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

Asia Eco-Design Electronics
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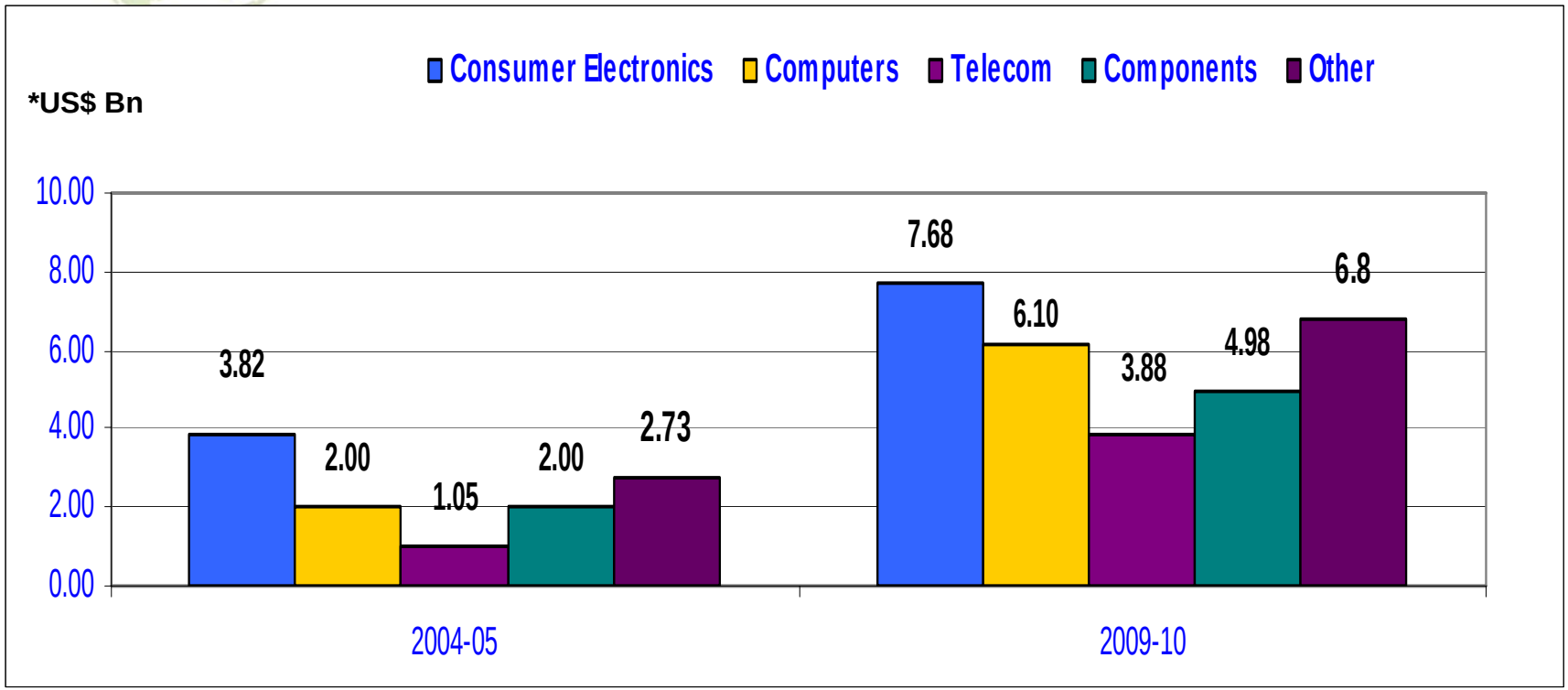
Significance of Electronics Industry

- Electronics is the largest and fastest growing mfg industry, having surpassed 1.2 Trillion US $
- Electronics drives the global economy by enhancing productivity and as a facilitator – transmits human intelligence to equipment
- Electronics adds more value than any other mfg industry
- In the next ten years, the Electronic Industry will continue growing more than two times the global world GDP
- More than 1/3rd of electronics exports come from developing countries… fastest export growth segment (four-fold in 20 years)
- Sector is characterized by falling prices, rapid technological change, volatility, and “contract manufacturers”.

Indian Market & Electronics Industry

- Global Electronics production ~ US$1200–1300 Bn – growing @7% projected to touch US$2400 by 2015
- *Indian market US$ 25Bn – 2% of global production*
- Demand growing by ~ 22-25% projected at US$ 159 Bn in 2015; *6.6% of global production*
- *Recent study conducted by Frost & Sullivan estimates that demand could grow even faster and exceed US$300 Bn by 2015*
- *Present Production @11.60 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

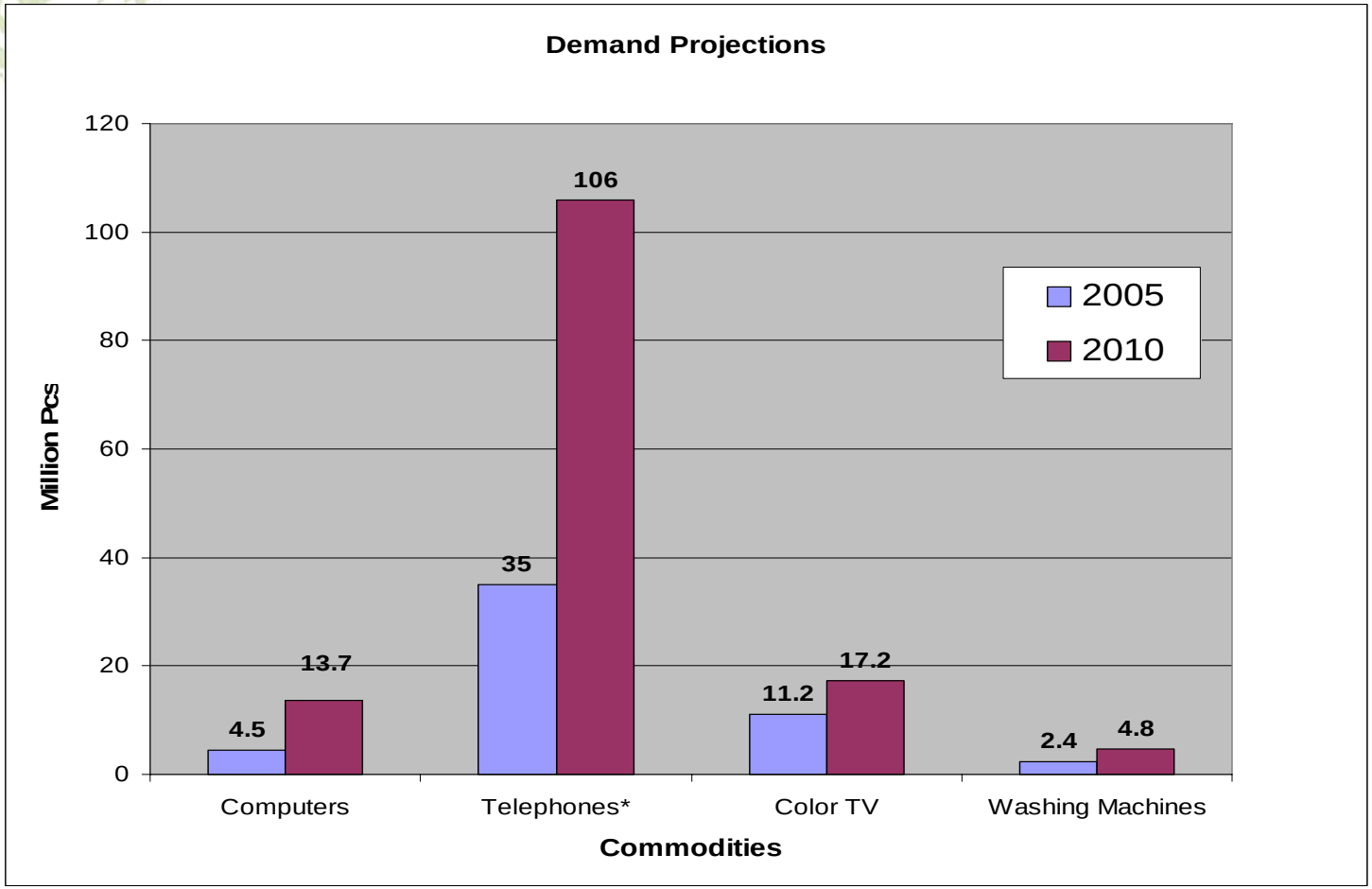
Segment wise Production for 2010



Electronics Production 2004-05 US$11.6 Bn 2009-10 ~US$29.44 Bn

Growth @ 20%+ per annum

DEMAND PROJECTIONS



* Cellular + Fixed

E-Waste Generation in India - 1

- 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 – *projected to grow from US$24 Bn to US$ ~70 Bn by 2010 and further to US$159 Bn by 2015*
- E-waste est 146,000 Tons → (11 times) 1,600,000 Tons p.a by 2012
- Highest contributors –computers, televisions, audio equipment, cellphones, home appliances…

Source:Maharashtra Pollution Control Board, Mumbai

E-Waste Generation in India - 2

- Factors driving e-waste generation
  - ***Long product life cycles kept e-waste low till now***
  - ***Economic growth @ 8% -rising income***
  - ***Demand growth and shorter life cycles of new gadgets***
  - ***Boom in service industry- BPOs – huge requirement for computers and high obsolescence***
  - ***2nd 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
- Economics – Computer recycled in India for US$2 compared to US$20 in a developed country !

Handling of E-Waste

- Comes in as 2nd 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

Legislation on E-Waste - 1

- Covered under Hazardous Waste Management Amended Rules 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
- Covered under Basel Convention - Annexure VII
  - Bans export from India but does not ban import from countries not signatories to Basel Convention
  - Banned by order of Supreme Court of India
- All Imports of Waste require a license
- DGFT and EXIM Policy require licensing

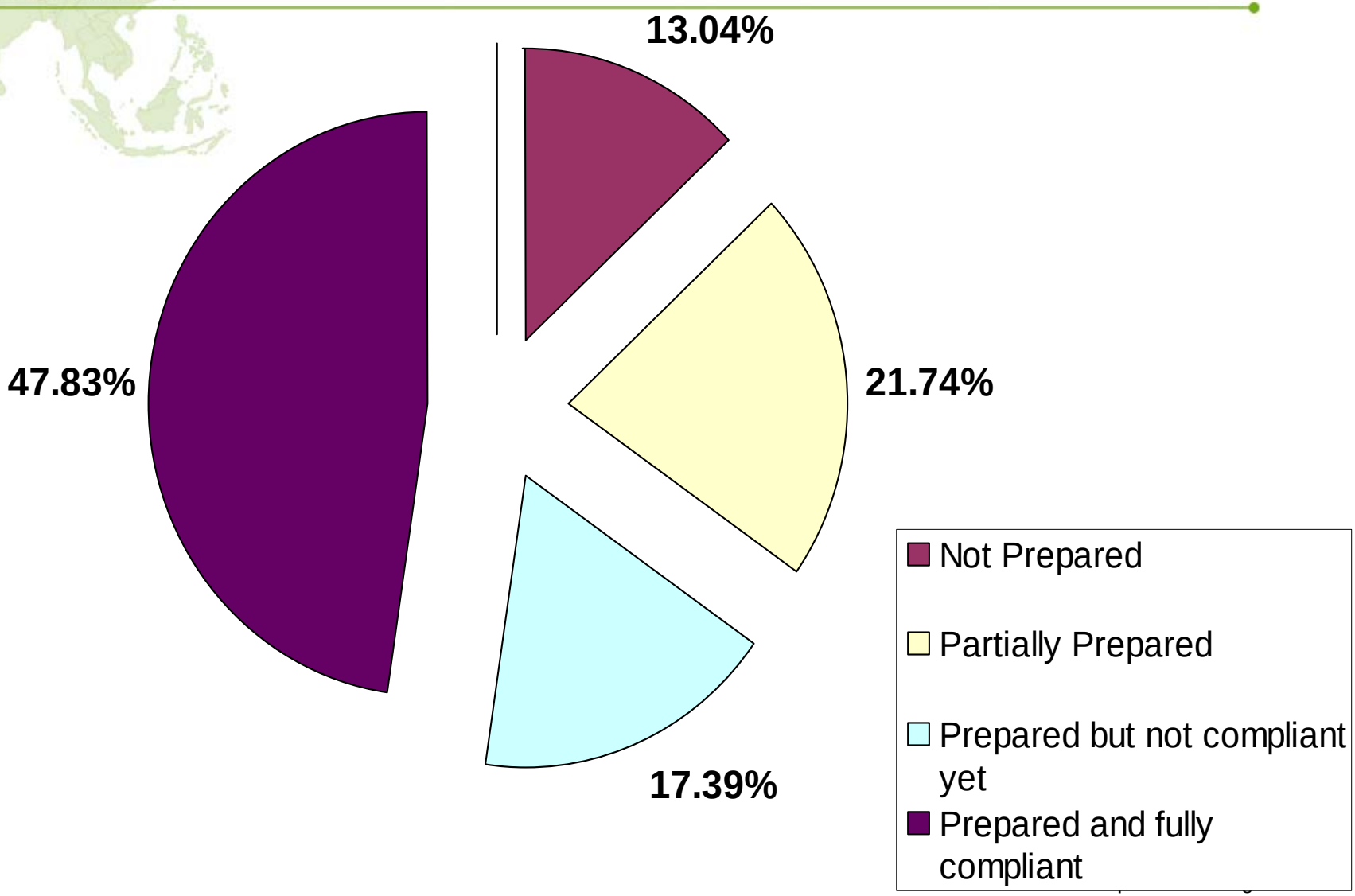
Legislation on E-Waste - 2

- A Nation WEEE Task Force set up in July 2004 – focus on identification, planning & Implementation
    - Thrust Areas –Legislation, Baseline Study, Restructuring Recycling, EPR & Awareness Building
- Legislation similar to RoHS being drafted by Karnataka Govt in collaboration with HAWA project of GTZ (Germany) in Bangalore
- Department of Information Technology establishing framework for ensuring Safety Standards for Consumer/ IT products
- 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
  - MAIT has set up an E-waste working group
  - CII-ENVIS – the Env Mgt Division of CII continously works for synergising better govt –industry partnership
- **Industry is actively working on RoHS and WEEE compliance- a study by ELCINA shows 1/3rd 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**
- **Waste recycling done conciously by many units**
- **Companies have achieved savings in energy and water**

State of Preparedness for RoHS



International E-Waste initiatives in India

- 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
- 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

The Way Forward

- 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
- Finance for End of Life planning & implementation
- ‘Producer’ to be responsible for take back and recycling

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ELCINA

Thank you for your attention

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