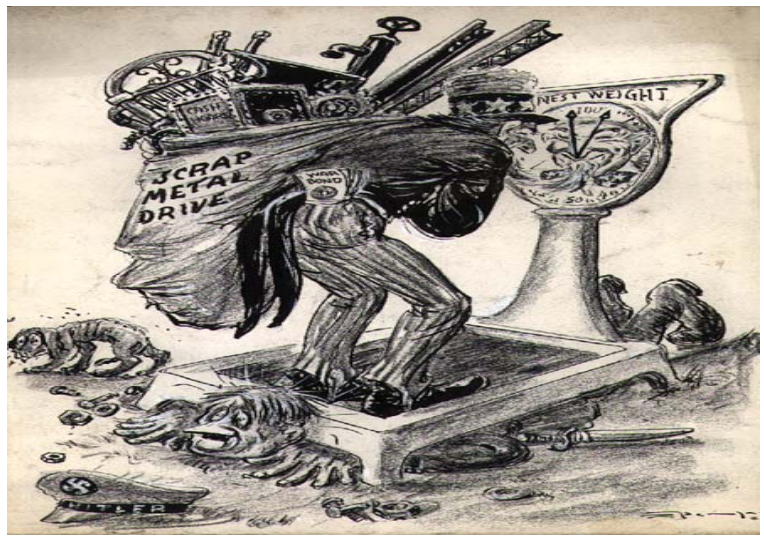
# Introduction to Zero Waste

**Richard Anthony**

# Neither the Bible nor the Constitution give anyone the right to Pollute or Waste



# Reuse, Recycling, & Composting Reduce Resource Use & Greenhouse Gas Production

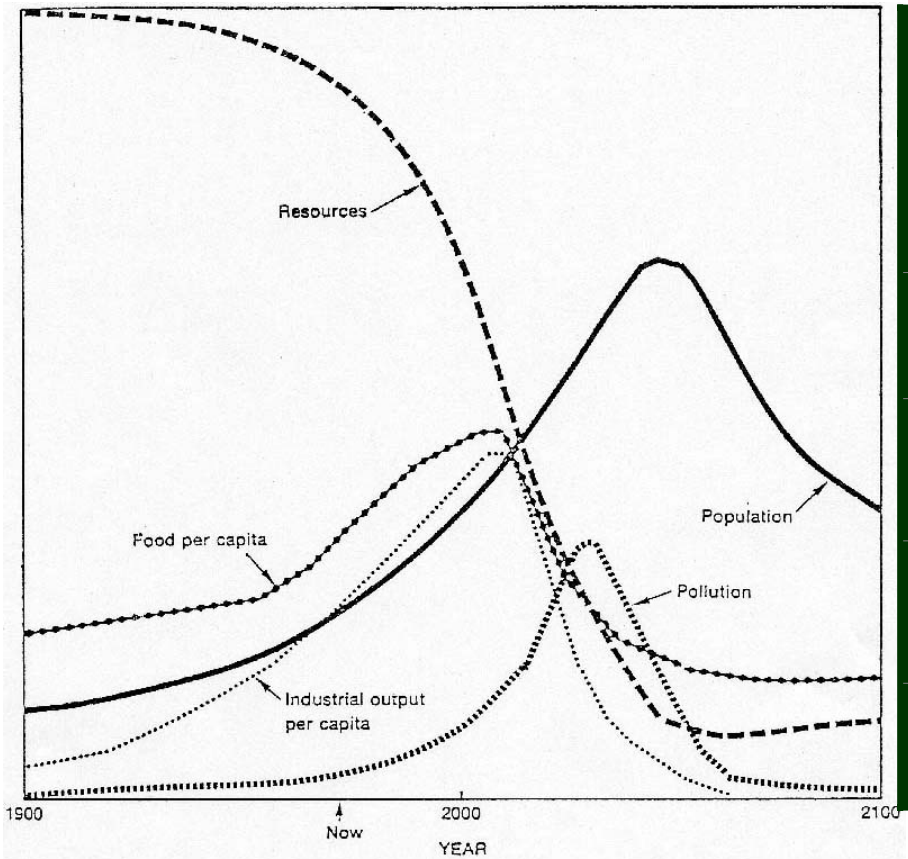



*Figure 10–2* World model standard run.

The "standard" world model run assumes no major change in the physical, economic, or social relationships that have historically governed the development of the world system. All variables plotted here follow historical values from 1900 to 1970. Food, industrial output, and population grow exponentially until the rapidly diminishing resource base forces a slowdown in industrial growth. Because of natural delays in the system, both population and pollution continue to increase for some time after the peak of industrialization. Population growth is finally halted by a rise in the death rate due to decreased food and medical services.

The horizontal scale in Figures 10–2 to 10–4 shows time in years from 1900 to 2100. With the computer the progress over time of five quantities has been plotted:

- population (total number of persons)
- industrial output per capita (dollar equivalent/person/year)
- food per capita (kilogram-grain equivalent/person/year)
- pollution (multiple of 1970 level)
- nonrenewable resources (fraction of 1900 reserves remaining)

| | Aluminum | Steel | Paper | Glass |
|---|---|---|---|---|
| Energy Use | 90-97% | 47-74% | 23-74% | 4-32% |
| Air Pollution | 95% | 85% | 74% | 20% |
| Water Pollution | 97% | 76% | 35% | |
| Mining Wastes | | 97% | | 80% |
| Water Use | | 40% | 58% | 50% |

**[1]** *R. Letcher and M. Shiel, "Source separation and Citizen Recycling", in William Robinson, ed., The Solid Waste Handbook, New York, 1986.*

# All discards can be sorted into 12 Market Categories…

1. **REUSABLE**
   - Appliances
   - Durable Plastic Items
   - Textiles
   - Mattresses & Furniture
   - Composite C & D
   - Books & Catalogues
   - Other Repairables

2. **PAPER**
   - Cardboard
   - White Ledger
   - Newsprint
   - Magazines / Catalogs
   - Other Office Paper
   - Paperboard
   - Other / Composite Paper

3. **PLANT DEBRIS**
   - Leaves & Grass
   - Prunings
   - Branches & Stumps

4. **PUTRESCIBLES**
   - Food Waste
   - Fish and Meat Waste
   - Sewage Sludge

5. **WOOD**
   - Untreated Wood
   - Treated Wood

6. **CERAMICS**
   - Concrete
   - Asphalt Paving

## 7. SOILS
- Gypsum Board
- Fines

## 8. METALS
- Auto Bodies
- Aluminum Cans
- Steel Cans
- Ferrous Metals
- Non-Ferrous

## 9. GLASS
- Clear Glass Containers
- Mixed Glass Containers
- Clear Glass
- Green Glass
- Mixed Glass
- Brown Glass
- Window Glass
- Other Glass

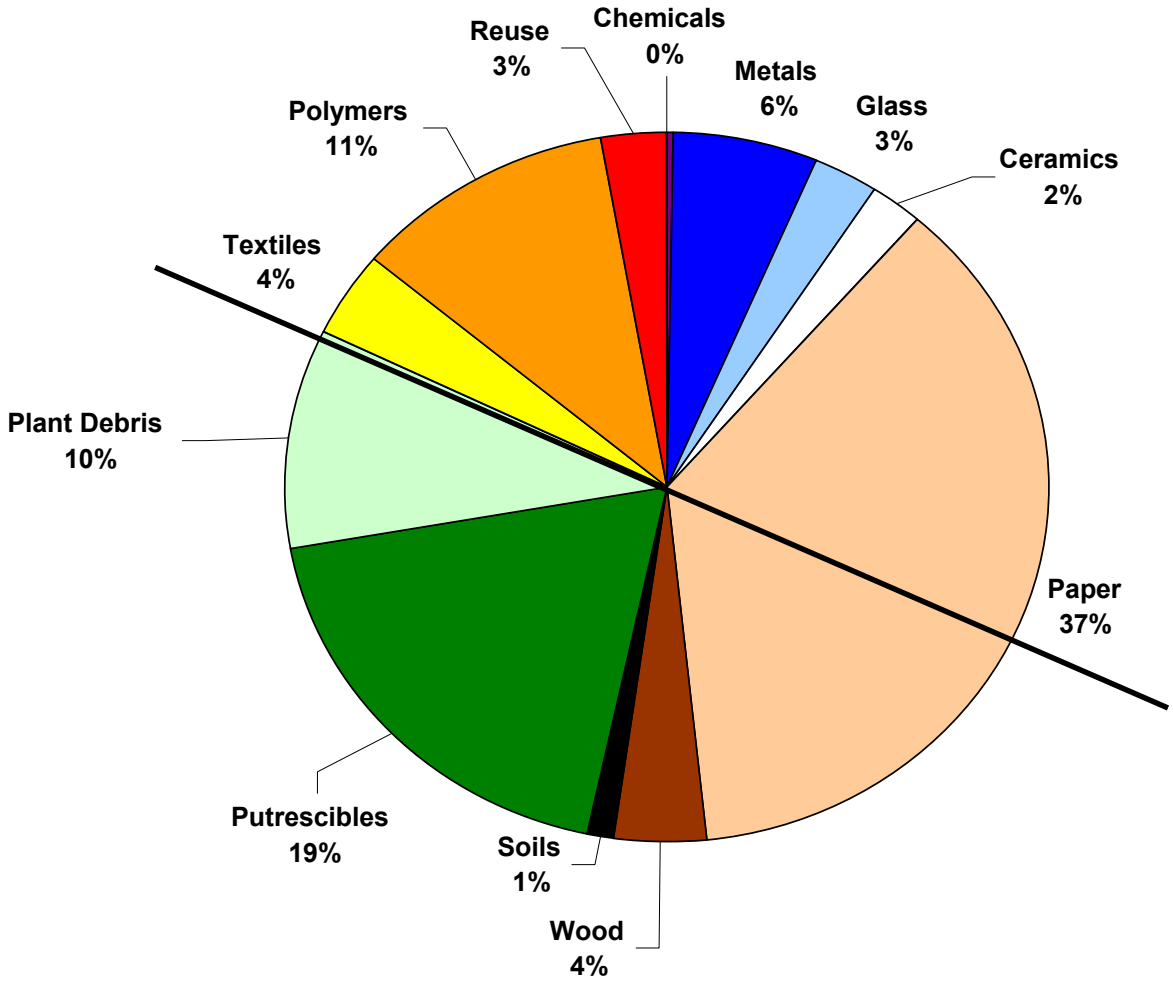
## 10. TEXTILES
- Poly Fibers
- Cotton and Wool

## 11. POLYMERS
- #1 PET (CRV)
- #2 HDPE Colored
- #2 HDPE Natural
- #1 PET Plastic
- #4 Plastic Bags
- Tires
- Other Plastics
- Asphalt Roofing
- Film Plastics

## 12. CHEMICALS
- Used Motor Oil
- Household Hazardous Waste
- Disposable Diapers / Feminine Hygiene
- Treated Medical Waste

# Discards Sorted into the 12 Market Categories

*Note: Half of the Pie is Organic Material Suitable for Composting*



# Revenue and Job Potential from 1,000,000 Tons of Discarded Material

| Clean Dozen℠ Master Categories | Jobs | Tons per Year | Market Price $/T (est.) | Total Value of Discards ($) |
|---|---|---|---|---|
| 1. Reuse | 350 | 28,000 | 550 | 15,400,000 |
| 2. Paper | 65 | 370,000 | 20 | 7,400,000 |
| 3. Plant Trimmings | 30 | 100,000 | 7 | 700,000 |
| 4. Putrescibles | 85 | 190,000 | 7 | 1,330,000 |
| 5. Wood | 24 | 40,000 | 4 | 320,000 |
| 6. Ceramics | 7 | 20,000 | 4 | 80,000 |
| 7. Soils | 20 | 10,000 | 7 | 70,000 |
| 8. Metals | 35 | 60,000 | 40 | 2,400,000 |
| 9. Glass | 75 | 30,000 | 10 | 300,000 |
| 10. Polymers | 1,020 | 110,000 | 100 | 11,000,000 |
| 11. Textiles | 340 | 40,000 | 200 | 8,000,000 |
| 12. Chemicals | 4 | 2,000 | 15 | 30,000 |
| Total | 2,055 | 1,000,000 | | 47,030,000 |

# Master Category Clusters

- **Paper and Containers/Blue Bin**
  - Paper, metals, glass, polymers
- **Organics/Green Bin**
  - Food, vegetative debris, food dirty paper, paper, plant debris, putrescibles, wood
- **Discarded Items/Bulky or Charity Pickup**
  - Furniture, appliances, clothing, toys, tools, reusable goods, textiles
- **Special Discards Resource Recovery Park**
  - Chemicals, construction and demolition materials, wood, ceramics, soils

# Reuse and Repair


# Recycling


CARDBOARD ONLY


ASI Recycling
Part of the Solution Since 1970
- Hours of Operation -
Please
Do Not Leave Materials At the Gate
PREMISES UNDER VIDEO SURVEILLANCE


RECYCLE
Thank You for Recycling! • ¡Gracias por Reciclar!
Metal Cans & Foil
Latas de metal y aluminio
Paper & Junk Mail, Newspaper, Magazines & Phone books
Cardboard, Paper bags & Food boxes
Papeles y Correspondencia publicitaria
Periodicos, Revistas y Directorios telefónicos, Cartón, Bolsas de papel y Caja de alimentos
Plastic Bottles
Botellas de plástico
Glass Jars & Bottles
Frascos y Botellas de vidrio
14.02.2006 17:58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# Composting

# Special Discards


# It's a win, win, win, win thing for all of us…

## Benefits of Source Separation:

- Creates jobs
- Saves wildlife and ecosystems
- Saves taxpayers and businesses money
- Reduces pressure on raw or virgin resources
- Reduces pollution (including greenhouse gas emissions)

# zerowastesandiego.org

**Landfilling is a long-term liability, produces dangerous greenhouse gases, and wastes taxpayer dollars.**

**The following programs and policies offer economic sustainability, improved quality of life for residents, and a healthier, cleaner environment:**

- Pass the required mandatory recycling ordinance to allow recycling for all residents and businesses
- Transform the Miramar Landfill into a resource recovery park
- Phase out compostable materials from the landfill
- Trigger the C&D ordinance
- Implement a public education program to maximize recovery of revenue-generating recyclables

**The most logical way to extend the life of the landfill is to convert as many discarded resources as possible into revenue.**

Thanks for listening!

Please contact us if you'd like to be kept informed about our local efforts at promoting a sustainable economy through recycling and resource conservation.

**www.zerowastesandiego.org**

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