



# COMMUNITIES ON THE PATH TO ZERO WASTE

Michael Alexander, President



Capturing the Value – Transforming Municipal Materials Management  
Sustainable Materials Management Summit 2

June 12, 2012

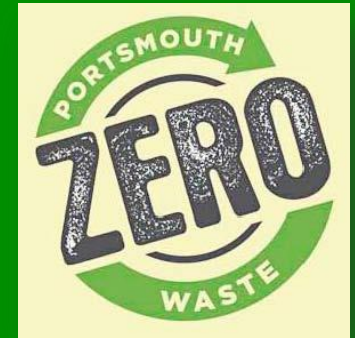
# What Zero Waste is not



- It is not about getting to zero
- It does not accept current waste-to-energy technologies
- It does not accept current landfilling practices

# What Zero Waste is

- It is a “total commitment” to pursue zero
- It is about being on a path to zero
- Emulates sustainable natural cycles, where all discarded materials are designed to become resources for others to use



# Zero Waste on the Agenda

## 10 Fixes for the Planet

Scientists, inventors and entrepreneurs are focusing on ways to help the environment. Some of our favorite ideas.



**Newsweek** April 14, 2008

- White House Special Council on Recycling
- London Times
- National Public Radio (NPR)
- Newsweek
- Italy, New Zealand, England, France, Romania, American Samoa, Wales and Saipan
- China sets 70% diversion

Source: EcoCycle

Data from: Waste Business Journal 2010

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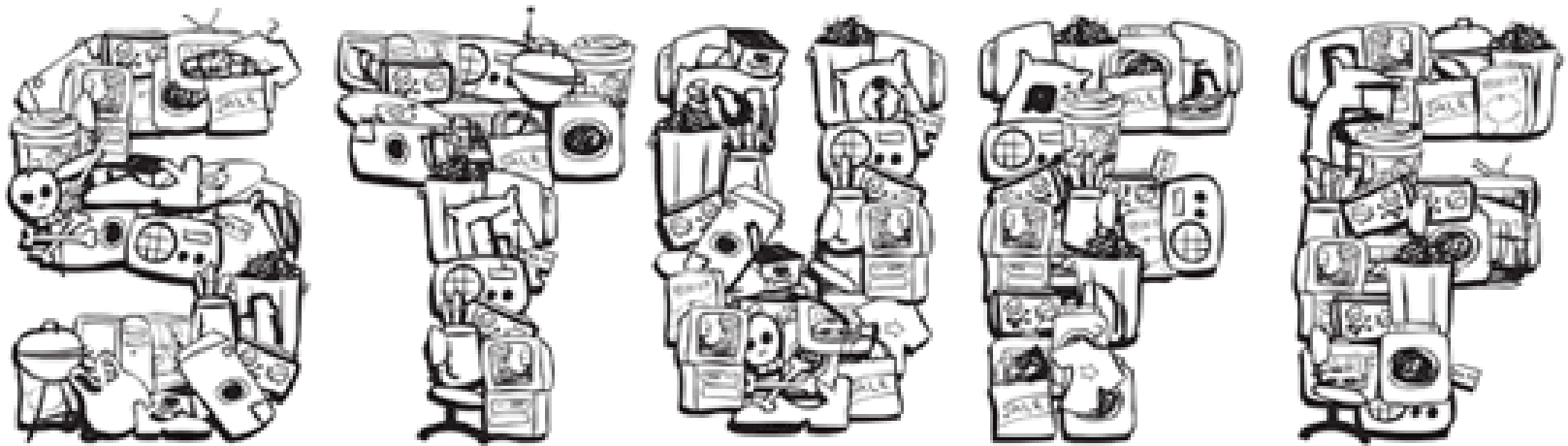
**#1 Fix =  
Zero Waste**

Source: EcoCycle

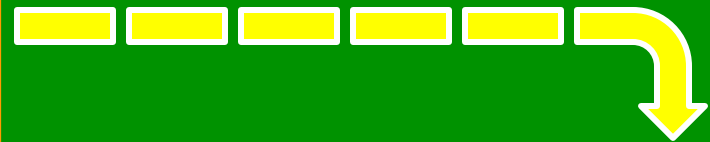
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# The Story of Stuff

## THE STORY OF

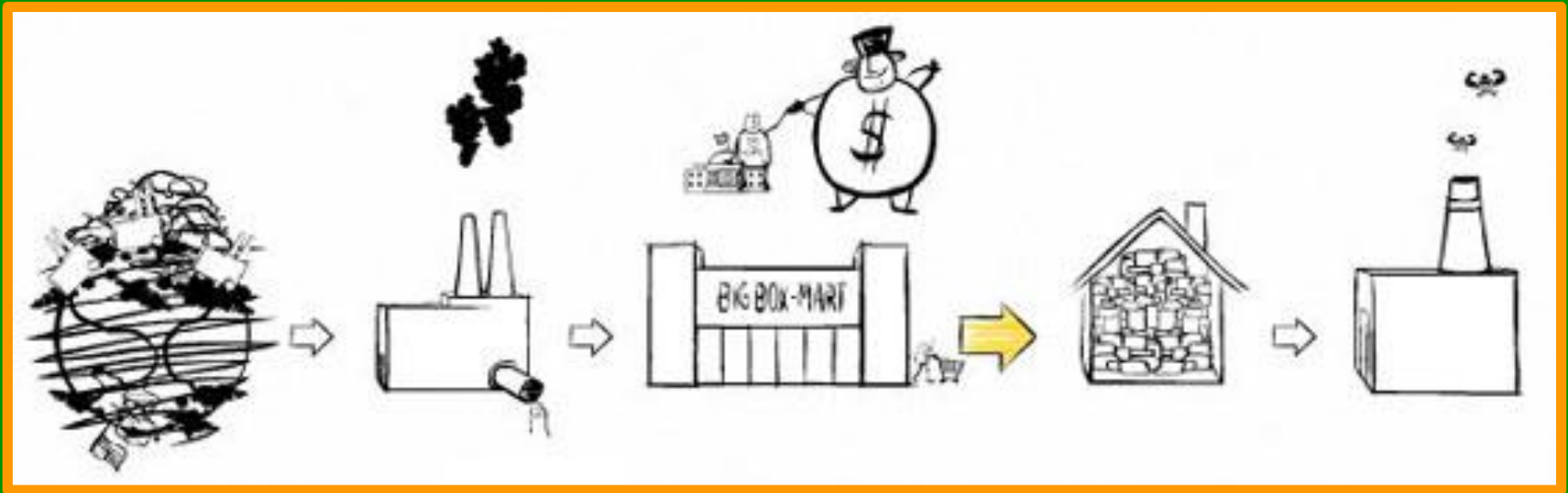


# The Story of Stuff



# The Story of Stuff

It's the same old story...



[WWW.STORYOFSTUFF.COM](http://WWW.STORYOFSTUFF.COM)



# The Zero Waste Cycle



# Materials Management Diamond

## Materials/Generators

pre-consumer materials,  
scrap metal, printer scrap

bottles, cans, newspapers,  
& yard waste from homes

recyclables from  
non-participating homes,  
businesses, and public spaces

food scraps, textiles,  
C&D debris

multi-material/composite  
packaging & products

personal hygiene products  
& highly contaminated  
materials

Always Recycled by Industry  
No Government Involvement

**10%**

Currently Recycled Through  
Municipal Curbside/Drop-off Programs

**15%**

Currently Economic to Recycle  
But Not Recovered

**25%**

Potentially Economic to Recycle,  
But No Current Recovery  
Infrastructure or Local Markets

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Currently Not Economic to Recycle

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Never Economic  
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## Management Technologies

scraps yard, steel &  
paper mills

standard curbside bins,  
no automated collection

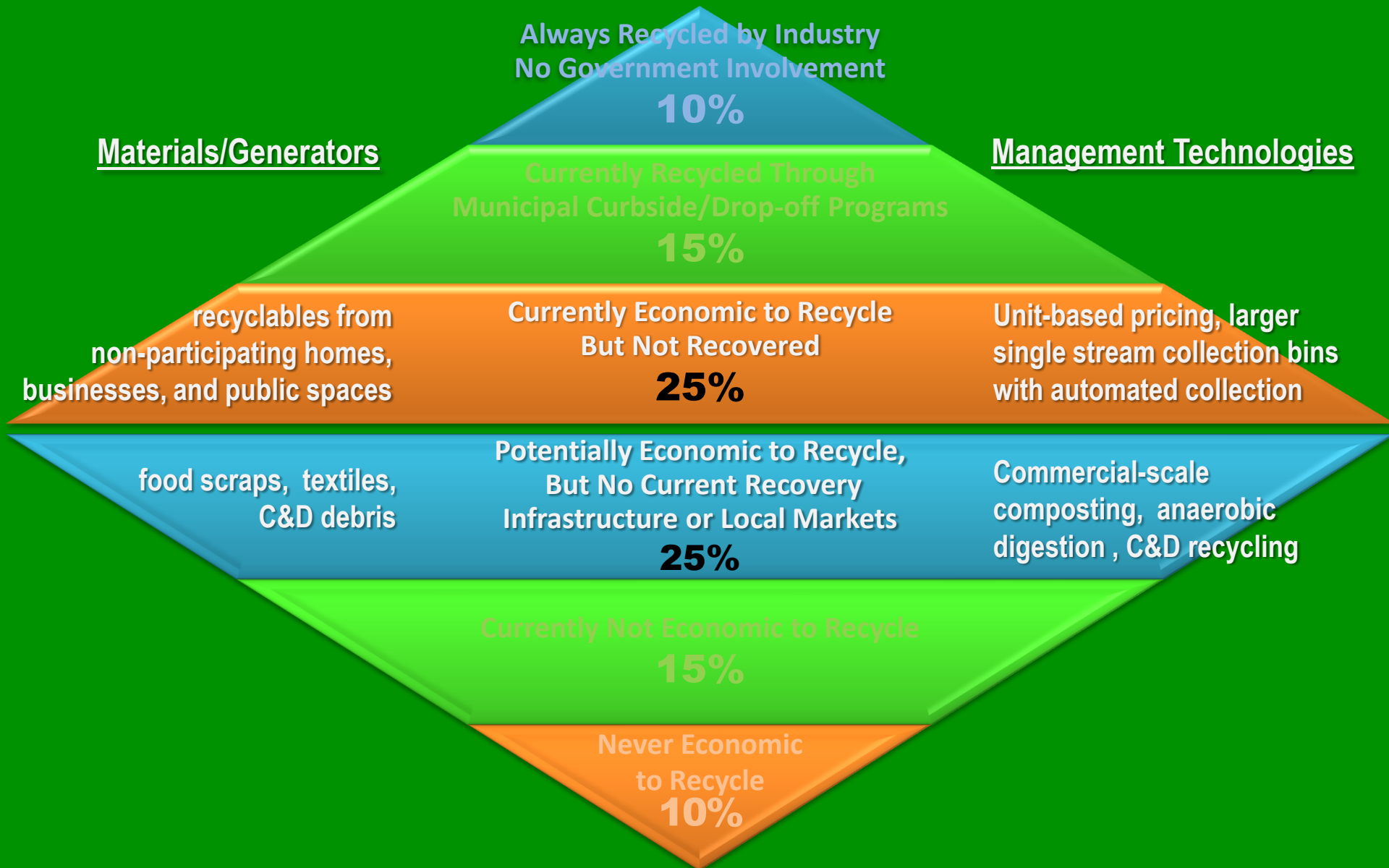
Unit-based pricing, larger  
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with automated collection

Commercial-scale  
composting, anaerobic  
digestion, C&D recycling

Next generation of conversion  
technologies

Waste to energy (resource  
recovery facilities) and as  
last resort, landfills

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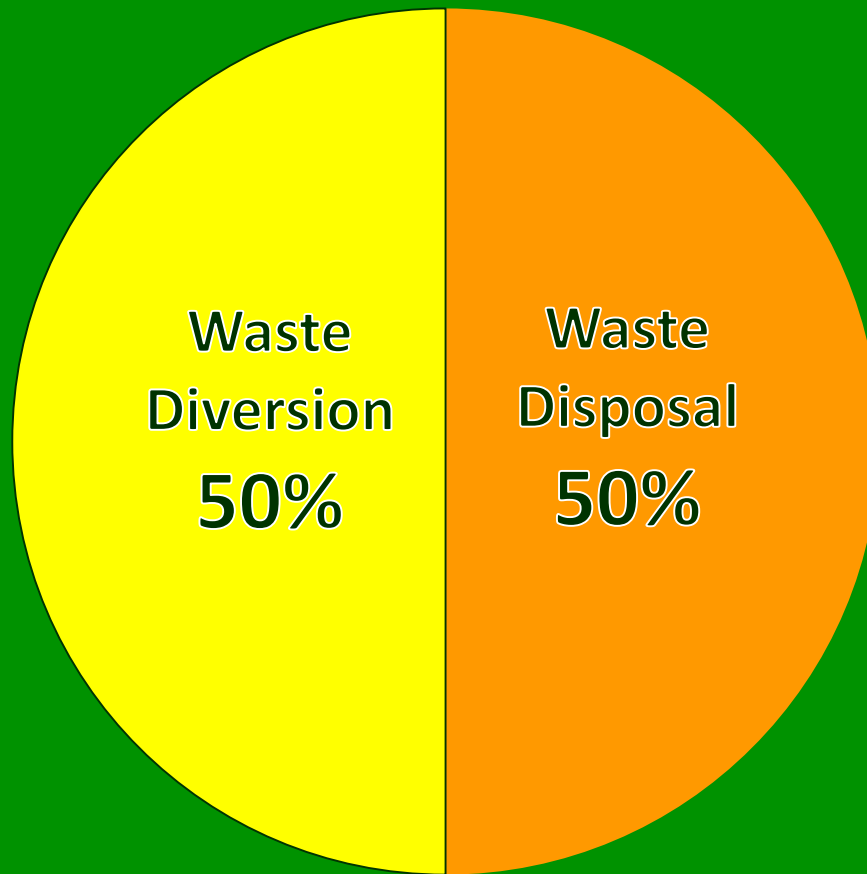
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# Key Strategies – Getting to 50% Diversion



Source: Eco-Cycle

# Key Strategies – Getting to 50% Diversion



- Universal curbside recycling and composting collections
- Yard Waste drop-off centers
- **Unit Based Pricing**

*Single largest incentive to increase recycling*

Source: Eco-Cycle

# Unit Based Pricing Sends a Clear Message

**Worcester, MA**  
**Population 173,000**



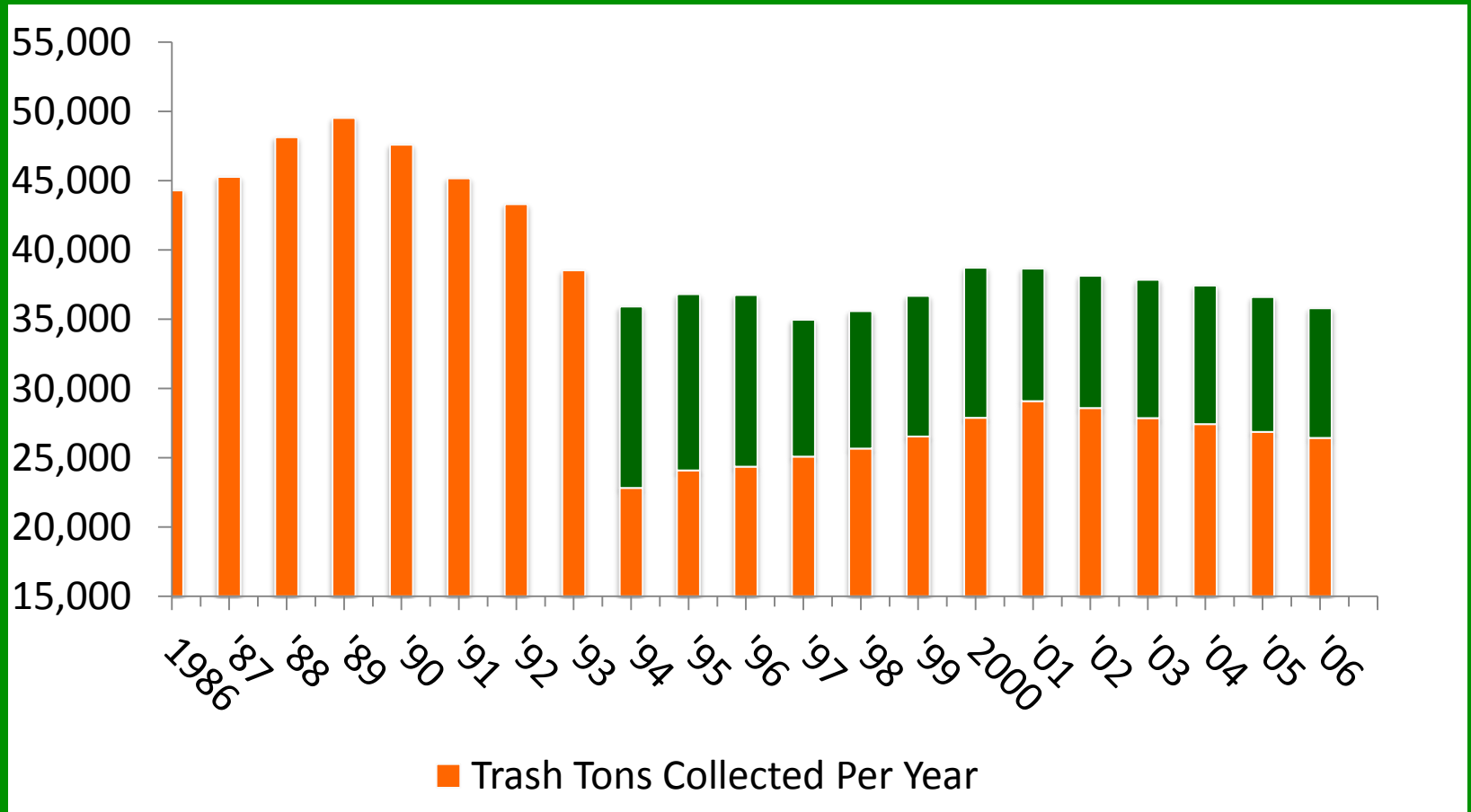
**San Francisco, CA**  
**Population 775,000**



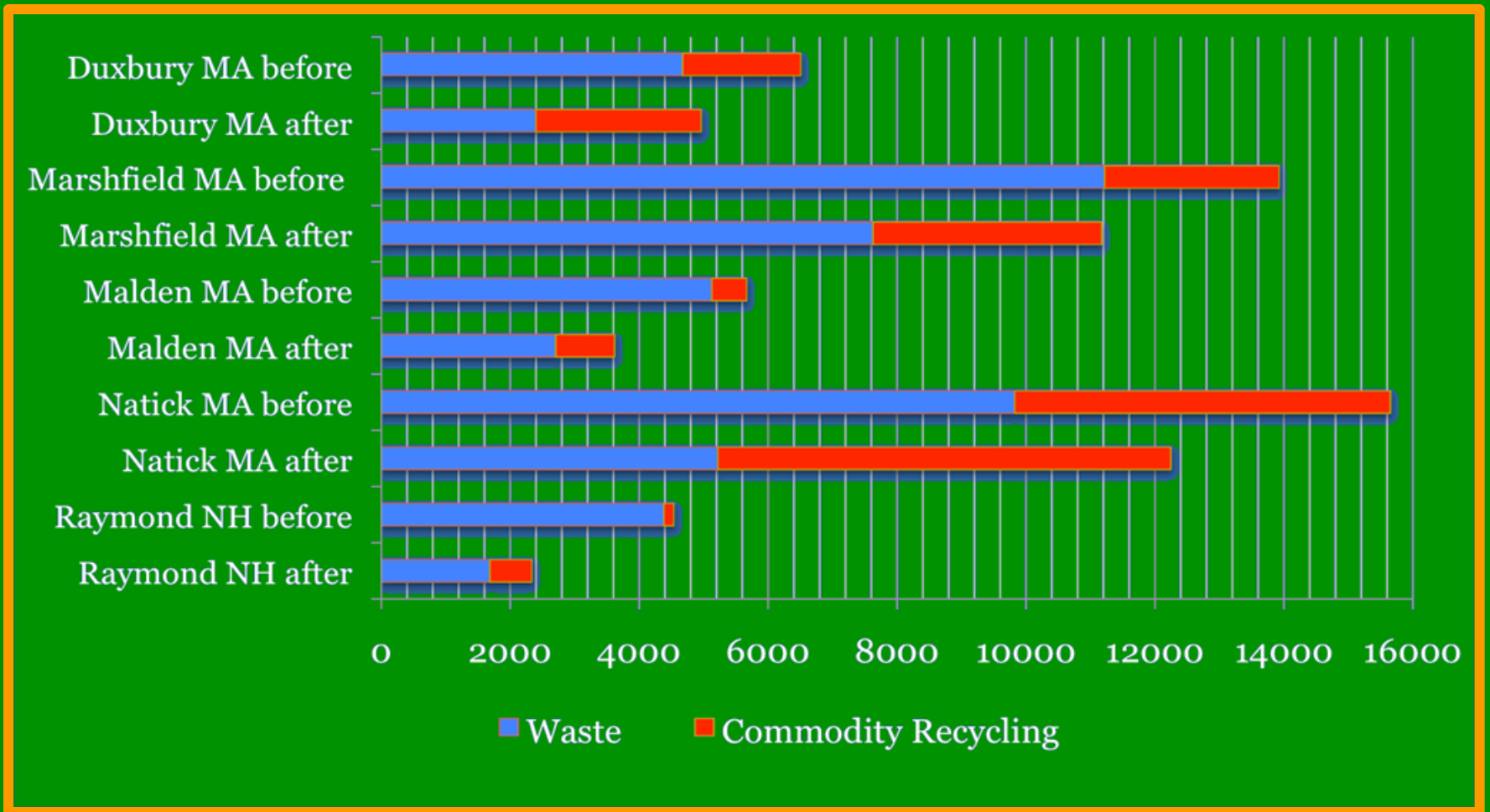
Unit based pricing is just a different way of paying for waste

Source: Kristen Brown, Green Waste Solutions, [www.thewastesolution.com](http://www.thewastesolution.com)

# Worcester, MA: Unit Based Pricing



# Overall Waste Generation Decrease + 20%



Source: Kristen Brown, Green Waste Solutions, [www.thewastesolution.com](http://www.thewastesolution.com)



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- Universal curbside recycling and composting collections
- Yard Waste drop-off centers
- **Unit Based Pricing**
  - ★ single largest incentive to increase recycling
- Minimum 25% C&D recovery
  - ★ Incorporate recycling requirements and deconstruction into green building codes

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- Education

Source: Eco-Cycle



# Key Strategies – Getting to 70% Diversion



Source: Eco-Cycle

# Key Strategies – Getting to 70% Diversion



- Mandatory recycling and composting at all homes and businesses

Source: Eco-Cycle

# US Curbside Residential Food Scrap Collection Programs

State	Jurisdiction	Year Launched
CA	Alameda County – 16 communities	2002
CA	San Fernando	2002
CA	San Francisco	2000
IA	Cedar Rapids	2005
MN	Hennepin County– 5 Communities	2003
MN	Swift County	2003
WA	King County – 31 Communities	2006

Source: SWANA, 2008

# US Curbside Residential Food Scrap Collection Programs

State	Jurisdiction	Households Served	Outside Container	Inside Container	Collection Frequency
CA	Alameda County	298,600	96 gal rollcart	Kitchen pail	Weekly
CA	San Francisco	150,000	32 gal rollcart	1.5 gallon ventilated pail	Weekly
IA	Cedar Rapids	37,500	96 gal rollcart	Not provided	Weekly
WA	King County	150,000	20, 32, 96 gal rollcart	Not Provided	Weekly

Source: SWANA, 2008

# Key Strategies – Getting to 70% Diversion



- Mandatory recycling and composting at all homes and businesses
- **Reduce trash service frequency to every other week**

Source: Eco-Cycle

# Advantages to Every Other Week Trash Collection

- **Organics collected weekly**
  - minimizes odors
  - incentivizes people to use composting
- **Recycling and trash alternate every other week**
  - Saves \$2.50 - \$3.75 per household per month off the costs of collection trash, which helps offset processing and collection costs for organics
  - Toronto: biweekly; Arcata, CA: up to monthly; Boulder, CO: on-call bag option

Source: Eco-Cycle



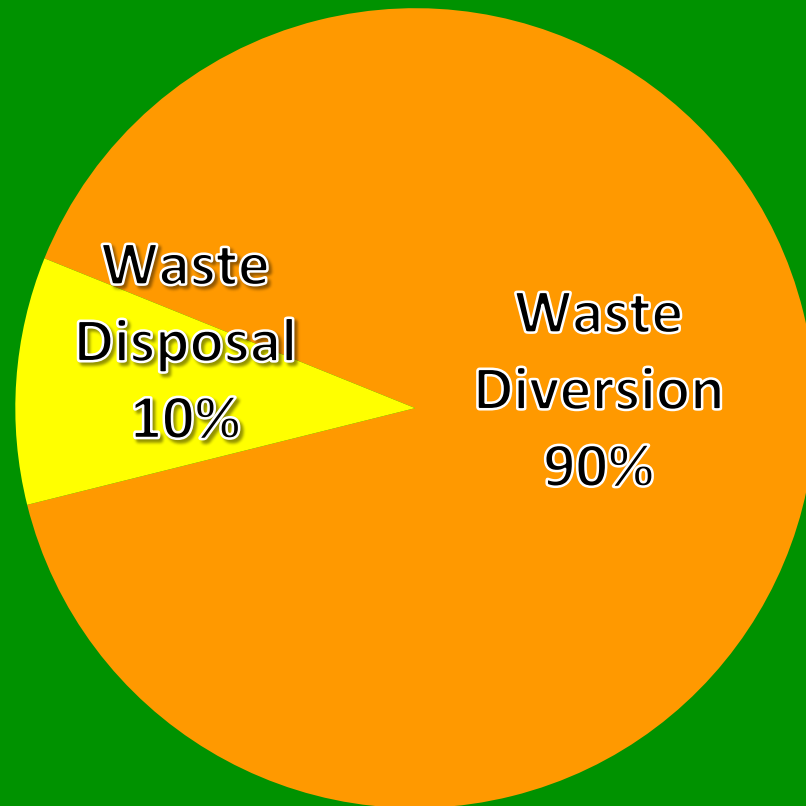
# Key Strategies – Getting to 70% Diversion



- Mandatory recycling and composting at all homes and businesses
- Reduce trash service frequency to every other week
- **Finish building the local Zero Waste Infrastructure**
  - Create local CHaRM (Hard-To-Recycle Center)
  - Create local Reuse for used building materials (UBM's)
  - Promote local “reuse retail” businesses (thrift and repair)


Source: Eco-Cycle

# Key Strategies for 90% Diversion



Source: Eco-Cycle

# Key Strategies – Getting to 90% Diversion



- **Mandatory participation across all sectors**
  - Business, residential, industrial, C&D, multi-family units
  - San Francisco could be at 90% *today with full participation*
- **Producer Responsibility (EPR) policies change our world**
  - Industry phases out toxic products to increase recovery potential
  - Industry funds collection of hard-to-recycle products and packaging
  - Industry rewarded for design-for-recovery
- **Developing (local) markets for everything discarded**
  - 85% of materials have a market today...keep going !!
- **Education, education, education**

Source: Eco-Cycle

# State Goals Beyond 70%



- **Washington:** 80% by 2020
- **Florida:** 75% by 2020
- **Minnesota:** 75% by 2025
- **Massachusetts:** 70% by 2010
- **California:** 37 communities above 70%; (San Francisco 77%)

Source: Eco-Cycle

# State Strategies to Maximize Recycling



- Establish Aggressive Goals
- Enact Disposal Bans
- Expand Bottle Bills
- Build Local Recycling Capacity Building
- Modernize the Infrastructure
- Introduce Product Stewardship Legislation
- Expand Market Development
- Provide Local Government Funding

# Communities on the Front-Lines of the Zero Waste Movement

- Austin, TX
- Alaminos City, Philippines
- Canberra, Australia
- New Zealand – with over 66% of NZ Cities
- Buenos Aires, Argentina
- Seattle, WA
- Boulder, CO
- Central Vermont Waste Mgt. District, VT
- San Luis Obispo, CA
- Fresno, CA
- San Francisco, CA
- Del Norte County CA
- Oakland, CA
- Santa Cruz County, CA
- Berkeley, CA
- Palo Alto, CA
- Marin County
- Los Angeles, CA
- Chicago, IL
- Halifax, Nova Scotia
- Toronto, Ontario
- Nelson, British Columbia and other Regional Districts

Source: [www.zwia.org](http://www.zwia.org)

# San Francisco's Waste Diversion & Zero Waste Goals



**1990**

10%

Diversion

# San Francisco's Waste Diversion & Zero Waste Goals



1990

2000

CA State  
Mandate  
with  
Penalties



# San Francisco's Waste Diversion & Zero Waste Goals

1990

2000

**2005**

>50%  
Diversion

# San Francisco's Waste Diversion & Zero Waste Goals



1990

2000

2005

**2007**

>72%  
Diversion  
(Including  
C&D)

# San Francisco's Waste Diversion & Zero Waste Goals

1990

2000

2005

2007

**2009**

- Ban on Styrofoam & Plastic Bags
- Mandatory Participation in Recycling, C&D, & Composting

# San Francisco's Waste Diversion & Zero Waste Goals

1990

2000

2005

2007

2009

**2010**

Goal

75%

Landfill

Diversion

# San Francisco's Waste Diversion & Zero Waste Goals

1990

2000

2005

2007

2009

2010

Achieved 77%  
Diversion  
In 2008

2020  
Zero Waste Diverted to  
Landfill or Incinerator

# 3 Stream Collection Programs for Residents and Businesses



# Easy to Understand Program and Outreach

## 1 Recycle

Place all bottles, cans, foil, paper and cardboard in the blue cart. **MAKING RECYCLING EASIER!**



**not accepted**  
in the blue cart:  
plastic bags  
Styrofoam  
mirrors, window glass or light bulbs  
ceramic dishes or cups  
plastics other than bottles  
juice boxes

## 2 Compost

Place all of your food scraps, food-soiled paper and yard trimmings in the green cart.



Use your kitchen pail to hold food scraps.

You can line kitchen pail with paper bag or newspaper.

Fill with food scraps — even meat and bones.

Paper bag and contents go in the green cart.



**not accepted**  
in the green cart:  
plastic bags  
Styrofoam  
plastic flower pots or trays  
diapers  
kitty litter or animal feces  
rocks, stones or dirt



Paper milk cartons can also be used to hold food scraps and are compostable!

### Your New Program Reduces Garbage!

As you can see, more things are recyclable than ever before. With your help we will:

- Protect our environment! Recycling more means less garbage being sent to the landfill
- Reduce litter through the use of lidded carts
- Make San Francisco the first large U.S. city to collect food scraps for composting city-wide

## 3 Garbage

Place what is left over - non-recyclables - into the black cart.

No hazardous materials. For household hazardous waste information, call 415-554-4333.



**Questions?**  
Call 415-330-1300 or visit  
[www.sunsetscavenger.com](http://www.sunsetscavenger.com)

# Food Service/Event Signage

**COMPOSTING ONLY**  
including food scraps, napkins, paper plates,  
compostable cups & compostable utensils





**RECYCLING ONLY**  
including bottles, cans, clean paper,  
foil, and cardboard





**WASTE ONLY**







# Recycle Away's *Fantastic Three* Recycling System for University of San Francisco



# Recycle Away's *Fantastic Three* Recycling System for University of San Francisco



# Designed for Easy Participation



**Kitchen Pail**



**Labeled Lids**



**Wheeled Cart**

Photo Courtesy of City of San Francisco

# Catchy Slogans to Brand Program



# Recology's Jepsen Prairie Organics Regional Composting Facility

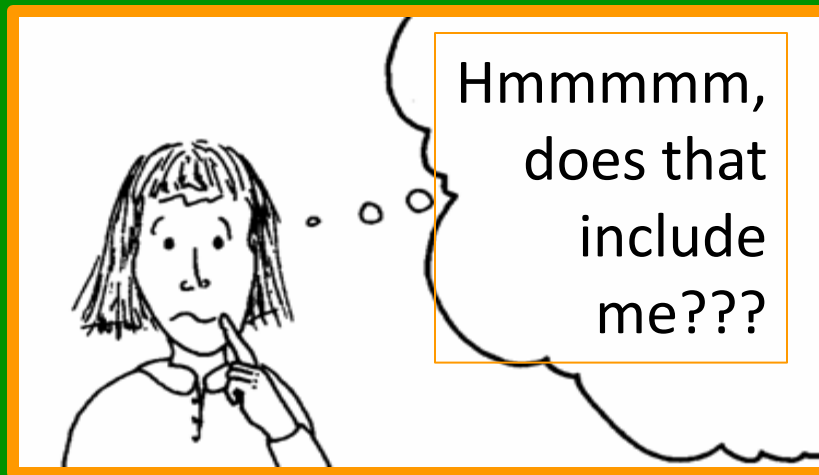


Courtesy of City of San Francisco

# SF Mandatory Recycling and Composting Ordinance

Effective October 21, 2009:

- Everybody (residential and commercial) must separate recyclables, compostables (food waste, organic material, etc.) and trash into designated containers



That would be a, "YES!"

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## Effective October 21, 2009:

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- **Property managers must provide program for tenants, contractors/janitors with appropriate color-coded containers, signage and education/training**

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- Potential fines up to \$100 for residents, \$1000 for businesses
- **Pressure from ordinance has resulted in 15% increase composting tonnage to nearly 500 tpd and doubling of new composting participation requests**

# Lessons & Recommendations from San Francisco

- Provide convenient, color coded and easy to use collection programs
- Conduct extensive outreach and on-site assistance to commercial & multi-tenant customers
- Mandate participation with threat of fines
- Improve technologies to reduce environmental impacts and improve/diversify products (i.e. biodiesel or anaerobic digestion)
- Pursue Extended Producer Responsibility policies

# Zero Waste Businesses are Leading the Way

## Businesses with >90% Waste Diversion:

- Anheuser-Busch, Fairfield, CA
- Apple Computer, Elk Grove, CA
- Del Mar Fairgrounds
- Fetzer Vineyards
- Frankie's Bohemian Café, SF
- Greens Restaurant, SF
- Hewlett-Packard, Roseville, CA
- Mad River Brewery
- New Belgium Brewery, Fort Collins, CO
- NUMMI, Fremont, CA
- Pillsbury
- Playa Vista, LA, CA
- Ricoh Electronics, Inc
- San Diego Wild Animal Park
- Scoma's Restaurant, SF
- Vons-Safeway
- Xerox Corp
- Yost Printer, Monrovia, CA

Presented at the Zero in on Zero Business Conference

Source: [www.grn.org](http://www.grn.org)

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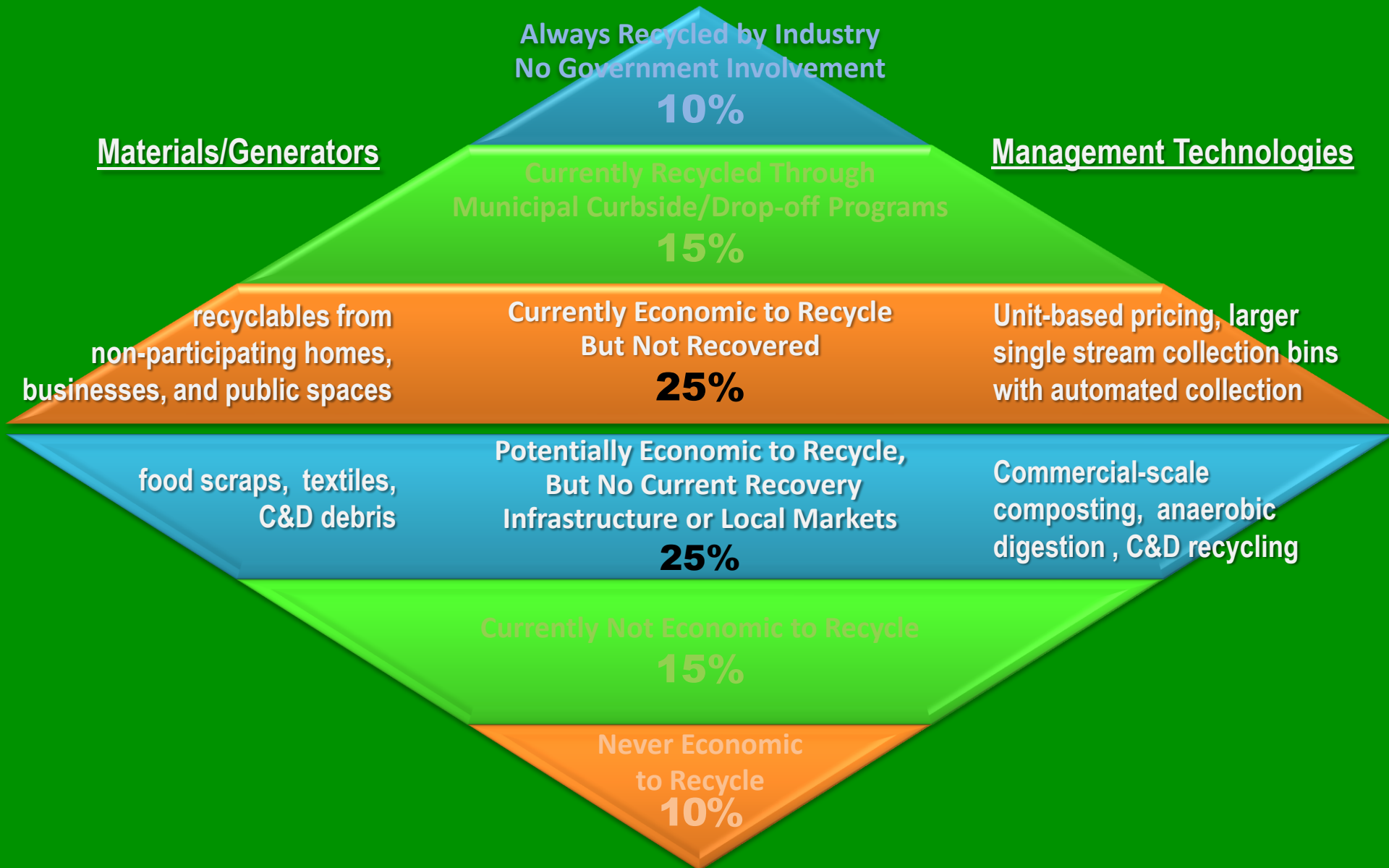
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**recycle away**  
Systems & Solutions