E-Waste

- Waste electrical and electronic equipments (WEEE), which is intended to be discarded
- Household appliances, electrical and electronic tools, consumer electronics, IT & telecommunication equipment etc.

E-Waste Recycling

- India generates close to 350,000 to 400,000 tonnes e-waste
- Fifty thousand metric tonnes (50,000 MT) is illegally imported into the country
- By 2020, e-waste in the country will jump to around 1.5 million tonne

E-Waste Recycling

- Globally, e-waste is growing by about 40 million tonnes a year.
- Modern electronics contain up to 60 different elements -- some valuable (gold, silver) and some hazardous (lead, cadmium, chromium, mercury, cobalt)
- The manufacture of mobile phones and personal computers consumes 3 per cent of the gold and silver mined worldwide each year; 13 per cent of the palladium and 15 per cent of cobalt.

Organised vs Unorganised

- 90% of the e-waste is segregated, dismantled and recycled in the informal sector based in urban slums; 10% in organised sector
- Organised dismantlers and recyclers need large investments, land and technology to process e-waste. They are registered under Hazardous Waste Rules by CPCB
- Currently there are 13 registered dismantlers in India that dismantle the computer and export the dismantled parts for metal extraction.
- One and only registered end-to-end recycler, Attero, Roorkee which has a plant that can extract precious metals

Organised vs Unorganised

- Organised dismantlers and recyclers claim they can not compete with the unorganised because they have huge investments and not established collection networks and thus, are not able to recover costs
- Attero is the only e-waste recycler that has been granted licence to import motherboards for a year on the grounds that it will keep the plant running

Organised vs Unorganised

- Unorganised dismantlers are concentrated in Seelampur while precious metals are extracted in Moradabad in North India
- Some of them are trying to organise by pooling in investments and forming union but they do not get any financial assistance or preference to get registered by the government

Unorganised recycling

- **Cathode ray tubes' (CRTs) are broken down manually to separate its components—glass, metal and copper. The glass, comprising lead, is sold to bakeries or bangle makers.**
- **Circuit boards have gold-plated brass pins, microchips and condensers. Heating separates these components. Fumes released during heating are toxic. Gold-plated brass pins are soaked in acid to recover the gold and brass separately. Microchips and condensers are heated in big containers filled with acid to extract metallic parts**
- **Minimal capital investment required. Cost includes price of e-scrap, bribes to transfer it across state borders**

Attero: Purpose and Result

- Attero is suppose to recycle computers and specially extract metals from motherboards using its smelter but CSE investigation found that it is selling the computers and spares to unorganised recyclers and dismantlers from Seelampur and Moradabad to save costs.


Attero recycling
AIMS OF ATTERO:
Attero recycling
1. TO prevent dumping of electronic waste in to the earth
2. TO recycle the reusable components of e-waste
3. TO recover metal elements from electronic waste, thus saving natural resources
4. TO recover energy by "Pyrolysis of plastics from e-waste, (an in house innovation)"
5. TO optimize the use of water and power by making rain water harvesting pits, use of solar lights and energy efficient lightings


DELL
DELL

ATTERO RECYCLING PVT. LTD.

EHS POLICY

In line with our corporate values and founding principles, we at ATTERO RECYCLING PVT. LTD. engaged in Recycling of E Waste are committed to prevention of pollution and demonstrating continual improvement in our environmental, occupational health and safety (EHS) performance.

To achieve this, we commit ourselves to:

- Comply with applicable EHS legislation and other requirements to which we subscribe;
- Integrate EHS issues at the planning stage itself;
- Eliminate, minimize or control the significant environmental aspects ,ill health & injuries and non tolerable OHS hazards and risks such as fire;
- Institutionalize effective waste management through recycling and reuse of materials as far as possible;
- Conservation of natural resources, in particular water, energy and chemicals;
- Strengthen EHS awareness and competence of our employees and key supplier through on going training to ensure sound EHS management as part of every one's responsibility;

We shall periodically review the adequacy and effectiveness of our EHS management systems.

We shall communicate this policy to all our employees and to interested parties on demand.

CEO

FE 11

Proposed E-Waste rules

- **Producer’s responsibilities include collecting e-waste generated from the end-of-life of their products, ensure such e-waste is channeled to registered refurbishers, dismantlers or recyclers**
- **Dealers in electrical products shall collect e-waste by providing the consumer a box, bin or a demarcated area to deposit e-waste**
- **Producers need to comply with threshold limits for the use of certain hazardous substances in electronic equipment. Such reduction can be achieved within three years from the date of commencement of the rules.**
- **The Ministry of Information and Technology would be responsible for enforcement of reduction in use of hazardous substances, compliance and for granting incentives and certification for green design products**

Proposed E-Waste rules

- **Every dismantler and recycler shall have to be registered**
- **No import of used electrical and electronic equipment shall be allowed in the country for charity**
- **State pollution control boards or committees responsible for grant of authorization, monitoring compliance of authorization and registration conditions will take action against violations of rules. The Central Pollution Control Board shall monitor the compliance of conditions stipulated for granting registration**

Proposed E-Waste rules

- Favours big players and does not recognise the role and importance of the informal sector
- Does not address the existing problems like leakage of e-waste from formal facilities

Imports of hazardous waste

- Recycling industry in India has become dumping ground for world's waste
- Metal scrap and waste paper imported for recycling have become means for importing hazardous waste. Many examples before us in the last few years
- More strict import rules required.
- Loopholes in laws – EXIM policy allows import of second-hand computers less than 10 years old for charity
- Custom Tariff Act allows imports of new computers but silent on old
- Foreign Trade Act allows import for donation –misused

Imports of hazardous waste

- Consignments seized by customs at Tuticorin port which contained hazardous waste
- Metal scrap and waste paper imported for recycling have become a major source for importing hazardous waste.
- Custom Officials: Ill-equipped to identify waste allowed and not allowed. Cite shortage of men and machinery on ports as one of the reasons for their constrains. Not every container on port can be checked says custom officials
- “Other waste and scrap” category is not well defined. Has loopholes and importers enjoy them

Government's response

- With regard to leakage of E-waste from Attero E-waste Recycling Unit in Roorkee
- The Ministry has asked Central Pollution Control Board to enquire in to the matter and submit a report

License to dump - FTAs

- Developed countries are using free trade agreements to export their waste to the developing world. Japan and the EU are currently negotiating with India and a deal is likely to be signed this year
- The commerce ministry has not made public details of about 30 such deals India is negotiating
- The leaked draft negotiation text of India-EU phrases a new name for waste: it mentions “non-new goods shall be understood to include notably used and remanufactured goods” and that “non-new goods” would not have any restrictions such as import or export tariffs

License to dump - FTAs

- Should the deal with India follow the manner in which Japan is trying to seal a deal with Thailand, import of waste in India would increase enormously
- Since 2004, the governments of Japan and Thailand have been formally negotiating an FTA that seeks to eliminate tariffs on an unprecedented list of Japanese hazardous waste exports to Thailand
- According to reports, officials from Thailand's foreign ministry confirmed that the country would have to accept waste, including slag, residues from incinerated municipal waste, chemical and allied industries and hospital waste

Way ahead

- Need to recognise the importance of informal sector and make them part of the mainstream business model
- Informal sector should not be involved in wet and polluting processes
- Informal sector needs to be organised and should be involved in collection, segregation, dismantling and refurbishing of waste
- Recycling should be done by approved units with pollution control technologies