

The logo for Asia Eco-Design Electronics (aede) features the lowercase letters 'aede' in a green, sans-serif font. To the right of the text is a faint, light green map of the Asian continent.

asia eco-design electronics



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# Electronics, Environmental Requirements and Eco-design: Overview of Developments in India

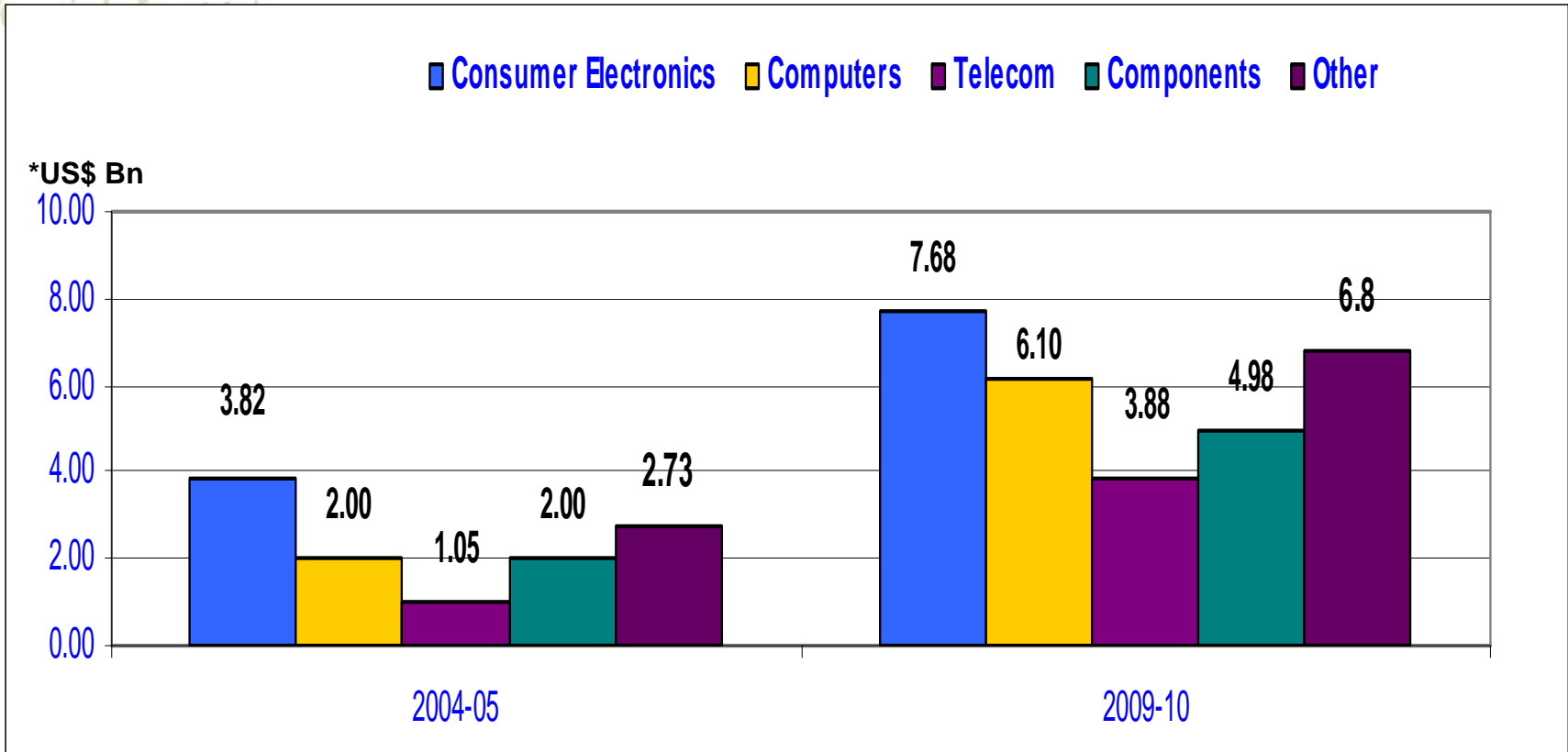
**Asia Eco-Design Electronics**  
**21<sup>st</sup> September 2006**  
**Beijing, China**

Rajoo Goel, Secretary General,  
**ELCINA Electronic Industries Association of India**

## Indian Market & Electronics Industry

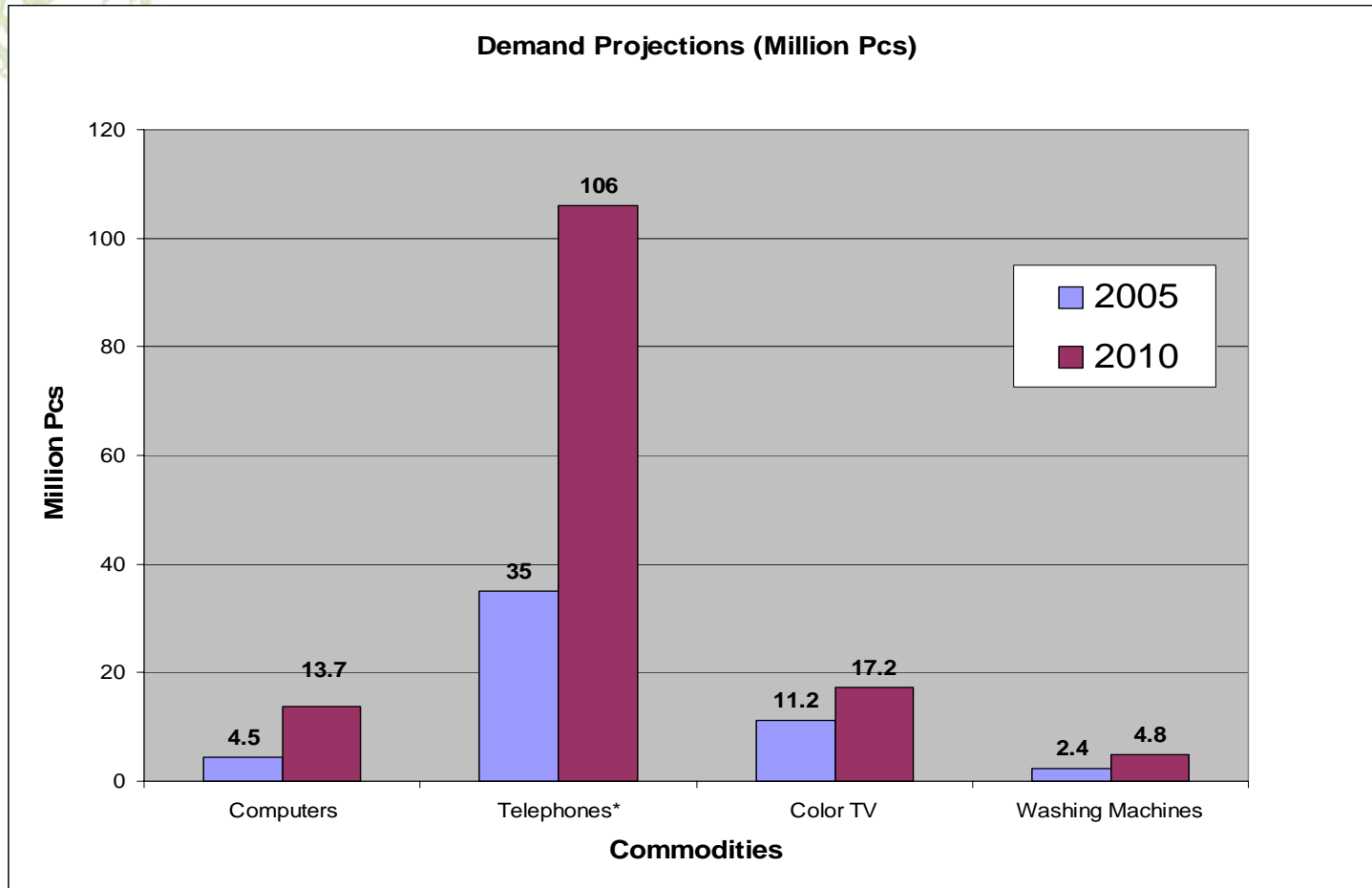
- Electronics is the largest and fastest growing mfg industry, having surpassed 1.2 Trillion US \$ – growing @7% projected to touch US\$2400 by 2015
- *Indian market US\$ 25Bn – 2% of global production*
- Demand growing by ~ 25%+ projected at US\$ 320 Bn in 2015; *13.4% of global production*
- *Present Production @12.7 Bn - 50% of domestic demand!*
- Share of Electronics Hardware in GDP = 1.7% - projected to grow to 12% by 2015 – at par with other South Asian countries
- Signatory to ITA-1 and many FTAs allowing duty free import of electronic components and equipment
- Recent trend towards increased investments in hardware –major players setting up base in India
- Domestic production would grow at 20+% per annum

## Segment wise Production for 2010



**Electronics Production 2005-06 US\$12.7 Bn    2009-10 ~US\$29.44 Bn**  
**Growth @ 20%+ per annum**

## DEMAND PROJECTIONS OF MAJOR PRODUCTS




\* Cellular + Fixed

## India –The Present Situation

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- Unprecedented market expansion with burgeoning demand-supply gap
- A major dumping ground for e-waste –concentrated in large metros and spreading to 2 Tier cities
- Informal and clandestine backyard recycling –serious hazard to health and environment
- Government has not enacted appropriate legislation- a WEEE draft is now being finalised
- Large companies and MNCs are close to achieving all EMS compliances and setting best practices
- Some best practice benchmarks and high quality professionals available
- Training, technical support, and eco design awareness required to pave the way to achieve environmental compliances

## E-Waste Generation in India

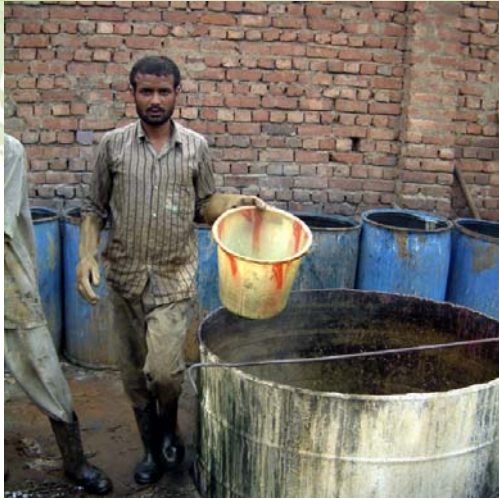
- India a small generator of e-waste [0.15 Mn Tons] compared to developed economies – 7 to 8 Mn Tons in EU
- E-waste generation growing exponentially due to demand growth @25%+ per annum
- E-waste est 146,000 Tons  1,600,000 Tons p.a by 2012
- Factors driving e-waste generation
  - ***Economic growth @ 8% -rising income- demand growth, shorter life cycles***
  - ***Boom in service industry- BPOs – huge requirement for computers and high obsolescence***
  - ***2<sup>nd</sup> largest mkt for cellphones 50 mn; 12 mn TVs; 5 Mn DVD/CD players and more..***
  - ***E-Waste ‘imported’ for re-cycling – estimated at more than what is generated locally- Computer recycled in India for US\$2 compared to US\$20 in a developed country !***

# Handling of E-Waste

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- Comes in as 2<sup>nd</sup> Hand products for charity / donation – finds way to Scrap dealers
- High Risk backyard operation with little risk awareness or protection- high occupational & environmental risks
- Most of the ‘waste’ is recycled –either as material or components for reuse –only ash goes to landfill
- The processes are highly hazardous to workers health- open roasting; acid baths; uncontrolled emission of toxics
- Some organized recyclers coming up- E-Parisaraa and Ash Recyclers in Bangalore authorised by State PCB
- International Legislation (RoHS, WEEE by EU) and Awareness are major drivers for change

# Informal E-Waste Recycling



Acid Washing



Cable Stripping



Copper Extraction



Electronic Scrap Dealer

## Status of Legislation on E-Waste

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- Covered under Hazardous Waste Management & Handling Rules 1989- Amended in 2003 –List A & B Schedule 3
- Defines waste and prohibits import except for processing & reuse of raw materials; permits donations of old computers to non-profit organisations
- As per Basel Convention -Bans export from India but does not ban import from countries not signatories to Basel Convention;
- Supreme Court of India has banned import and All Imports of Waste require a license
- Legislation similar to RoHS being drafted by Ministry of Environment in collaboration with GTZ (Germany) & a WEEE Legislation under final draft stage
- Bureau of Indian Standards (BIS) has developed national standards for emissions and environmental testing

## Industry Initiatives & response

- **Industry Associations are collaborating actively to formulate a policy to manage e-waste**
  - ELCINA is working with DIT on safety/EMC/EMI; gathering members opinion on green electronics & establishing a viable policy
  - CEHA –Council of Associations – are setting up an E-waste working group to establish system of e-waste collection and disposal
- **Industry is actively working on RoHS and WEEE compliance- a study by ELCINA shows half the members are compliant**
- **Env Mgt activity initiated by some in 2001; gained momentum by 2003 and presently there is considerable focus on green supply chain, waste management and even eco design**
- **India study shows -Waste recycling done consciously by many units**
- **Companies have achieved savings in energy and water**

## International E-Waste initiatives in India

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- Indo-German –Swiss e-waste initiative
  - Aims to document current e-waste handling in major Indian cities and develop knowledge base to mitigate hazards of improper recycling
  - Presently doing a pilot project in Bangalore on collection of ewaste
- UNEP- est in 2005 to reduce environmental and health impacts - focus on Mumbai
- Greenpeace Initiative – 2005 –aims to provide info on workplace & env contamination due to electronics recycling in India and China
- Wipro ; HP – initiatives for waste collect

## The Way Forward

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- Draft suitable legislation on 'E-Waste'
- Implementation of Legislation – ban on imports
- Find solutions via product design – free of toxic content- Lead Free !
- Provide technology for recycling & test facilities
- Eco Design awareness by training and interaction between companies
- Finance for End of Life planning & implementation

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ELCINA 

Thank you for your  
attention

**Xie Xie**



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