

# EPA Disclaimer

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# Zero Waste: To Cool the Planet

**Presented to USEPA on May 15, 2008,  
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Webinar**

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**Reduce**  
**Reuse**  
**Recycle**  
**= Zero Waste**

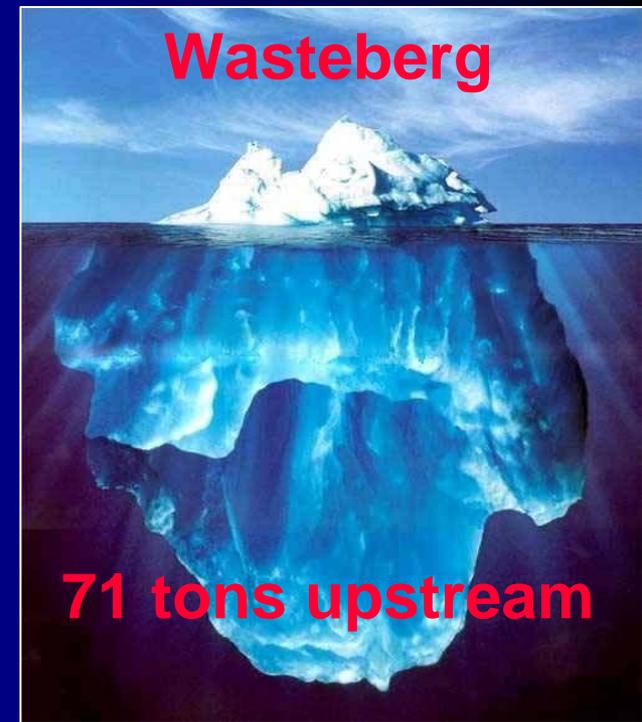
# Definition of Zero Waste\*

- Zero Waste is a goal that is both pragmatic and visionary, to guide people to emulate sustainable natural cycles, where **all discarded materials are resources** for others to use.
- Zero Waste means designing and managing products and processes to reduce the volume and toxicity of waste and materials, conserve and recover all resources, and **not burn or bury them**.
- Implementing Zero Waste will eliminate all discharges to land, water or air that may be a threat to planetary, human, animal or plant health.

\* [www.zwia.org/standards.html](http://www.zwia.org/standards.html)

# Zero Waste & Global Warming

- Landfills are one of the largest sources of Greenhouse Gases (GHG)
- Methane is 21 x more potent than CO<sub>2</sub>
- Recycling & composting all discards in CA = eliminating all auto exhaust in CA
- Urban Environmental Accords includes Zero Waste by 2040



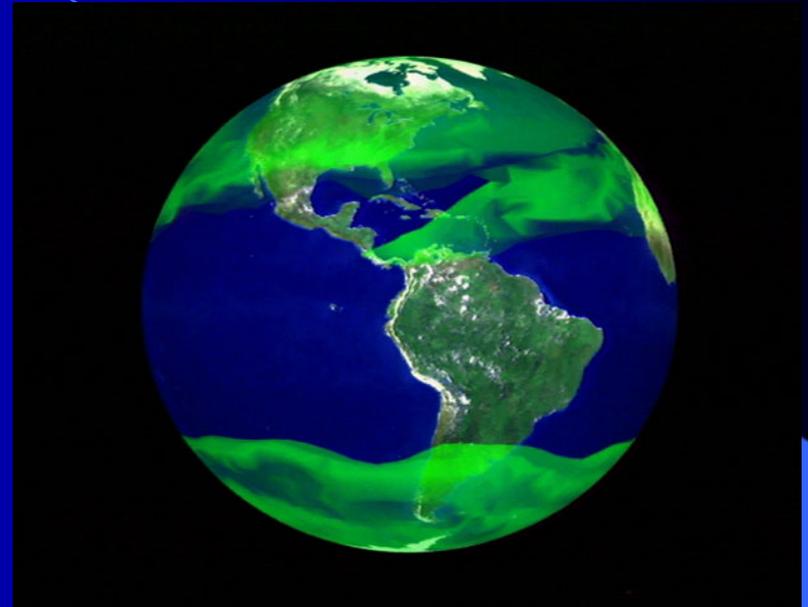
# Zero Waste Communities

([www.ZWIA.org](http://www.ZWIA.org))

- Canberra, Australia
- NZ – Entire Country
- Over 66% of NZ Cities
- Buenos Aires, Argentina
- Seattle, WA
- Boulder, CO
- Central Vermont Waste Mgt. District
- San Luis Obispo, CA
- Fresno, CA
- Del Norte County, CA
- San Francisco, CA
- Oakland, CA
- Santa Cruz County, CA
- Berkeley, CA
- Palo Alto, CA
- Marin County
- Los Angeles (in progress)
- Chicago, IL (in progress)
- Halifax, Nova Scotia
- Toronto, Ontario
- Nelson, British Columbia (BC)
- Regional Districts in BC

# Is Zero Waste Attainable ?

- Nature Is The Model
- Zero Waste, Or Darn Close
- Businesses Have Achieved Over 90% Waste Reduction



Picture: Methane Earth; Credit: [GISS](#), [NASA](#)



# Zero Waste Businesses are Leading the Way (>90% Waste Diversion)

- Anheuser-Busch, Fairfield, CA \*
- Apple Computer, Elk Grove, CA \*
- Epson, OR \*
- Fetzer Vineyards \*
- Frankie's Bohemian Café, SF \*
- Greens Restaurant, SF \*
- Hewlett-Packard, Roseville, CA \*
- Mad River Brewery, CA \*
- New Belgium Brewery, Fort Collins, CO \*
- NUMMI, Fremont, CA \*
- Pillsbury \*
- Playa Vista, LA, CA, \*
- San Diego Wild Animal Park \*
- Scoma's Restaurant, SF \*
- Vons-Safeway \*
- Xerox Corp \*
- Ricoh Electronics
- Toyota
- 2800 Businesses in Japan

\*From: <http://www.grrn.org/zerowaste/business/profiles.php>

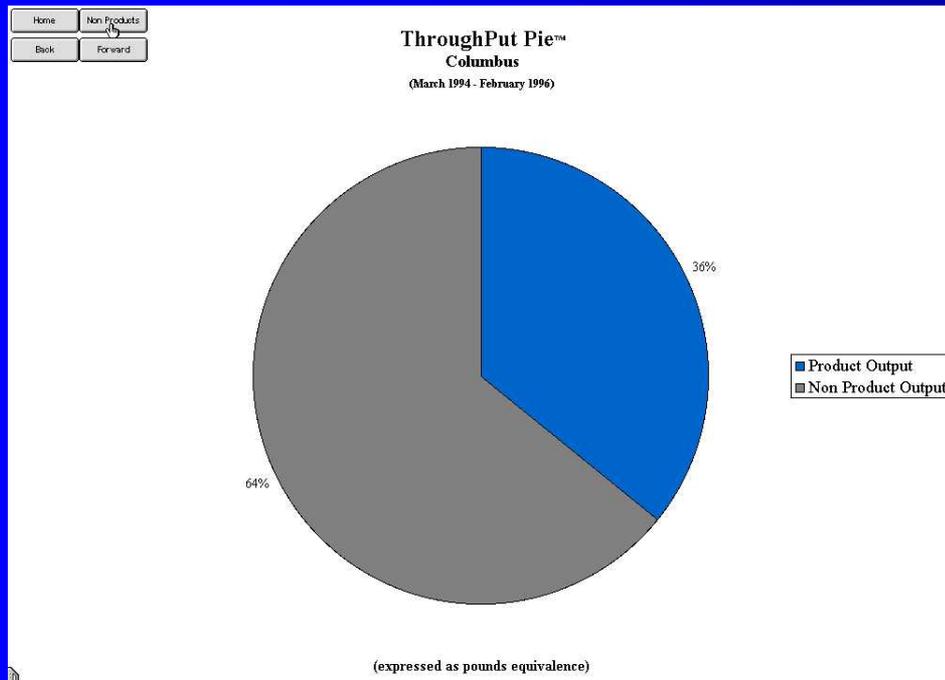
For more ZW Biz info: [www.earthresource.org/zerowaste.html](http://www.earthresource.org/zerowaste.html)

# Why Businesses go to ZW

- **Policies (requests, mandates, bans, regulations, continuous improvement)**
- **Economics (savings, fees, deposits, incentives)**
- **Avoid liabilities and penalties**
- **Green marketing (customer and employee loyalty; greenest of all)**
- **Activist pressure (shareholder resolutions and consumer actions)**
- **Good will**

# Business Throughput Pie™ Shows Efficiency as Driver

- Blue = Output related to Product
- Grey = Non-product Output
- This shows the inescapable logic of “zero emissions” for efficiency
- [www.natlogic.com](http://www.natlogic.com) or [www.businessmetbo-lics.com](http://www.businessmetbo-lics.com)



Source: Gil Friend, Natural Logic

# **New Rules Help Local Business Go Green**

- **Product Stewardship**
- **Adopt Zero Waste goals or other waste reduction targets**
- **Source separate designated materials**
- **Develop Zero Waste or recycling plans**
- **Recycle and/or deconstruct construction and demolition debris**
- **Green Buildings**

# **Incentives for Resource Management**

- **Responsibility for Products and Packaging Takeback, End-of-Life**
- **Pay For What You Want: Waste Prevention, Reuse, Recycling & Composting**
- **Don't Pay For Wasting (Or Much Less)**
- **Recognize Wasting As Symptom Of Inefficiency and that it's Not Inevitable**
- **Harness Forces Of Marketplace To Achieve Goals**

# Oakland, CA

## Zero Waste Strategic Plan

- **Nexus of Sustainability & Waste Reduction Goals**
- **Pillars of Zero Waste**
  - **Upstream**
  - **Downstream**
  - **Green Businesses and Jobs**

### Oakland Goals

- **1989 State Goal of 50% by 2000**
- **Sustainable Development Initiative 1998 & Mayor & Council Goal 2005**
- **2002 Goal of 75% Waste Reduction By 2010 (Now 58%)**
- **Urban Environmental Accords Signed by Mayor Brown 2005**

# Oakland ZW Objectives

- **All Objectives Guided By “Highest and Best Use” Hierarchy Criteria**

## **UPSTREAM**

- **Advocate for Manufacturer Responsibility for Product Waste, Ban Problem Materials**
- **Educate, Promote and Advocate a Zero Waste Sustainability Agenda**

# Oakland ZW Objectives

## **DOWNSTREAM**

- **Expand and Improve Local and Regional Recycling and Composting**
- **Develop and Adopt New Rules and Incentives to Reduce Waste Disposal**

## Green Businesses and Jobs

- Expand, attract, and support green businesses and green collar jobs
- Reserve sufficient land for Zero Waste infrastructure
- Buy green goods and services

**Recycling Industry =  
Size of Auto Industry**

**10,000 tons**

Landfilled- 1 job

Composted – 4 jobs

Recycled – 10 jobs

Reused – 75 –250 jobs

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

# Resource Recovery Parks

- **Co-locate Reuse, Recycling & Composting Processing, Manufacturing and Sales**
- **Like Airports or Shopping Centers**
- **Drop & Shop Convenience for Public**
- **Lower Waste Fees & Buy @ Discounts**
- **Naturally evolving at Transfer Stations and Landfills; why not Plan for them?**

# The Zero Waste Economy

## Designing a Full-Cycle System—Upstream AND Downstream



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[www.ecocycle.org/zerowaste/zwsystem](http://www.ecocycle.org/zerowaste/zwsystem)

# Zero Waste Resources

- **GrassRoots Recycling Network:**  
[www.grrn.org/zerowaste](http://www.grrn.org/zerowaste)
- **Earth Resource Foundation:**  
[www.earthresource.org/zerowaste.html](http://www.earthresource.org/zerowaste.html)
- **Zero Waste International Alliance:** [www.zwia.org](http://www.zwia.org)
- **Zero Emissions Research & Initiatives:**  
[www.zeri.org](http://www.zeri.org)
- **Zero Waste Communities Yahoo Group:**  
<http://groups.yahoo.com/group/ZeroWasteCommunities/>
- **Zero Waste Business Yahoo Group:**  
<http://finance.groups.yahoo.com/group/ZWBusiness/>
- **Eco-Cycle:** <http://www.ecocycle.org/zero/index.cfm>



**If you're not for Zero Waste,  
how much waste are you for?**