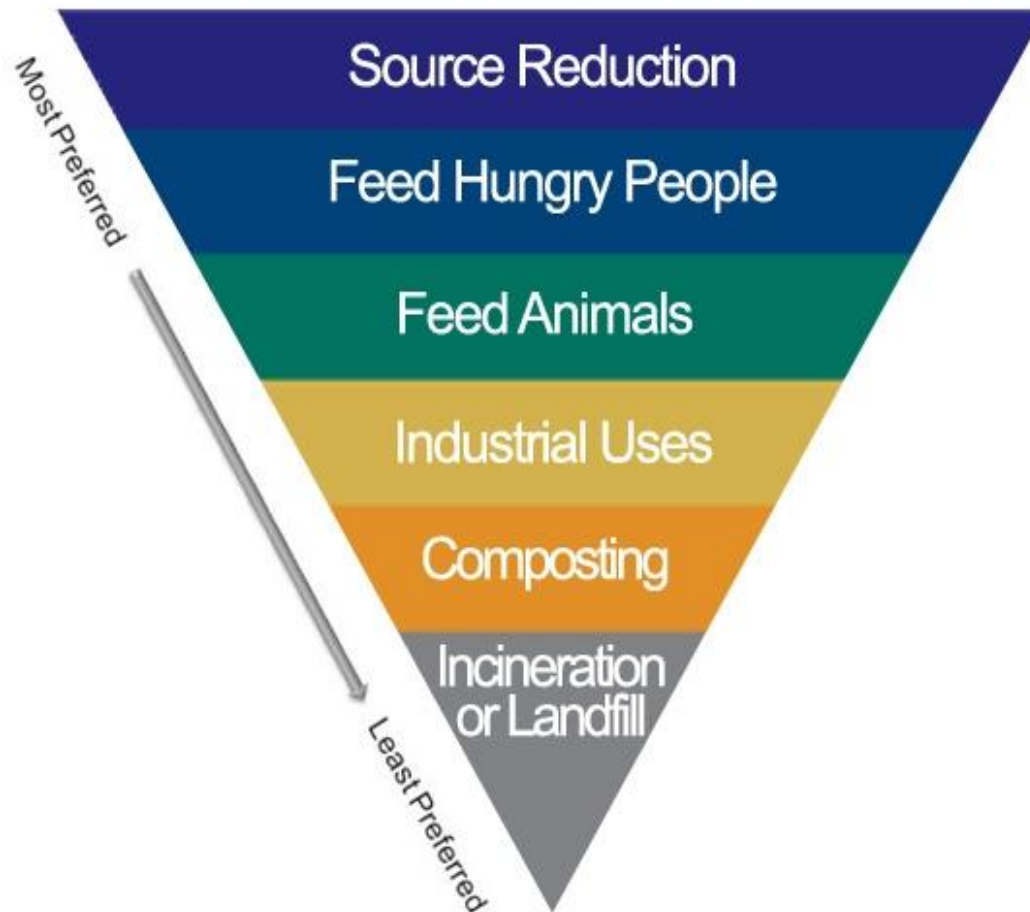
# EPA Tools and Resources

- Waste Reduction Model (WARM)
- Food Waste Assessment Guidebook
- Toolkit for Reducing Wasted Food and Packaging
- Food Waste Management Cost Calculator
- Waste Tracking Logs
- Food: Too Good to Waste Tool Kit



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# Food Recovery Hierarchy



Sustainable Materials Management

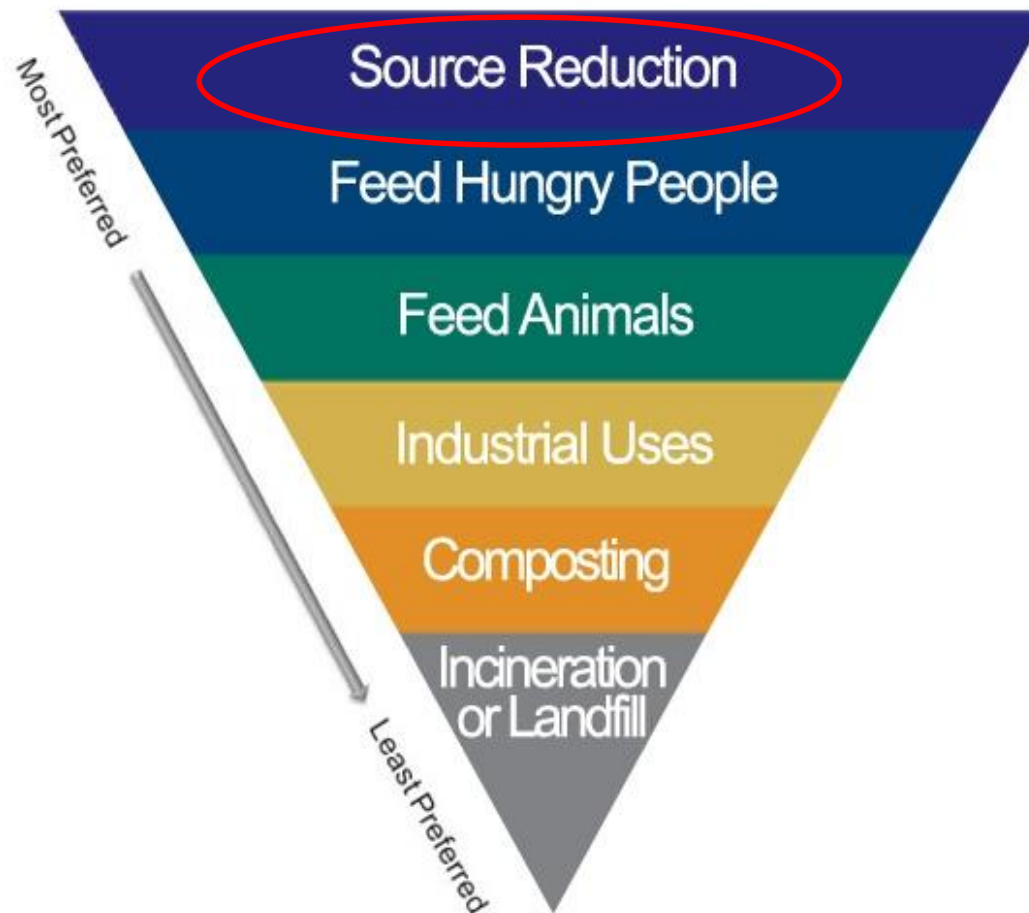
## Food Recovery Challenge



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



# Food Recovery Hierarchy



Sustainable Materials Management

## Food Recovery Challenge



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

# Source Reduction Success Stories

- **Sodexo** ([More information](#))
  - 8 college campuses **cut kitchen waste by about one third**, simply by tracking and monitoring food waste
- **Clark/Sodexo** ([More information](#))
  - 206 tons diverted to composting in 2011
- **UMASS AMHERST** ([More information](#))
  - Tracked waste using LeanPath to cut waste by 25% and \$70,000 in four months
- **Harvard University** ([More information](#))
  - **Orders food that students prefer to eat**, hosts a “Clean Plate Club,” implemented trayless Tuesday dining, and asks caterers to box up extra food from events so that it can be taken to go.



# University of Massachusetts Amherst

- Four dining commons, 15 retail operations
- Serving roughly 40,000 meals every day
- Implemented daily food waste measurement in 2012 initially in two busiest dining commons



UMASS  
DINING  
UMassAmherst

## Taking Action

- Enabled the dining team to spot variances in food waste between each dining common with comparison reports, prompting them to adjust production based on waste trends
- Assisted with more accurate forecasting and menu planning
- Engaged staff members by making food waste reduction part of everyone's daily routine, showing them the positive results they are generating

## Seeing Results

- Four months into implementation, UMass had cut food waste by nearly 25% and experienced \$70,000 in initial cost savings

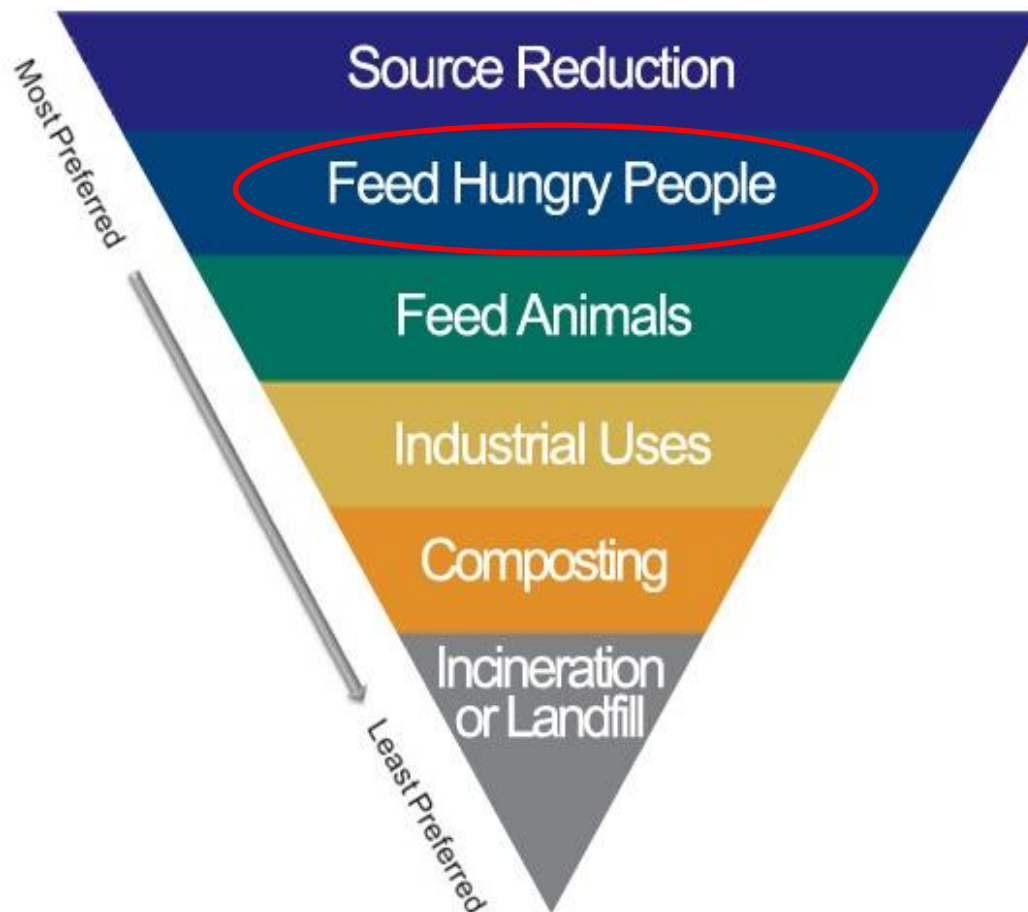


# Food: Too Good to Waste

- Community-based social marketing campaign aimed at reducing wasted food from households
  - Designed by the EPA with input from the West Coast Climate & Materials Management Forum
- Toolkit linked to a 25% reduction in household wasted food
- Made up of simple strategies and tips to help individuals/families reduce waste at home
- Government or community groups interested in hosting a campaign, can find resources on our “Get Your Community Started” page at [www.westcoastclimateforum.com/food](http://www.westcoastclimateforum.com/food).



# Food Recovery Hierarchy



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# Food for People

“Direct donations of surplus food has increased 24% compared to last year”

**“Winooski doughnut maker cooks up a food revolution”** – Burlington Free Press



**CHEESE & WINE  
TRADERS**

*Your Cheese and Wine Place*

**Bill Emerson Good Samaritan Food Donation Act (1996)** – helps protect food donors from liability associated with donated food.



SLIDE from VTANR





Photos Courtesy of Chef Ismail Samad

# THE DAILY TABLE CONCEPT



## Non-Profit Retail

- > **Offering affordable nutrition** to food insecure communities
- > A **unique model** – retail delivery & focus on community, health, & nutrition education

## Proprietary Supply Chain

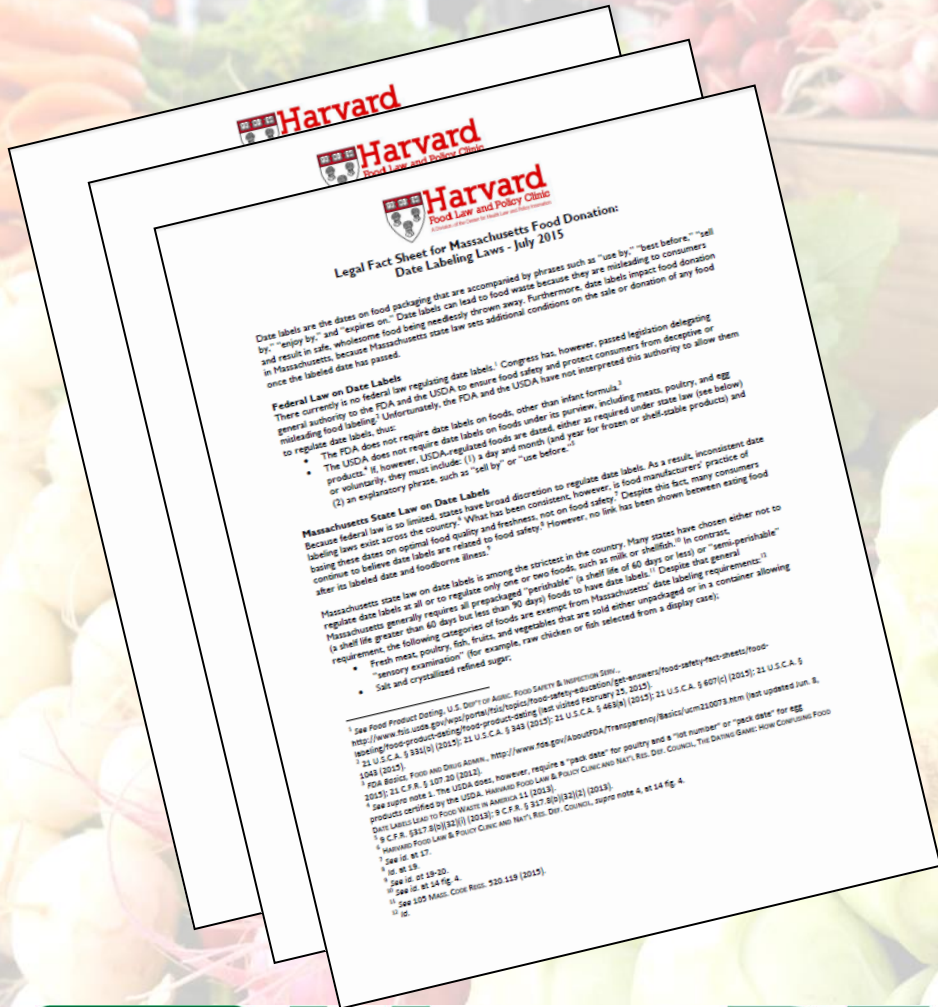
- > Ingredients sourced from **wide network of partners**
- > **Affordable for the community** – priced to compete with fast food alternatives

## Self- Sustaining Model

- > **Designed to be financially self-sustaining** – with store revenues covering our operating costs
- > **Minimize reliance** on outside funders



# Best Practices for Diverting Food for Donation



## Legal Fact Sheets:

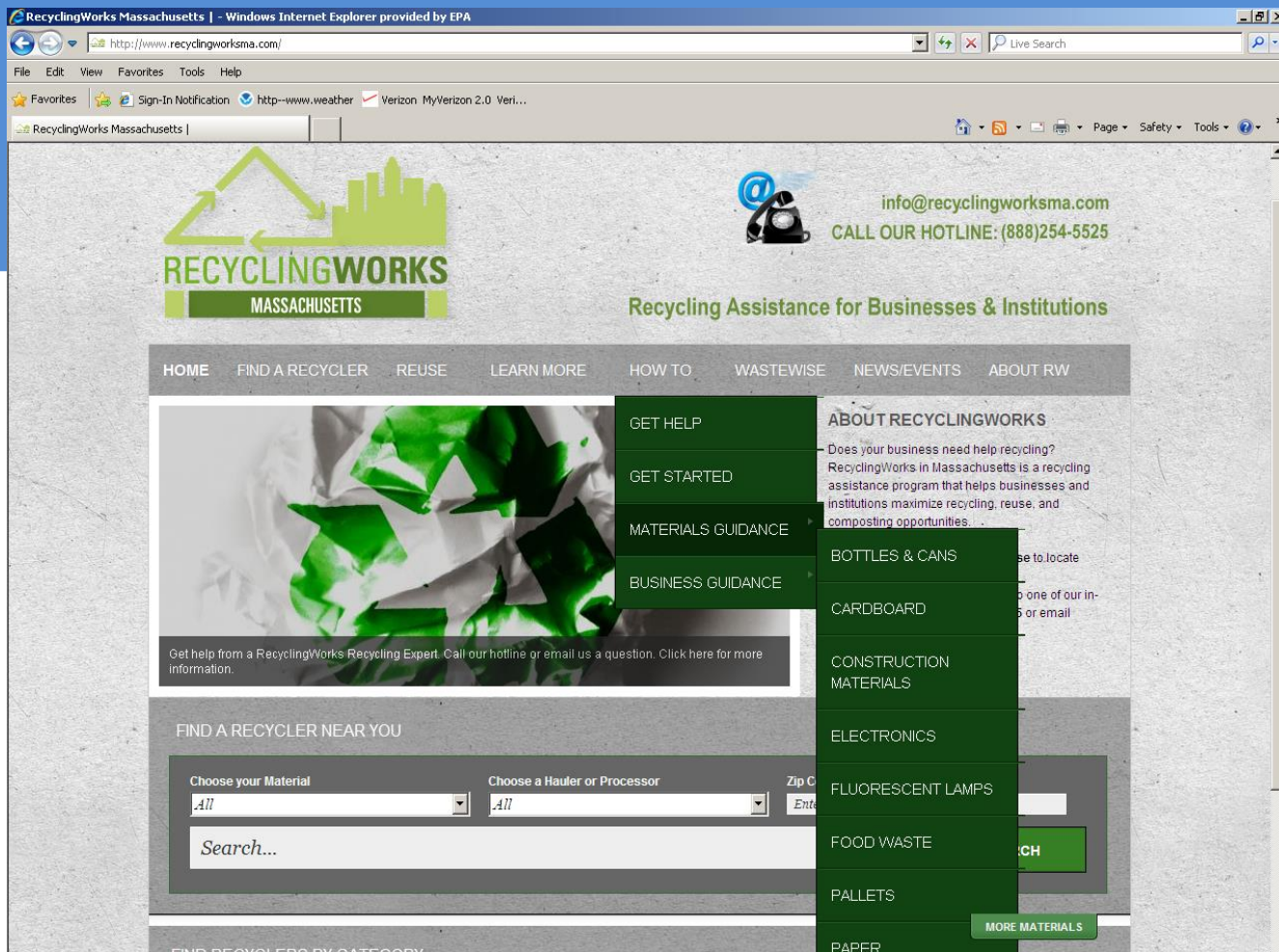
- Date Labels
- Tax Incentives
- Liability Protections



# MassDEP

Commonwealth of Massachusetts  
Department of Environmental Protection

SLIDE FROM HARVARD FOOD  
LAW AND POLICY CLINIC



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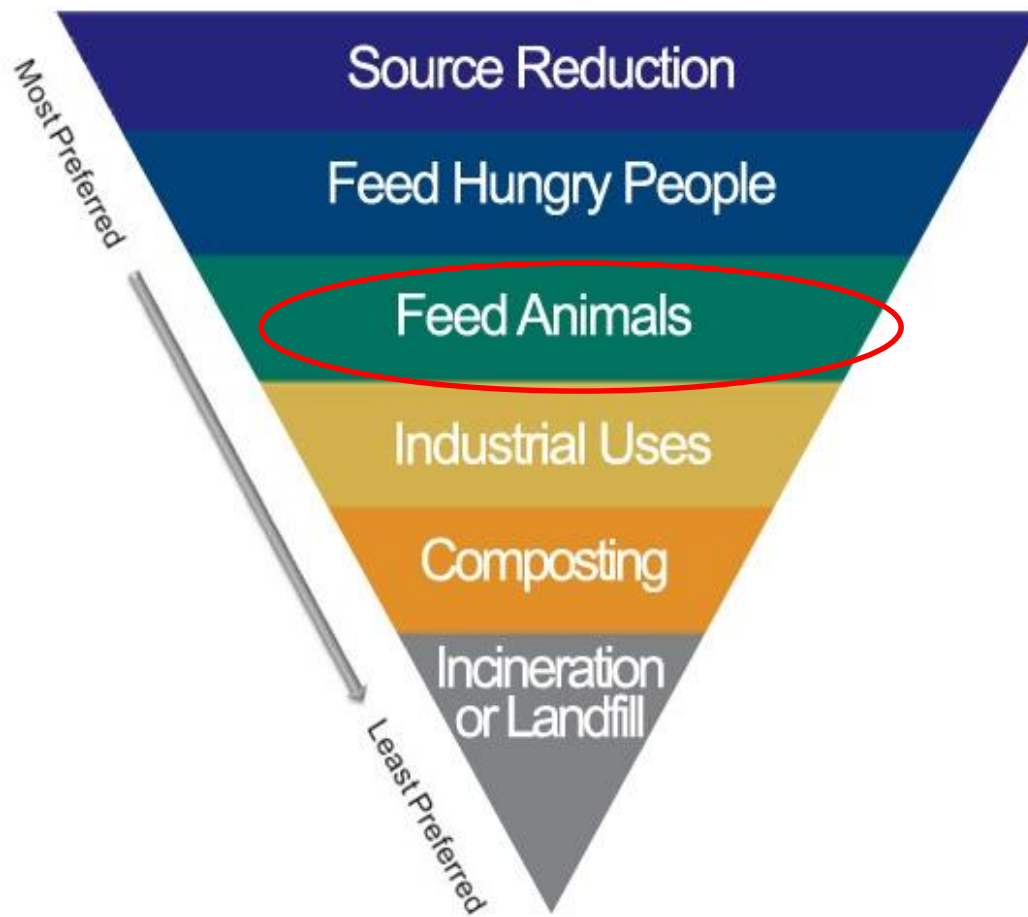


# Donation Success Stories

- Rock and Wrap It Up ([More information](#))
  - Collaborated with 150 bands, 200 schools, and universities, and 30 sports franchises
  - Collected more than **100 million pounds of food**
- University of Southern Maine-Portland
  - Donated food in 2011 and 2012



# Food Recovery Hierarchy

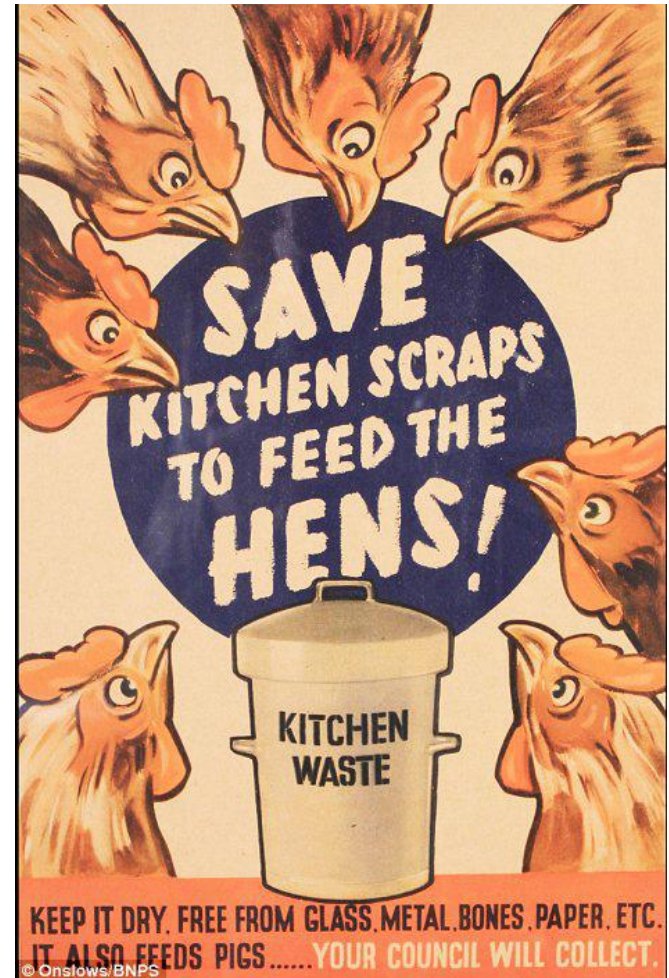


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# Food for Animals



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## Black Dirt Farm



Photos from VTANR

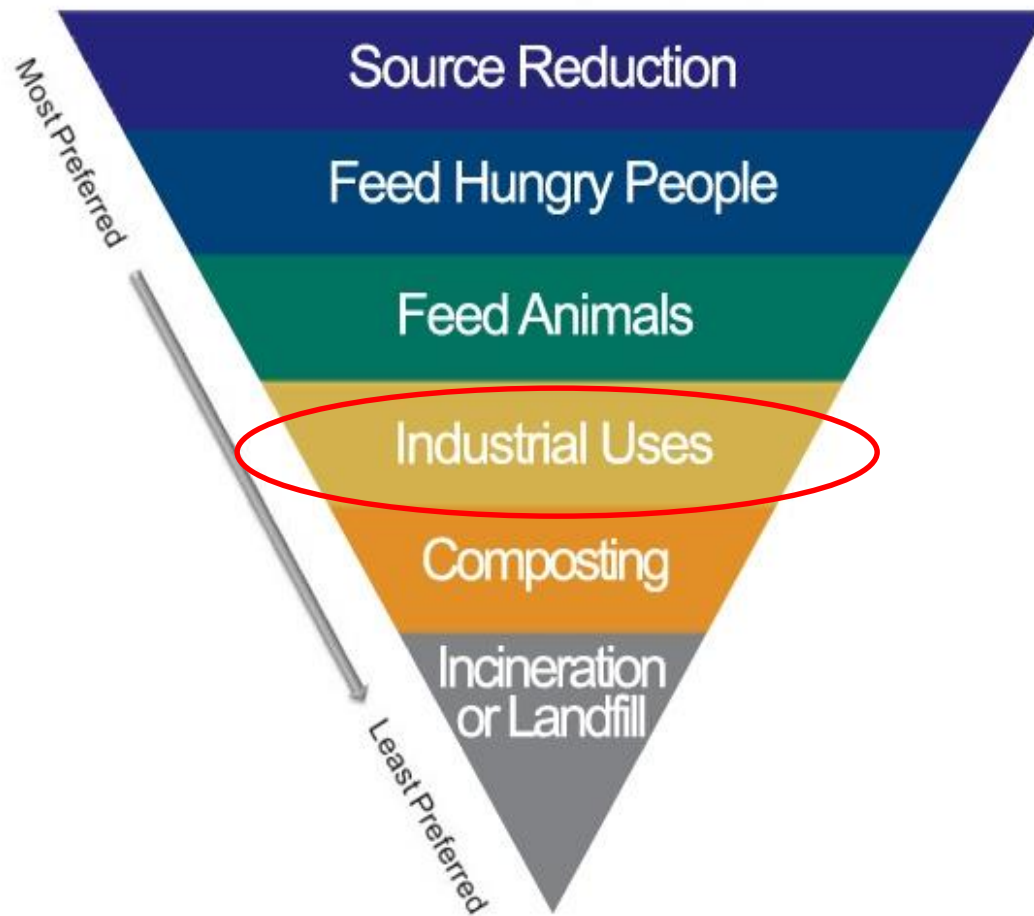


# Feeding Animals Success Story



- MA Supermarkets
- Lenox Hotel  
<http://youtu.be/FoFpwT8S8Fes>
  - 8 animal feed operations in MA take food scraps

# Food Recovery Hierarchy



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## Food Recovery Challenge



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# Anaerobic Digestion Success Story

- **Purdue University** ([More Information](#))
  - Partnered with City of West Lafayette to send food waste from dining hall to wastewater treatment plant
  - **Diverts 1-2 tons per day of food waste**
- **University of Wisconsin Oshkosh**
  - Processing campus food and yard waste in a dry fermentation anaerobic digester
  - **Producing enough energy to power up to 10% of the 13,500-student institution.**





# Whole Foods Market Andover, MA

Photos Courtesy of Wholefoods



WHOLE  
FOODS  
MARKET

We're turning  
**food scraps**  
into **energy**

FOOD  
SCRAPS  
ARE GROUND  
AND STORED  
AS LIQUID

LIQUID WASTE  
IS HAULED  
TO DIGESTER  
ZERO TRIPS TO  
A LANDFILL

DIGESTER  
TRANSFORMS  
WASTE INTO  
RENEWABLE  
ENERGY

Compressed  
Natural Gas

Heat

Electricity

grind2energy  
Organics Recycling System



# Anaerobic Digestion



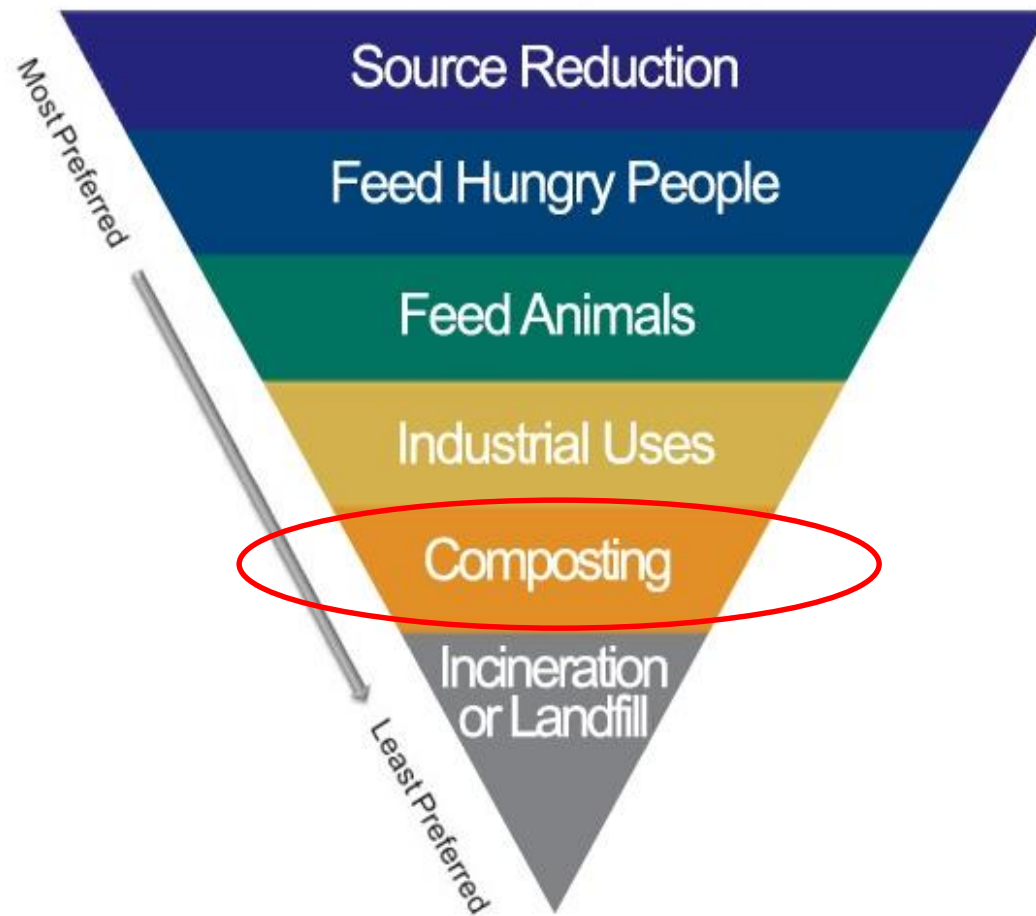
- Energy
- Digestate products
- Offset carbon need for composters



*Sustainability: Today & Beyond*



# Food Recovery Hierarchy



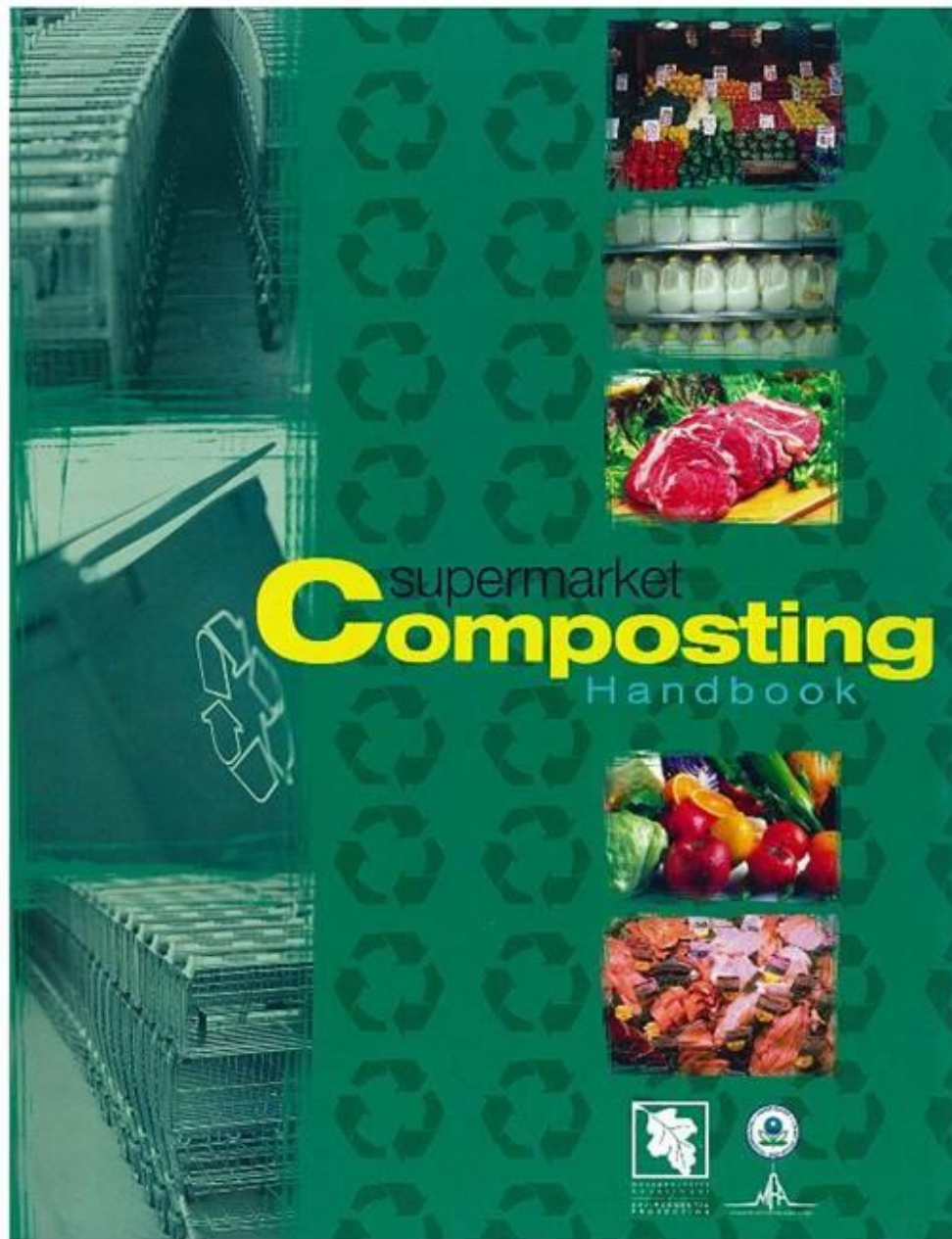
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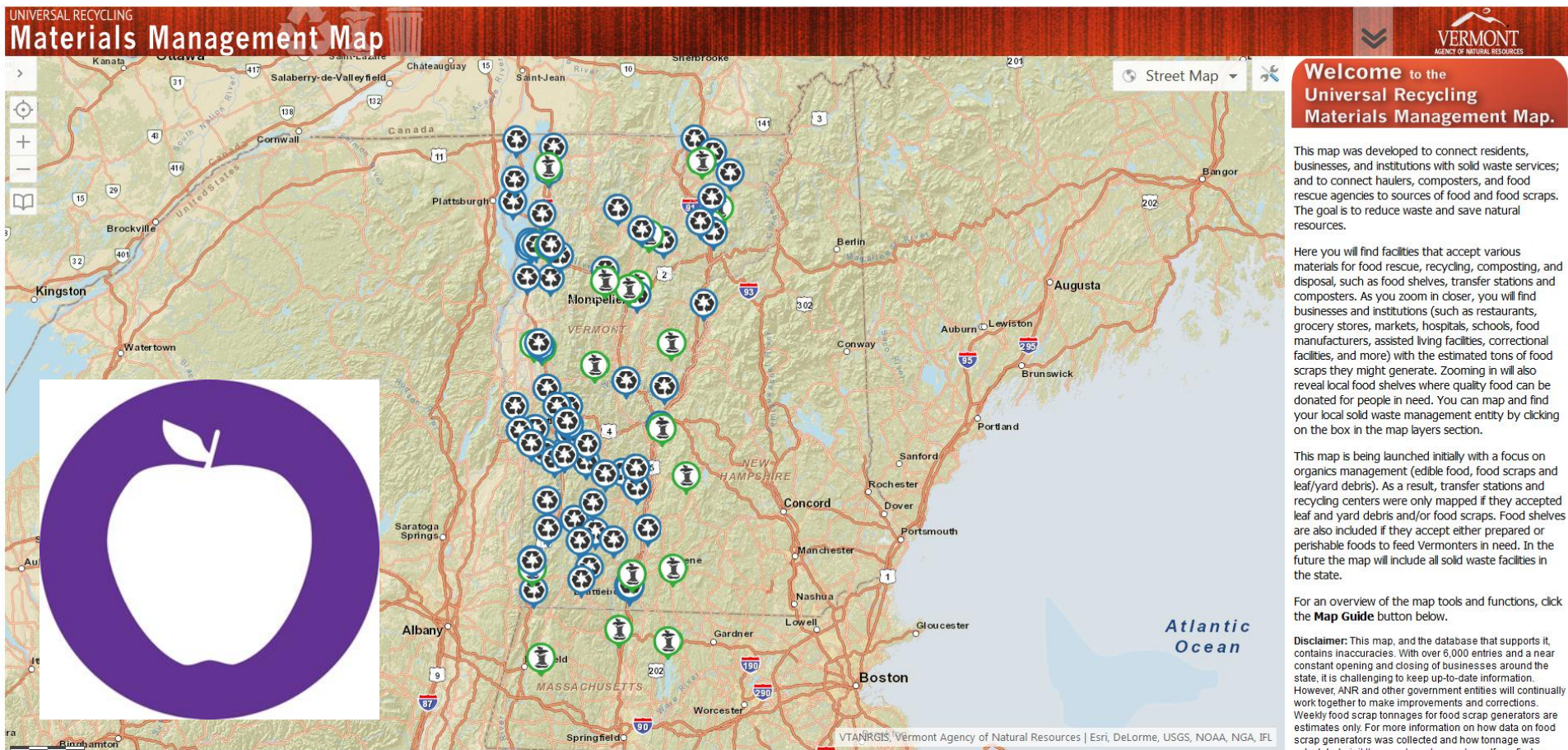
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# Developing Tools to Drive Innovation



□ ANR's Materials Management Map (Mat. Map)

▣ [http://www.anr.state.vt.us/dec/wastediv/solid/URmap\\_launch.html](http://www.anr.state.vt.us/dec/wastediv/solid/URmap_launch.html)

# Composting Success Story

- Roche Bros. Supermarkets, Massachusetts  
([More Information](#))
  - 3 Roche Bros. supermarkets began composting, **reducing their waste costs by 40% (\$10,000-\$20,000 annually)**





# Composting Success Story

- Middlebury College ([More information](#))
  - Composts 90% of the food waste generated (370 tons in 2011) in a site on campus.
  - Saved over \$100,000 in landfill fees by recycling and composting.
- The University of Texas Arlington ([More information](#))
  - Composts food scraps onsite and uses the soil amendment at their organic community garden
  - Diverts 60,000 pounds of food and landscape materials





# Engaging Key Sectors and Stakeholders

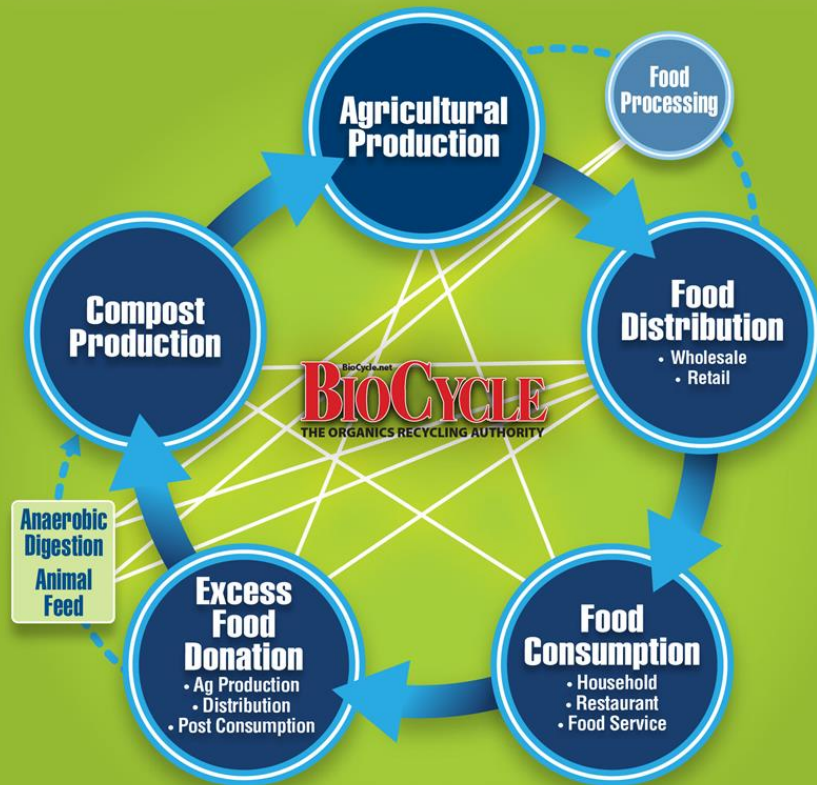
- We have set ourselves a challenging domestic goal. Now what?
- To figure out where you are going -- you first have to know where you are.
- We are kicking off engagement with key sectors and stakeholders.
  - November 2015 Food Recovery Summit in Charleston, South Carolina.
    - Dialog with senior government leadership.
    - Identify opportunities and challenges.



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# Food System Life Cycle

## Food For People, Food For Soil



Graphic concept source: "Examining the Feasibility of Increasing Compost Use on Food Crops," ENVIRON International Corp., Clackamas, OR, March 2014

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# Food

- 1 - buy it with thought
- 2 - cook it with care
- 3 - serve just enough
- 4 - save what will keep
- 5 - eat what would spoil
- 6 - home-grown is best

*don't waste it*

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