

Incineration versus the Alternatives

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OUTLINE

- 1. Waste and the Big Picture
- 2. The arguments against incineration
- 3. The Zero Waste 2020 strategy
- 4. The Key Step Forward
- 5. Zero Waste Initiatives Around the World
- 6. Back to the Big Picture

3. The ZERO WASTE 2020 strategy

What is Zero Waste?

- **Zero Waste**

- Recognizes that “waste” is not inevitable
- Discarded materials are potentially valuable resources
- Goes beyond “end of pipe” strategies
- Maximizes recycling and composting
- Reduces consumption
- Designs “waste” out of the system

Solid Waste Integrated Resources Plan

All of us together can make Zero!

Media Breakfast Briefing

January 23, 2007

Reina Pereira, Project Manager, SWIRP and
Senior Environmental Engineer,
Los Angeles Bureau of Sanitation



ZERO 
WASTE PLAN
Solid Waste Integrated Resources Plan

**ZERO WASTE
IS A
NEW
DIRECTION**

THE BACK END OF WASTE MANAGEMENT

**THE
BACK END
OF
WASTE
MANAGEMENT**



**THE
FRONT END
OF
INDUSTRIAL
DESIGN**

To achieve Zero Waste

We need:

- 1) INDUSTRIAL RESPONSIBILITY (at the front end)
- 2) COMMUNITY RESPONSIBILITY (at the back end)
- 3) GOOD LEADERSHIP (to link the two together)

Zero Waste can be approached with a series of simple steps

- which are
- Practical
- Cost effective and
- Politically acceptable

COMMUNITY RESPONSIBILITY

- Community responsibility begins with **Source Separation** and **Door to door collection**

“The Fantastic 3”



The San Francisco system





**Composting
Facility**

Composting plant for San Francisco





**Composting
Facility**



1

2

3



**Composting
Facility**

**Materials
Recovery
Facility**

MATERIALS RECOVERY FACILITY

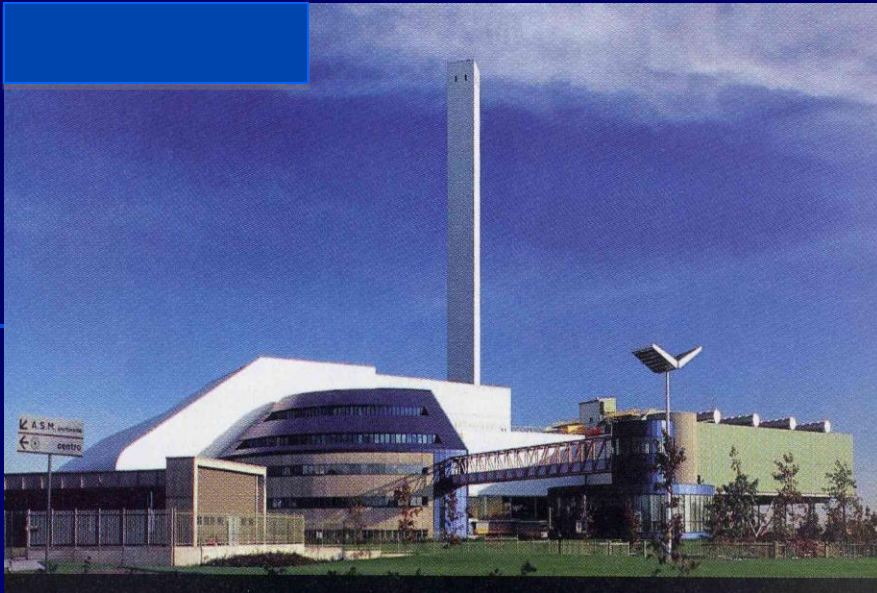


at Pier 96



San Francisco

- Population = 850,000
- Very little space
- 50% waste diverted by 2000
- 63% waste diverted by 2004
- 70% waste diverted by 2008
- 72% waste diverted by 2009
- 75% waste diverted by 2010 (goal)
- 100% by 2020 – Zero Waste (or very close!)

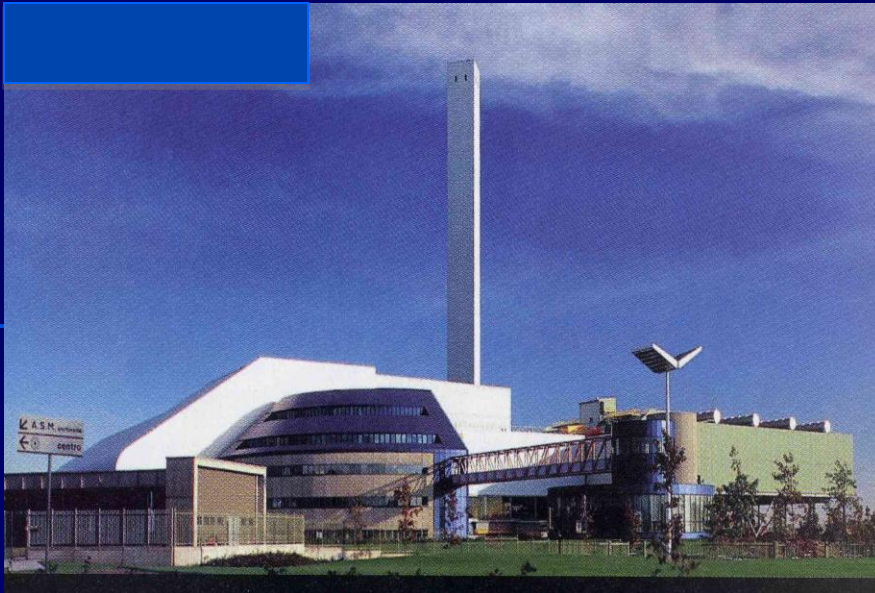


Brescia



San Francisco

**For every 4 Tons
of waste burned
you get
at least
1 Ton of Toxic Ash**

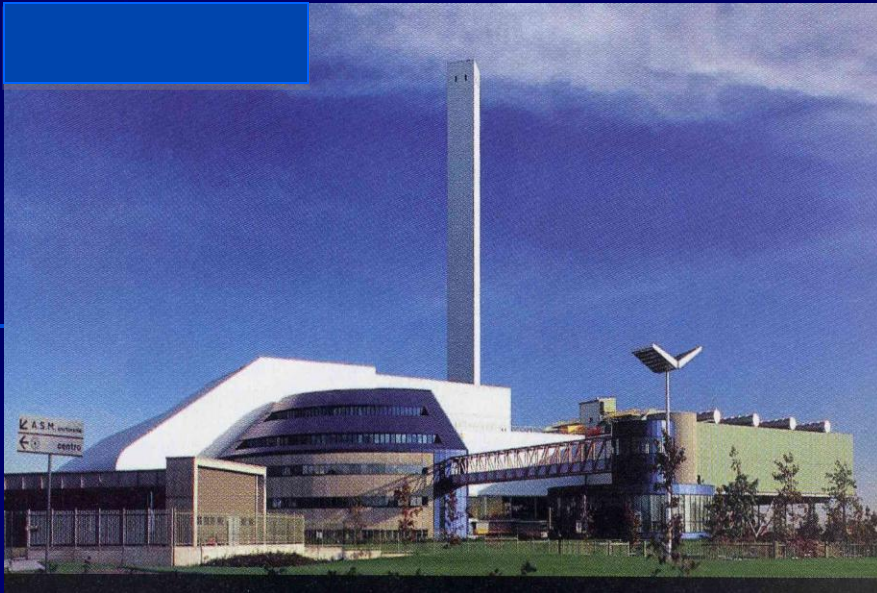


Brescia

75% reduction



San Francisco



Brescia

75% reduction



San Francisco

72% reduction



**Composting
Facility**

**Materials
Recovery
Facility**

**Residual
Fraction**

We have to minimize the residual fraction with...

- 1) Waste reduction initiatives
- 2) Reuse, repair and deconstruction
- 3) Economic incentives

Waste Reduction Initiatives

Undesirable packaging

- Four options:
- Ban it
- Tax it
- Put a returnable deposit on it
- Avoid it

Ireland

- Government put a 15 cent tax on plastic shopping bags
- reduced use **by 92%** in one year!

Italy

- Several supermarket chains are providing dispensers which allow customers to refill **shampoo** and **detergent** bottles...
- As well as **wine, water** and **milk**

Alcune iniziative italiane per la riduzione



ABBIAMO RIUTILIZZATO

IN ALCUNI PUNTI VENDITA GIÀ STIAMO UTILIZZANDO GRANDI DISTRIBUTORI
CHE CONSENTONO DI ACQUISTARE L'ACQUA

USANDO ALMENO 40 VOLTE LO STESSO CONTENITORE.

•Un pizzico di
creatività a monte
può far risparmiare
milioni a valle

1

**Composting
Facility**

2

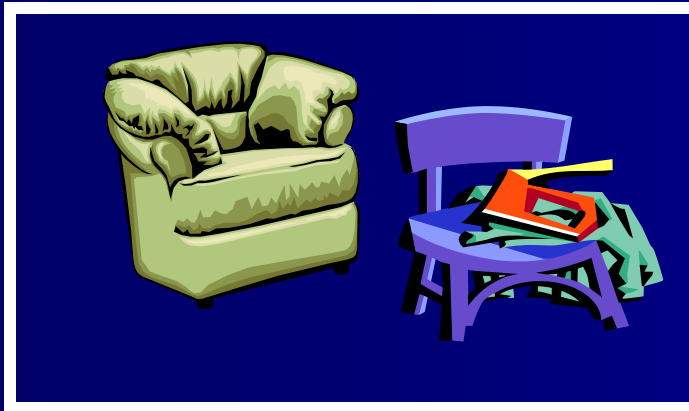
**Materials
Recovery
Facility**

3

**Community
Initiatives to
Reduce
waste**

Reuse, Repair and Deconstruction

Reuse, Repair & Deconstruction



Urban Ore, Berkeley, California

VALUE OF L.A. DISCARDS

Market Categories	%	Tons/Year	\$/ton	\$
1.Reuse reuse	2.0	72,000	550	39,600,000
2.Paper	22.0	792,000	20	15,840,000
3.Plant Debris	5.5	198,000	7	1,386,000
4.Putrescibles	17.0	612,000	7	4,284,000
5.Wood	4.0	144,000	8	1,152,000
6.Ceramics	13.0	468,000	4	1,872,000
7.Soils	10.0	360,000	7	2,520,000
8.Metals	4.0	144,000	40	5,760,000
9.Glass	2.0	72,000	10	720,000
10.Polymers	8.0	288,000	100	28,800,000
11.Textiles	2.0	72,000	20	1,440,000
12.Chemicals	0.5	18,000	15	270,000
No market (diapers, treated wood, mistakes)	10.0	360,000		0
TOTAL PER YEAR	100	3,600,000		\$103,644,000

- “Economically, incineration represents ONE BIG BLACK BOX
- The Zero Waste strategy represents 100’s of LITTLE GREEN BOXES”
- (Ted Ward, Zero Waste, Del Norte County, California)





Deconstruction



Deconstruction

**Reuse &
Repair Center**



Deconstruction

**Reuse &
Repair Center**

**Furniture,
Flooring, etc**

VIDEOS

- "On the Road to Zero Waste"
 - Part 1: Nova Scotia
 - Part 2: Burlington, Vermont
 - Part 3: Canberra, Australia
 - Part 4: San Francisco
- Zero Waste: Idealistic Dream or Realistic Goal?
- Pieces of Zero: Creativity versus Waste
- www.AmericanHealthStudies.org

1

**Composting
Facility**

2

**Materials
Recovery
Facility**

3

**Community
Initiatives to
Reduce
waste**



**Reuse & Repair
& Deconstruction**

Economic Incentives

The "Pay by bag" system



Total cost of program comes out of local taxes

The "Pay by bag" system

1

2

3

free

The "Pay by bag" system

1

free

2

free

3

The "Pay by bag" system

1

free

2

free

\$

**The more
you make,
the more
you pay!**

The "Pay by bag" system

1

2

\$

**No
surcharge**

**No
surcharge**

Surcharge!



Community
Initiatives to
Reduce
waste

Composting
Facility

Materials
Recovery
Facility

Residuals
?



Reuse & Repair
& Deconstruction

1

**Composting
Facility**

2

**Materials
Recovery
Facility**

\$

**Community
Initiatives to
Reduce
waste**

Residuals

=

**Our Current
Failures**



**Reuse & Repair
& Deconstruction**