

E-Waste

GIGO
Good stuff In Garbage Out

Carnegie Mellon: 60 Million PCs have been buried in US Landfills



National Safety Council: 250 million computers will be obsolete between 2004 and 2009



PCs discarded

- 50 Million per year in US
- 136,000 PCs Per DAY in US
- 3000 Tons per DAY in US
- 4000 Tons per HOUR in the World

- Average life of PC now 2 years
- Only 1 in 12 are recycled systems

Life span of Cell Phone is 18 months



Cell Phones

- 100 Million cell phones have been discarded
 - Some have been refurbished and resold
 - Tens of millions are put in the trash

The effect on Environment

- E-waste is one of the largest sources of toxic heavy metals in dumps world wide
- CRT contains 2 to 8 pounds of lead

The Effect on our Environment

- Printed circuit boards contain antimony, silver, chromium, zinc, tin and copper.
- When burned emit noxious fumes of dioxins and furans
- Prolong exposure causes abnormal brain development in children
- Nerve damage, endocrine disruption and organ damage in adults

The Effect on use of Raw Materials

- 2004 United Nations University study found
- 1.8 tons of raw materials, including fossil fuels, water and metal ores, to manufacture one desktop PC and Monitor

The Effects of Mining

- 14 of the 15 largest Superfund sites of the EPA containing hazardous waste are from metal mines
- A 1999 study of La Oraya, Peru showed that 99% of children in the area of lead, copper and zinc mines suffered from lead poisoning.

What does US do with the E-Waste

- One company sends 60% to 80% overseas
- Massachusetts bans computers and TVs in Landfills
- California does the same AND bans E-waste from being sent overseas.
- California just passed a law that all cell phone companies must recycle phones that are returned....not all are returned

Overseas

- Switzerland builds the cost of recycling into the cost of the computer
- Recycling cost between \$85 and \$135

Poorer countries

- Children are paid very little
- Terrible work conditions
- Suffer from fumes, cuts of toxic materials



What is being done to reduce E-Waste?

Your assignment is to write a short paper on various ways some companies, states and countries are trying to reduce E-Waste.

I suggest you read the article on which this short presentation was based.

Smithsonian magazine, August 2005, pp 82-86

Your paper should be based on information more than what is stated in this presentation

This is due: MW on Wednesday April 5

TR on Thursday April 6