Shabbir Traders
e-waste Recyclers

Welcome
To
Shabbir Traders e-waste Recyclers

What is E-Waste

- **E-Waste** constitutes end of life electronic and electrical equipment
- **Hazardous:** Contains toxic elements and has to be treated in an environmentally friendly manner
- **Data security:** Business, Financial and legal data might be extracted by unscrupulous recyclers
- **Regulatory:** E-Waste should be given to only (MPCB &CPCB) approved recyclers
- **Source for Metals:** Less energy intensive and cheaper source for base and precious metals. Lowers the carbon footprint
- **Sustainable:** As the demand for metals is growing recycling would play a major part in ensuring sustainable development

However, some solid waste commissions are urging people to recycle those electronics.

Potential to Poison

Current e-Waste Handling…

Circuit Board Open Burning

Cable Burning in Open

Acid Stripping

CRT Cracking & Dumping

CRT & Services

Wholesale exporters accept damaged CRTs at low prices. Some cannot show any record of CRT glass recycling… it all goes on the
shipping container, as Toxics Along for the Ride.

monitors and most TVs are brought in for recycling precisely because they are not worth fixing. Consumers should get what they pay
for - CRT glass recycling, not hiding the CRTs in scrap metal.

How many pounds of TVs and computers did you collect last year?
How many pounds of glass did you send for recycling?
Where?

Answer 2 divided by Answer 1 = CRT Recycling Rate %

Process Flow chart

E-WASTE INPUT

SORTING

DISMANTLING

Plastic

GRINDING

Tubes

TUBE PROCESSING

STORAGE

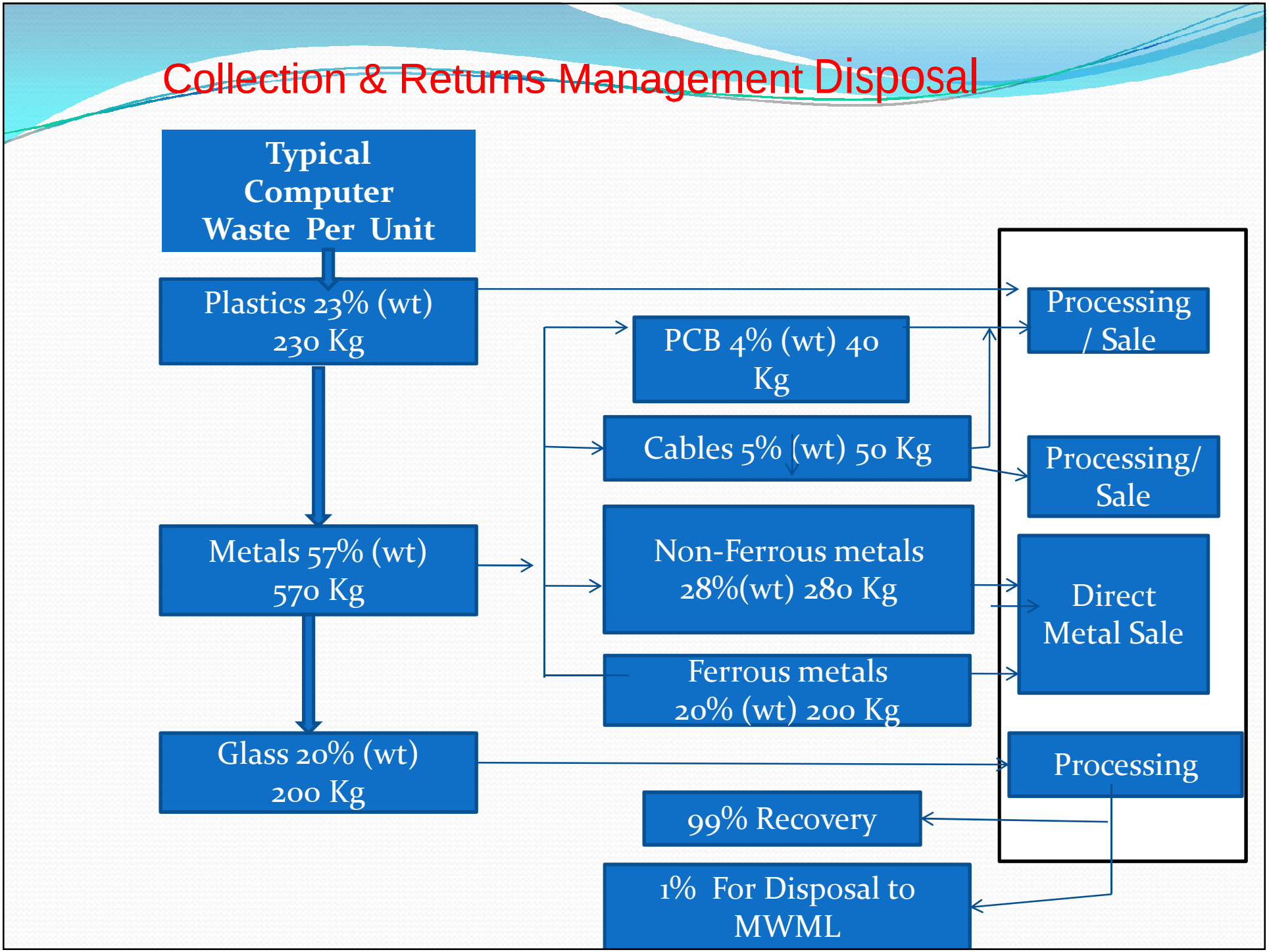
Recovered Material Sale

Printed Circuit Board

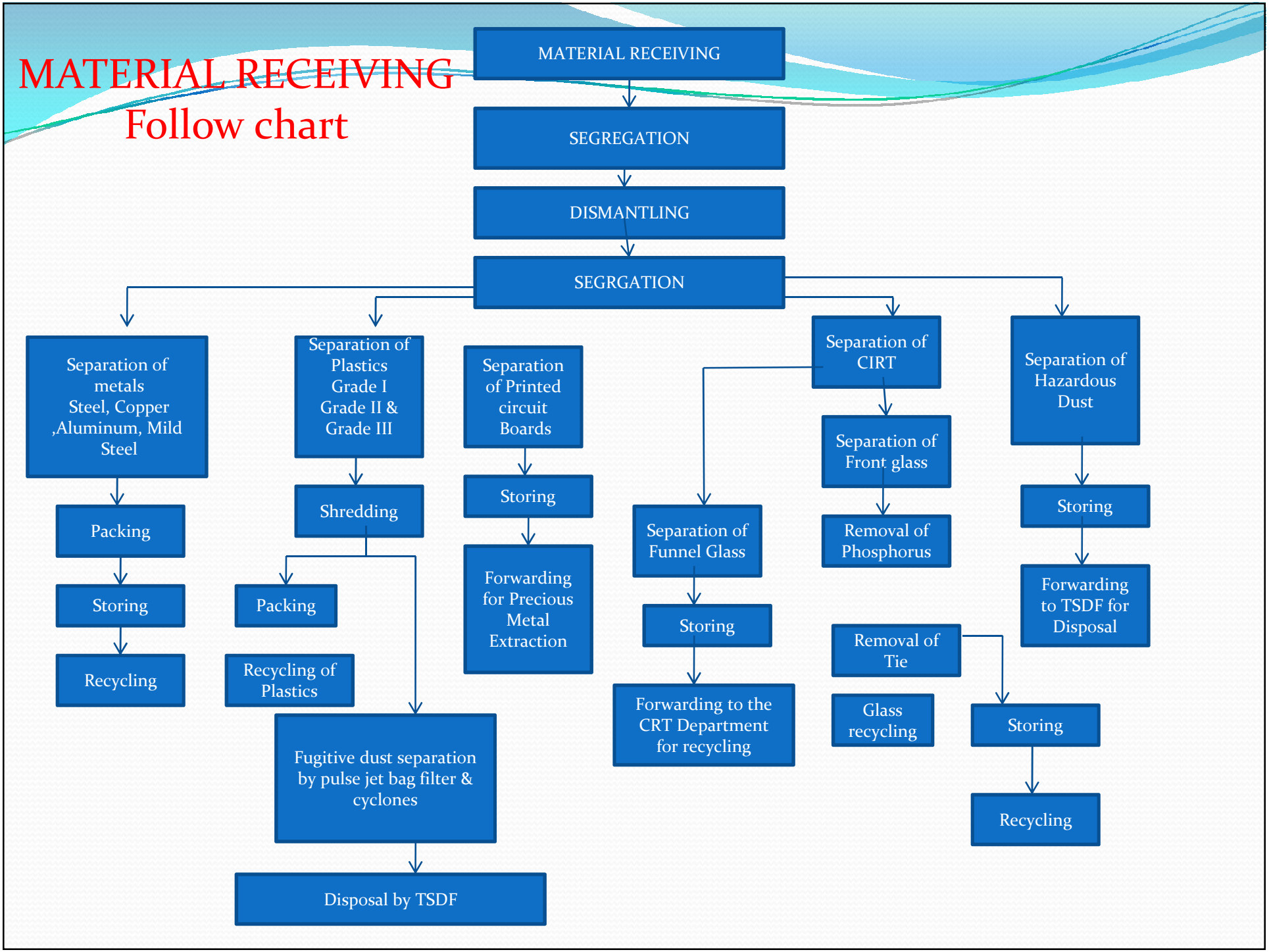
MECHENICAL PROCESSING

Waste Disposal to CHWSTDF

Collection & Returns Management Disposal



MATERIAL RECEIVING
Follow chart



Effect on Human Health

Damage to central and peripheral nervous systems, bloods systems and kidney damage

Affects brain development of children

Chronic damage to the brain

Respiratory and skin disorders due to bioaccumulation in fishes

Asthmatic bronchitis

DN A damage

Reproductive and developmental problems

Immunes system damage.
Lung Cancer.
Damage to heart, liver and spleen.

E- waste Recycling Plant

How Much E-waste is Being Discarded?

Whether trashed or recycled, what are we getting rid of each year in the US? (See next section for what we stockpile.)

E-Waste in 2007 – Was it Trashed or Recycled

Products	Total disposed** (million of units)	Trashed (million of units)	Recycled (million of units)	Recycling Rate (by weight)
Televisions	26.9	20.6	6.3	18%
Computer Products*	205.5	157.3	48.2	18%
Cell Phones	140.3	126.3	14	10%

*Computer products include CPUs, monitors, notebooks, keyboards, mice, and "hard copy peripherals", which are printers, copiers, multi's and faxes.
**These totals don't include products that are no longer used, but stored.

Source: EPA [1]

41.1 million desktops & laptops — The EPA (in report summarized above) estimates that 29.9 million desktops and 12 million laptops were discarded in 2007. That's over 112,000 computers discarded per day!

31.9 million computer monitors — The EPA report (above) estimates that 31.9 computer monitors were discarded in 2007 – both flat panel and CRTs.

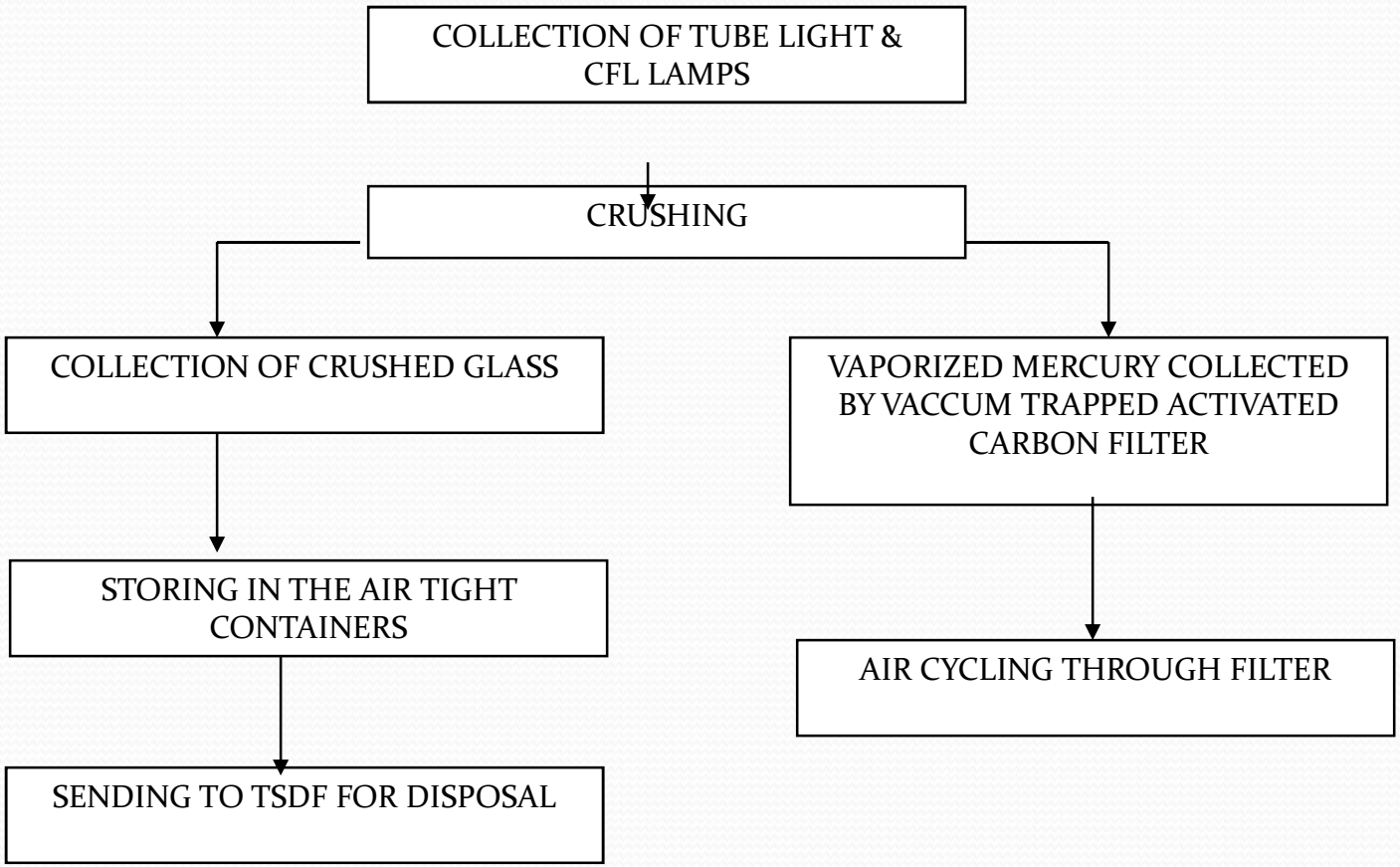
400 million units of e-waste — In a 2006 report, the International Association of Electronics Recyclers projects that with the current growth and obsolescence rates of the various categories of consumer electronics, (a broader list than the EPA used above, including DVDs, VCRs, mainframes) somewhere in the neighborhood of 3 billion units will be scrapped during the rest of this decade, or an average of about **400 million units a year.**

Over 3 million tons of e-waste disposed in 2008 in USA — **In 2008, we generated 3.16 million tons of e-waste in the U.S. Of this amount, only 430,000 tons or 13.6 % was recycled, according to the EPA. The rest was trashed – in landfills or incinerators. (The total generated increased from 3.01 million tons of e-waste generated in 2007, but the recovery rate stayed at 13.6%.3**

Selected consumer electronics include products such as TVs, VCRs, DVD players, video cameras, stereo systems, telephones, and

CFL Recycling

DISPOSAL OF TUBE LIGHT AND CFL LAMPS



Burn the waste releasing India and carcinogenic substances into the air

Articles

Many computer parts such as printed circuit boards contain lead, mercury and cadmium. Lead batteries are rechargeable, but they can be extremely hazardous to the environment if left in a land fill without proper disposal techniques.

Recycling of computer parts is done in a systematic manner by recyclers. After the extrusion of elements such as tin, aluminum, zinc and copper, precious elements such as gold and silver are also taken out of the computer parts. The remaining computer and electronic components are then shredded into small parts and discarded safely.

Classification: types of e-waste

- Mobile Phones
- Computers
- Servers
- Telecom
- TV
- Calculators
- Audio
- Scanners
- Printers
- Air Conditioner
- Microwave
- Washing Machine
- Cartridges
- Military electronic
- Mother board
- Alarm
- Sirens
- Automobile Catalytic Converter
- Sensor
- CD
- Security Device

Present Scenario

- Every house having electronic equipments
- Business necessity
- More than 40-50 million tons e-waste worldwide / year
- Asia-estimate of 12 million tons/ year
- 50-80% e-waste collected in US and other developed countries exported to third world countries
- E-waste is still the fastest growing municipal waste

The current scenario in India.

E-WASTE PILING UP

Mumbai : 11.017 tonnes

Delhi : 9.730 tonnes

Bangalore : 4.648 tonnes

Chennai : 4.132 tonnes

Kolkata : 4.025 tonnes

Ahmadabad :3.287 tonnes

Hyderabad : 2.833 tonnes

Pune : 2.584 tonnes

Surat : 1.836 tonnes

We need your help and support in our strive to make Mother Earth Cleaner, Safer and Greener for the future generations to breathe fresh air

HAZARDOUS

mechanical doorbells, and flat screen monitors. Health effects include sensory impairment, dermatitis, memory loss, and muscle weakness. Environmental effects in animals include death, reduced fertility, slower growth and development.

Sculpture: found in lead-acid batteries. Health effects include liver damage, kidney damage, heart damage, eye and throat irritation. When released in to the environment.

The composition of toxic chemicals in an average computer of 31.5 kg

Element	Quantity
Plastics	7.24 kg
Lead	1.98 kg
Mercury	0.693 g
Arsenic	0.4095 g
Cadmium	2.961 g
Chromium	1.98 g
Barium	9.92 g
Beryllium	4.94 g

HAZARDOUS WASTE

IS IT HAZARDOUS WASTE

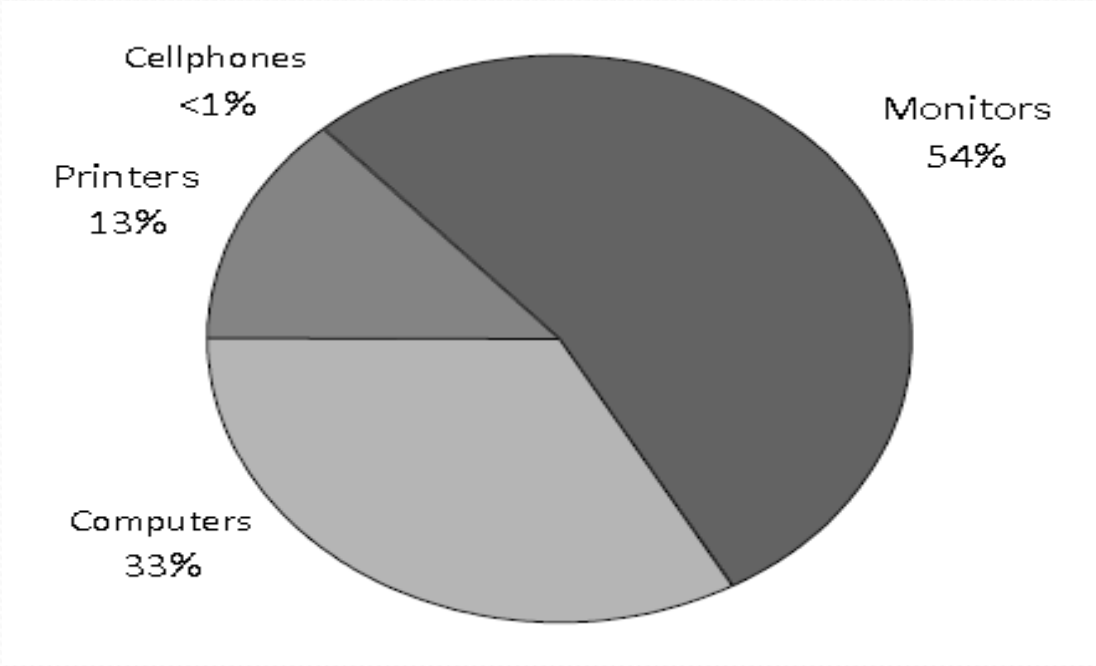
E-Waste contains several different substances and chemicals, many of which are toxic and are likely to create adverse impact on environment and health, if not handled properly However, classification of E-waste as hazardous or otherwise shall depend up on the extent of presence of hazardous constituents in it.

INTRODUCTION

At present, India has about 50 million computers which are expected to grow to 85 million computers by end 2011

Some brominated flame retardants, used in circuit boards and plastic casings, do not break down easily and build up in the environment. Long-term exposure can lead to impaired learning and memory functions. They can also interfere with thyroid and oestrogen hormone systems and exposure in the womb has been linked to behavioural problems.58

- As much as 1,000 tonnes of a brominated flame retardant called TBBPA was used to manufacture 674 million mobile phones in 2004. This chemical has been linked to neurotoxicity.59 (Greenpeace calculation based on an average mobile phone of 75 g weight that contains 2% TBBPA)60
- The cathode ray tubes (CRT) in monitors sold worldwide in 2002 contain approximately 10,000 tonnes of lead. Exposure to lead can cause intellectual impairment in children and can damage the nervous, blood and reproductive systems in adults.61



Effects On Environment

Pollution of Ground-Water.

Acidification of soil

Air Pollution

E-Waste accounts for 40 percent of the lead and 75 percent of the heavy metals found in landfills.

Toxin in E-waste

Computer and related electronic equipment contain materials that are not a problem when consumers use the products, but have the potential to cause serious harm when they eventually enter the environment after disposal (through burning, or crushing and subsequent leaching at landfills, for instance). As an example, the 315 million obsolete computers mentioned above will contain, in addition to other hazards, about 1.2 billion pounds of lead, 2 million pounds of cadmium, 1.2 million pounds of chromium, and 400,000 pounds of mercury. These obsolete computers will also contain about 4 billion pounds of plastic waste, more than 25% of which is polyvinyl chloride (PVC), which creates more environmental and health hazards than most other types of plastics used. The plastic cases, circuit boards, and cables in most of these computers will also contain brominates flame-retardants which can have neurotoxic and endocrine disruption effects, and have been associated with cancers

As per a study released by MAIT, India generated 330,000 MT of electronic waste in 2007, while an additional 50,000 MT was illegally imported

MAIT estimates that by 2011, e-waste in India would touch 470,000 MT

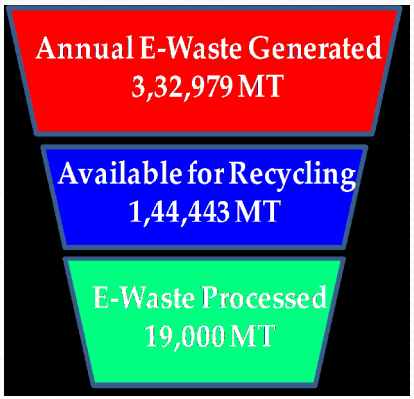
The Western region contributes maximum to e-waste generation – up to 35%

Sixty five cities in India generate up to 60% of total e-waste

Ten states alone generate more than 70% of total e-waste

MAIT estimates that only 19,000 tones of the total e-waste generated gets ultimately processed by the formal recycling sector

As per the study, around 94% of corporate in India do not have a policy on disposal of obsolete IT products/ e-waste



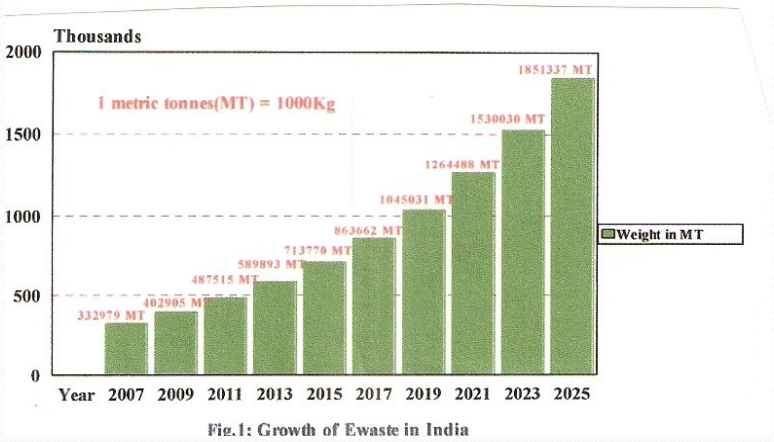


Fig.1: Growth of Ewaste in India

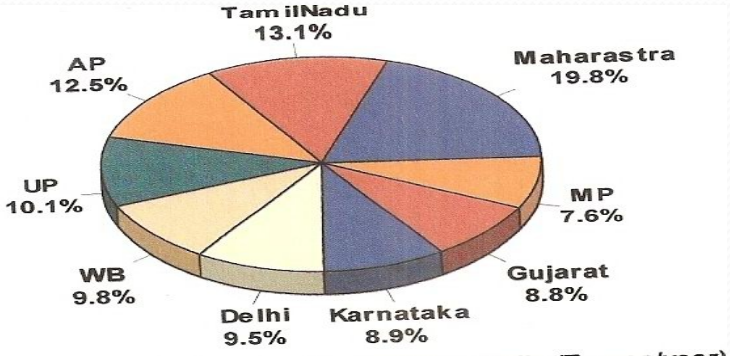


Fig 2 State wise E-waste Generation in India (Tonnes/year)

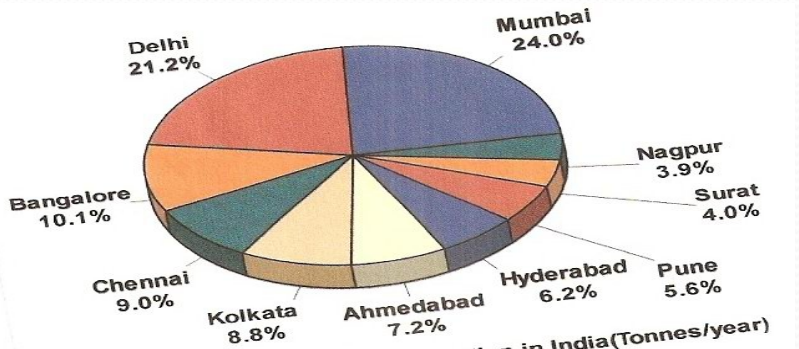


Fig 3 City wise E-waste Generation in India(Tonnes/year)

One man's trash is another man's treasure

The fact of the matter is that, E-waste contains numerous metals and materials that can be processed into raw reusable resources.

- Lead, tin, copper, silver, gold are few of the metals that can be recovered from E-waste.
- A lot of organizations collect E-waste and at the proper center, recycle the components into raw materials.

Environmental Safeguards

E-waste program implementers expressed a need for a mechanism to ensure that recyclers are handling materials in an environmentally responsible manner. Requests were made for access to environmental compliance reports and for a certification process for universal waste recyclers. Local governments want tools to assist them in selecting vendors, and they expressed concern for hazardous waste generator liability for e-waste from their programs.

Hazardous Recycling Toner

Toner Sweeping

Certain areas of Guiyu are dedicated to printer dismantling. In those areas the operations strictly deal with toner cartridges – both black as well as the cyan, magenta and yellow toners of color copiers and printers. We observed that the only recycling taking place involved the small amounts of residual toner, with the black cartridge plastic largely discarded. Workers without any protective respiratory equipment or special clothing of any kind opened cartridges with screw drivers and then used paint brushes and their bare hands to wipe the toner into a bucket. The final end-use of the recovered toner is uncertain. The process created constant clouds of toner that billowed around the workers and was routinely inhaled. In the course of the day, the worker's skin and clothing was blackened. Material Safety Data Sheets (MSDS) provided by Xerox and Canon

Worker without respiratory protection brushing carbon-black toner from printer cartridge into bucket.

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My Dream

Clean and Green World

Shabbir Traders
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THANK YOU…
M/s. Shabbir Traders