

# WASTE

## Throwaway Society

**History:** During the early 1900s, urban reformers addressed the problem of garbage thrown into streets by establishing municipal sanitation departments. Uniformed crews began to provide convenient collection and disposal of municipal waste. In 1905, municipal waste consisted of ashes from cooking and heating (75%), kitchen scraps (16%), and other rubbish (7%.)

**Disposables:** Planned obsolescence was developed as a strategy to increase production following World War II: the more goods purchased and discarded, the more growth in product consumption. Convenience sold consumers. Paper products were substituted for cloth towels, napkins, and handkerchiefs. When something broke, it is cheaper to throw it away and buy new. Advertising seduces consumers into wanting the latest product available. Consumption of products, not production, is now the driver of our economy.

**The Explosive Growth of Product Waste:** Over the past century we have witnessed a huge expansion of product waste. Product-related wastes include all the durable goods (appliances, furniture, books, all that lasts more than five years), nondurable goods (newspapers, disposable diapers, anything that lasts less than five years), and packaging. This form of waste rose from 7% in 1905 to 75% of the current waste stream by weight and 90% by volume, according to the EPA. The total quantity of products and packaging entering the U.S. waste stream continues to grow, increasing nearly 20% between 1990 and 2000.

**Municipal Waste Systems Subsidizes Throwaways:** The municipal infrastructure created to deal with waste has become an unintended subsidy for industries making products that are designed to become waste, perpetuating the Disposable Society. More and better waste management at public expense gives unlimited license to proliferate discards. Currently, municipal waste systems collect 3.4 pounds of product waste a day for each American, twice as much as in 1960 and ten times as much as 100 years ago. In addition to managing the sanitary landfill itself, local and state governments use taxpayer money to pay for increased road maintenance and water pollution associated with waste management.

**Landfills:** The number of landfills in the United States is steadily decreasing—from 8,000 in 1988 to 1,654 in 2005. New landfills are much larger than in the past. Cumberland County has three closed landfill sites, and its current landfill on Flynn Cove Road nears capacity.

## National Waste Stream

### 2005 Total Waste Generation:

- 245 million tons of waste generated in the U.S.
- Average disposal per capita per day: 4.5 pounds

### National Sources of Waste (Before Recycling)

Paper	34.2%	Rubber, leather, textiles	7.3%
Yard Trimming	13.1%	Glass	5.2%
Food Scraps	11.7%	Wood	5.7%
Plastics	11.9%	Other	3.4%
Metals	7.6%		

## Fate of Waste in the US

- 32% recovered and recycled or composted
- 14% burned at combustion facilities
- 54% landfilled

## Tennessee Waste Stream

- **Disposal per capita per year:** 2,240 pounds
- **Disposal per capita per day:** 6.1 pounds
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## Cumberland County Waste Stream

- **2005 total waste** - 67,017 tons
- **2005 waste landfilled** - 34,443 tons
- **Disposal per capita per year:** 1,340 pounds
- **Disposal per day:** 3.7 pounds
- **Rank in state:** 43 of 95 counties have a lower per capita disposal rate than Cumberland County.
- **Fate of waste in Cumberland County (2005)**
  - 34,443 tons landfilled
  - 7,482 tons recycled
  - 25,092 tons either privately recycled or disposed in an industrial landfill
  - 49% of waste diverted from landfill (publicly recycled and industrially recycled or landfilled)

## Recycling

### National Recycling

- In 1980 10% of the waste stream was recycled. That has increased to nearly one-third.
- Material rates
  - batteries (99%)      paper and paperboard (50%)      yard trimming (62%)
  - steel cans (62%)      aluminum drink cans (45%)
  - plastic drink containers (34%)      glass containers (25%)
- Individuals recycled nearly 1.5 pounds per person per day.

**TN Rates:** According to USDA and industry sales figures, Tennesseans consume 3.9 billion beverages a year:

- 52% soda      30% beer      7% juices      7% water      3% sports drinks
- Packaging types:
  - 54% aluminum cans      26% plastic bottles (24% PET, 2% HDPE)      18% glass bottles
- Tennesseans recycle less than one-fourth (24.5%) of beverage containers:
  - 35% aluminum      10-11% plastic      10% glass

**Benefits of Recycling:** Here in Tennessee, even though we recycle less than 25 percent of the 4 billion containers we buy each year, those we do recycle are responsible for saving more than 2 trillion Btu of energy, enough to meet the total annual residential energy needs of Bristol and Brentwood combined. The recycled containers also help us avoid the strip mining, coal burning, mineral and oil extraction and other environmental impacts required to produce new containers from raw materials.

### Cumberland County Recycling Center 2005 Report

4,016 tons organic material converted into compost

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|---------------------------|--|--------------------|
| 928 tons of tires         | 846 tons newspaper                       | 748 tons cardboard |
| 693 tons mixed metals     | 29.5 tons of plastic (mostly containers) |                    |
| 24 tons of used motor oil | 18 tons of batteries                     | 5 tons of pallets  |
- Another 15 tons of metal, 10 tons of plastic, and 150 tons of mulch were reported recycled by Cumberland Waste Disposal.
  - Total of 7,482 tons of recycled items. Compared to the 34,443 tons of waste sent to the county landfill, Cumberland County had a public recycling rate of 18% for 2005.

**Down-Cycling:** The broad popularity of recycling is taken as a measure of sustainably recycling our wastes. Yet recycling programs are not effectively dealing with much of what is recycled. Paper turns into low-value products like cattle bedding and insulation. Recycled glass is crushed and used in construction as a gravel substitute. Plastic containers come back as textiles or throwaway garbage bags.

**Composting:** In the future, recycling of community-generated organics will become the centerpiece of municipal waste management because it will be the only material left in the waste stream as products and packaging will have found their way back to the marketplace without entering the municipal waste management system.

These organics are materials that can be safely cycled back into the biosphere through composting. These include food scraps (11% of current trash), yard trimmings (12%), and other organic waste (1.5%.) 57% of yard trimmings in 2000 was diverted to composting.

Amount of nonproduct organic wastes entering municipal waste streams has decreased over the past ten years despite an increase in population. The EPA attributes this decline to the increase of backyard composting and to leaving grass clipping on the lawn rather than bagging them for disposal.

### **Zero Waste**

**Redesigning Products and Packaging for Durability, Reuse and Recycling:** Instead of perpetuating our throwaway society, products can be designed to use fewer material types that could be easily reused or repaired when they have outlived their usefulness. These “technical nutrients” are recyclable and reusable products that should be designed to remain in the industrial cycle perpetually

**Creating Jobs from Discards:** Burying materials in a landfill also wastes jobs that could be created if those resources were preserved. On a per-ton basis, sorting and processing recyclables alone makes ten times more jobs than landfilling or incineration. Some recycling-based paper mills and recycled plastic product manufacturers employ 60 times more workers on a per-ton basis than do landfills. Each recycling step a community takes locally means more jobs, more business expenditures on supplies and services, and more money circulating in the local economy through spending and tax payments.

**Producer Responsibility:** Producers have almost no responsibility for disposing or recycling their products. As long as these functions are provided at taxpayer expense, manufacturers have little incentive to redesign their products so they produce less waste. 71 garbage cans worth of industrial waste are produced for each can of discarded products and packaging put at curbside. This includes waste from mining, clear-cutting timber, oil and gas drilling, as well as from refining and manufacturing those raw materials.

Zero Waste puts the responsibility for materials entering the waste stream on the front-end with the manufacturer, not on the consumer at the back-end of the product’s life. The end result is that manufacturers redesign products to reduce material consumption and facilitate reuse, recycling and recovery. Extended product responsibility for waste makes manufacturers responsible for the

lifecycle of their products and packaging. Costs are borne by producers and consumers rather than by taxpayers.

Responsibility for product waste should be shared by participants in the market system - the producers and consumers. The producer has the major responsibility to redesign products and packaging to reduce life-cycle impacts. Extra costs are ultimately born by consumers. Assigning responsibility to producers and consumers increases efficiency by bringing product waste management into the market system.

**"True Cost" Accounting:** The price of a product does not currently reflect the full costs of the environmental degradation and public health impacts associated with the virgin resource extraction, processing, manufacture, transportation, and disposal of that product. Damage to ecosystems, loss of habitat and biodiversity, carbon emissions, toxic pollution, health problems, and harm to recreation industries are real costs created by our current system of resource use but not calculated into the price of goods. Consumers pay thrice for many products: once at the store, again for disposal, and yet again to mitigate environmental damage and health costs. When the market prices begin to include such costs, the more environmentally-friendly product will also be the less expensive.

**Investing in Infrastructure, Not Landfills:** In many communities, strategies like unit-based pricing for garbage collection (commonly known as Pay-As-You-Throw) have created tremendous incentives for residents and businesses to reduce waste and have resulted in higher landfill diversion rates. Rather than using the tax base to build new landfills or incinerators, communities have also invested in recycling, composting, and reuse facilities. In some cases, communities have created integrated discard "malls" where various recycling and reuse businesses coexist in a location where consumers can come to drop-off any unwanted item.

**Ending Tax Payer Subsidies for Wasteful and Polluting Industries:** Pollution, energy consumption and environmental destruction start at the point of virgin resource extraction and processing. Our tax dollars subsidize many industries that make products from virgin materials, such as timber and mining, businesses that compete directly with resource conserving enterprises.

A Zero Waste system would end these federal subsidies to enable recycled and reused products to compete on an even playing field. Without the subsidies for extraction of raw natural resources, the market can determine which are truly the less expensive products.

#### **Steps to Zero Waste**

- Educate local public officials that Zero Waste strategies provide an alternative landfilling.
- Develop local policies that build and support working Recovery Parks.
- Develop local policies that require maximum separation of discards by material type.
- Develop national policies to require producers to assume life cycle responsibility for products and share the cost of collecting used products.

#### **Feasibility of Zero Waste**

- While Zero Waste may not eliminate virgin material extraction, it would significantly reduce the demand. The process of extraction would use sustainable practices, with impacts and costs included into the price of the finished product.
- We have the current technology to reach a 90% diversion rate in both businesses and communities.

The Obed Watershed Community Association has as its purpose the protection and enhancement of the natural and cultural heritage of the Obed River watershed within Cumberland County. Louise Gorenflo, OWCA community educator, produced this fact sheet. Those wanting to join this membership organization or more information may contact Dennis Gregg, OWCA Director at 484-9033 or at 185 Hood Drive, Crossville, TN 38555.

