

WORKWASTE

Waste Management Solutions for Business

Providing a Cleaner Environment

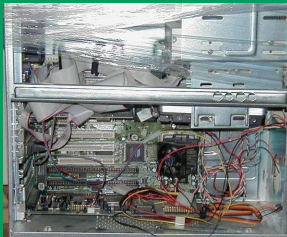
- **WorkWaste's goal is aimed at helping businesses as well as individuals to protect the environment by providing practical alternatives through recycling - to prevent pollution of our land, air and water resulting in a safer, cleaner environment.**

Professional waste removal & recycling services for clean, responsible work environments.



CRTs and Used Electronics

- Computers and Printers
- Business Equipment (typewriters, modems, etc.)
- Copy Machines
- CRTs (computer monitors)
- Fax Machines
- Electronic and Lab Equipment
- Phone Systems and Equipment
- Television and Audio Equipment



Electronics Scrap



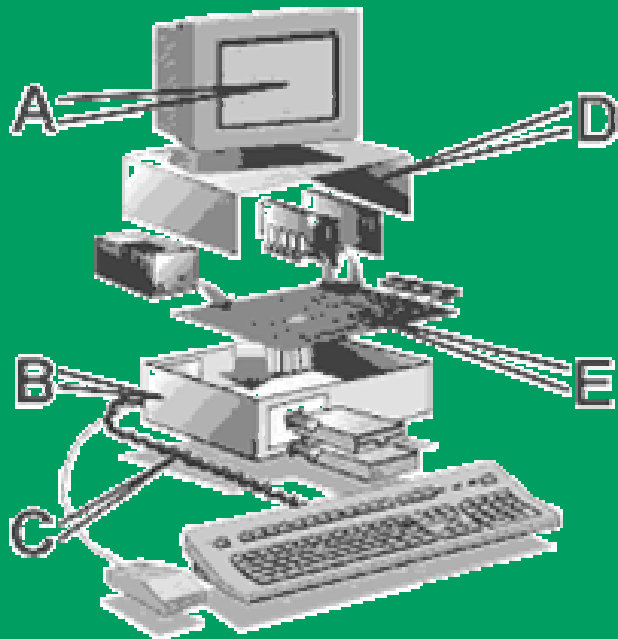
Reasons for Recycling

- Electronics are made with valuable resources such as precious metals, engineered plastics, glass, and other materials—all of which require energy to manufacture.
- When equipment is thrown away, these resources cannot be recovered and additional pollution will be generated to manufacture new products out of virgin materials.

Electronics – Circuit Boards



Hazards of a Computer



- A. Monitor**—Cathode ray tubes contain 4 to 8 pounds of lead in the radiation shielding of the glass and in lead solder on wires and connections. Also present: Barium, Phosphorus, Hexavalent Chromium
- B. PC Chassis**—Hexavalent Chromium is used on steel plates to prevent corrosion.
- C. Cables and Wires**—the plastic covers of the wires inside and outside of a PC contain both PBDE and PVC.
- D. Plastic Shell**—Polybrominated diphenylethers (PBDE) are used as flame retardant in computer plastics. Polyvinyl chloride (PVC) components, when burned, give off dioxin fumes.
- E. Circuit Boards**—Most manufacturers use lead solder to connect semiconductors and other components and wires to motherboards and integrated chip sets. Also present: Beryllium, Mercury, Cadmium

% of MSW

What percent of municipal solid waste (MSW) is electronics?

- According to various reports, EPA estimates that electronics comprise approximately 1-4 percent of the municipal solid waste stream

NH Disposal Ban

- E-Waste Disposal Ban
 - Video Display Devices are banned from NH landfills starting July 2007
 - Includes televisions, CRT, LCD, Plasma Screens
 - Will eliminate major source of lead in landfills
 - Will promote electronics recycling

Electronic Hazards

Cadmium - *found in chip resistors, infrared detectors, and semiconductors*

- Cadmium can accumulate in, and negatively impact, the kidneys. Cadmium is persistent, bioaccumulative, and toxic. The principal exposure pathway is through respiration and through our food.

Electronic Hazards

Lead - *found in glass panels in computer monitors and in lead soldering of printed circuit boards*

- Lead can cause damage to the central and peripheral nervous systems, blood systems, and kidneys in humans. Lead can accumulate in the environment and have a detrimental effect on plants, animals, and humans.
- Consumer electronics may be responsible for 40% of the lead found in landfills.
- The principal pathway of concern is lead leaching from landfills and contaminating drinking water supplies.

Electronic Hazards

Mercury - *found in thermostats, position sensors, relays and switches, discharge lamps, and batteries. It is also used in medical equipment, data transmission, telecommunications, and mobile phones.*

- When mercury makes its way into waterways, it is transformed into methylated mercury in the sediments. Methylated mercury accumulates in living organisms and travels up the food chain. Methylated mercury can cause brain damage. The principal exposure pathway is through our food.

Electronic Hazards

Hexavalent Chromium or Chromium VI -
can be used to protect against corrosion of untreated and galvanized steel plates

- Chromium VI can damage DNA and has been linked to asthmatic bronchitis. The major pathways are through landfill leachate or from fly ash generated when materials containing Chromium VI are incinerated.

Electronic Hazards

Brominated Flame Retardants - *found on printed circuit boards, components such as plastic covers and cables as well as plastic covers of televisions*

- Research has shown that the flame retardant, Polybrominated Diphenylethers (PDBE) might act as an endocrine disrupter.
- Flame retardant (Polybrominated Biphenyls (PBB)) may increase cancer risk and cause damage to the digestive and lymph systems.
- Once released into the environment through landfill leachate and incineration they are concentrated in the food chain.

Reasons for Recycling: Electronics Disposal Overseas



*Photo from the
Washington Post*

Electronics Facts

- Studies estimate that 315 to 600 million desktop and laptop computers in the U.S. will soon be obsolete.
- One report estimates that a pile of these obsolete computers would reach a mile high and cover six acres.
- The 315 million or more computers that have or will become obsolete contain a total of more than 1.2 billion pounds of lead.

Reasons for Recycling: Electronics Disposal Overseas



Photo from © Basel Action Network

WorkWaste

Professional business recycling services for your Universal Waste

- Ensure regulatory compliance
- Minimize liabilities and litigation
- Improve community relations
- Provide a safer, cleaner environment for employees and customers
- Maximize space by eliminating storage of unused electronics

Reasons for Recycling: Electronics Disposal



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Question/Comments:

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