



**GEMS**  
Global e-waste Management and Services

# IMPACT OF NEW LEGISLATION ON EWASTE GENERATORS

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# New legislation

- E-Waste (Management and Handling) Rules 2011
- Draft notified on May 14,2010
- Released on May 12,2011
- Effective from May 1,2012
- Applicable to
  - ▣ Every producer
  - ▣ Consumer and bulk consumer in manufacturing
  - ▣ Sale, purchase and processing of electronic goods
  - ▣ Ewaste collection centre, dismantler and recycler



# Legislation in US and EU

- US EPA
  - ▣ RCRA – Resource conservation and Recovery Act
  - ▣ CRT Rule
- EU

# RCRA of USEPA

- Classification and Exclusion as Non-hazardous, non-waste
- Equipment with potential for reuse is not a waste
- Waste can be made non-waste by processing
- Non hazardous
  - ▣ Household waste
  - ▣ Scrap metal
  - ▣ Whole circuit boards
  - ▣ Precious metals for recycling

# RCRA of USEPA

- Non-waste
  - Materials or equipment for reuse
  - Processed scrap metal for recycling
  - Shredded circuit board for recycling (with proper packing free of batteries and mercury devices)
  - Processed CRT glass for recycling
  - Intact CRTs for recycling
  - Partially processed CRTs for recycling
- CRT Rule
  - To encourage recycling
  - When complied, CRT will be non-waste
  - This is a conditional exclusion to RCRA

# WEEE Directives of EU

- Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE)
- To encourage reuse, recycling and other forms of recovery
- 10 product categories
- Separate collection ensured for users to return WEEE
- Treatment plants to be certified by member states

# RoHS of EU

- Directive 2002/95/EC on the restriction of the use of certain hazardous substances in EEE (RoHS)
- Restriction on use of hazardous substances in EEE
- EEE not to contain
  - Pb
  - Hg
  - Cd
  - Cr (6)
  - PBB (Polybrominated Biphenyls)
  - PBDE (Polybrominated Diphenyl Ethers)

# Basel Convention

- Basel convention restricts trans-boundary movement of hazardous waste
- Ewaste is considered hazardous as per category No. A1180
  - ▣ A1180 - Waste electrical and electronic assemblies or scrap containing components such as accumulators and other batteries included on list A, mercury-switches, glass from cathode-ray tubes and other activated glass and PCB-capacitors, or contaminated with Annex I constituents (e.g., cadmium, mercury, lead, polychlorinated biphenyl)



# Definition of eWaste

- CPCB: E-waste comprises of wastes generated from used electronic devices and house hold appliances which are not fit for their original intended use and are destined for recovery, recycling or disposal
- USEPA: Electronic products that are “near” or at the “end of their useful life” are referred to as “e-waste” or “e-scrap.”
- EU Directive: “Electrical or electronic equipment which is waste including all components, subassemblies and consumables, which are part of the product at the time of discarding.”



# Ewaste as defined in Schedule

## 1

- IT and Telecommunication equipment
  - ▣ PC, Laptop, Desktop
  - ▣ Centralised data processing equipment
  - ▣ Mainframe, Mini computers
  - ▣ Printers, Copiers, Office automation equipment
  - ▣ Phone, Fax, Handphones
- Consumer electrical and electronics
  - ▣ TV sets
  - ▣ Air conditioning systems
  - ▣ Refrigerators
  - ▣ Washing machines
  - ▣ Household electrical appliances

# Exemptions from e-Waste Category

- ICLs
- Single capped CFLs
- Double capped fluorescent lamps
- Sodium vapour lamps
- Lead in CRT
- Mercury lamps
- Certain capacitors
- Lead and other metals in specific applications
- Other Exclusions
  - ▣ Batteries covered under Batteries Rules 2001
  - ▣ Micro Small and Medium Enterprises
  - ▣ Radio Active Wastes covered under Atomic energy act 1962

# Government authorities

- Central Pollution Control Board
  - EST for ewaste management
  - Coordination with SPCB/PC Committees
  - Assessment of generation of quantity
  - Training and awareness programs
  - Green certifications for less hazardous products

# SPCB / PC Committees

- Issue authorizations, registration of recyclers
- Monitoring compliance
- Programs to encouraging environmentally sound practices
- Action against violation
- Inventorisation of ewaste

# Municipal authorities

- Collect and send to recyclers from mixed garbage
- Collect orphan products and send to recyclers

# Pre legislation scenario- Legal

- The Hazardous Waste (Management and Handling) Rules, 2003
  - ▣ Based on concentration of hazardous substances and processes
- CPCB guidelines on Environmentally Sound Management of eWaste, 2008
  - ▣ Only for recyclers
  - ▣ Only guideline, no legal enforcement
- The Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2008
  - ▣ Current authorisations for generators and recyclers registrations
  - ▣ Sl. No. 18 of Schedule IV of the Rule
- The Municipal Solid Wastes (Management and Handling) Rules, 2010
  - ▣ Control on hazardous waste in municipal waste

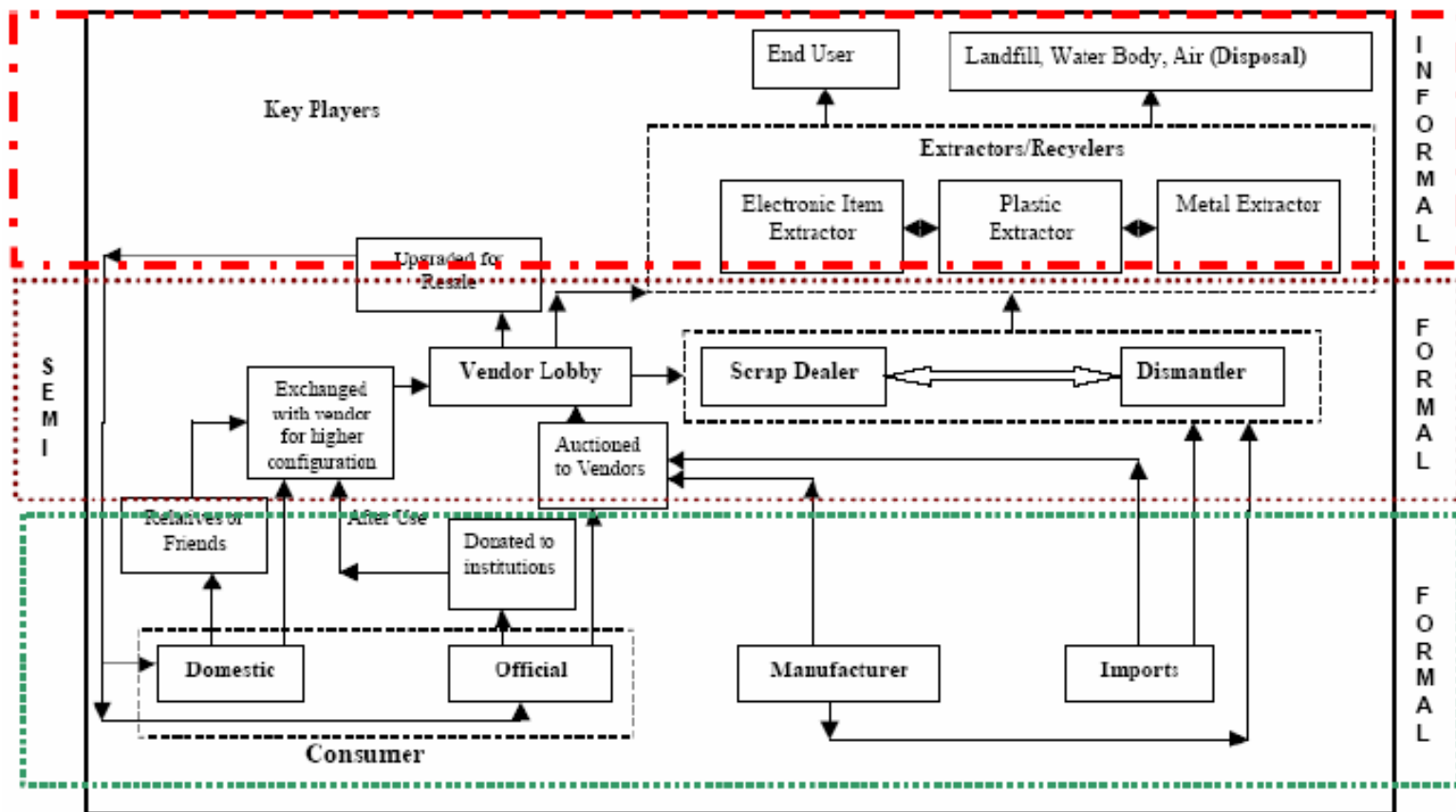
# Pre legislation scenario- Disposal

- Corporate companies disposed to both authorised recycler and unauthorised scrap dealers
- CPCB issued registration of recyclers
- SPCBs authorised recyclers as per HW (MH&TM) Rules, 2008
- Proactive legal compliance by very few corporate companies
- Recyclers compete with scrap vendors
- Legal framework not very clear



# CPCBs version of ewaste value chain

## E-waste trade value chain



Source: Presentation of Delhi study, CPCB/ MoEF, March 2004



# Producer responsibility

- Extended Produced Responsibility- New concept
- Collection of waste generated during manufacturing process
- Collection and channelizing end of life products from end consumers to recyclers
- Setting up collection centers or take back systems
- Financing and organizing a system to meet costs involved in EST of ewaste recycling
- Create awareness
- Obtain authorization from SPCB
- Maintain Form 2 records
- File annual returns in Form 3

# Customer awareness by producer

- Through publications, advertisements, posters, booklets accompanying products
- Information in booklet to contain
  - ▣ Hazardous constituents
  - ▣ Hazards of improper handling
  - ▣ Handling instruction after end of life
  - ▣ Instructions not to dump with garbage

# Bulk consumer

- ❑ Office establishment, business houses, commercial institutions
- ❑ Channelize to recyclers or returned to pick up points / returned back to producer
- ❑ Maintain Form 2 on generation and disposal
- ❑ No need to take PCB authorisation

# Storage conditions

- Ewastes can be stored for a maximum period of 180 days
- Maintain a record of generation, sale, transfer, storage and segregation
- Exceptions
  - Collection centres in States not having recycling facility
  - Wastes that require new process to be developed for recycling

# RoHS

- Reduction in the use of Hazardous Substances in the manufacture of electrical and electronic equipment
- Ensure that new equipment does not contain
  - ▣ Lead
  - ▣ Mercury
  - ▣ Cadmium
  - ▣ Chromium (VI)
  - ▣ Brominated phenyls
- Maximum concentration of 0.1% by weight for metals, phenyls and less than 0.01 for cadmium
- Not applicable for Schedule II items

# Ewaste transportation

- Cross border transportation with NOC from concerned SPCB
- Intimate SPCBs in between transit

# Normal disposal procedure- Generators

- Maintain Form 2 – Inventorise, segregate and store as per HW legislation requirements
- Identify authorised recycler
- Enter into an agreement with recycler and inform PCB
- Dispose at periodic intervals not exceeding 180 days of storage
- Documentation
  - ▣ Form 13
  - ▣ Entry in passbook
  - ▣ Certificate of disposal
  - ▣ Other certificates
  - ▣ Form 3, annual return



# Responsibilities of officials in-charge of ewaste disposal

- Identify categories of e-wastes generated
- Estimate monthly / annual generation
- Segregate non hazardous and other materials
- Store in a separate area
- Obtain authorisation from TNPCB
- Maintain [Form 2](#)
- Identify registered ewaste recycler
- Negotiate terms and sign contract
- Focus on recyclers process, documentation on disposal
- Do not negotiate prices based on scrap value; recyclers can't compete with scrap vendors
- Dispose and collect necessary documentation and certification
- File returns in Form 3

Any questions?

Thank you

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