



# WEEE Management in Colombia

***Carlos A. Hernández S.***

*WEEE Project Coordinator - Colombia*

*Cleaner Production Center*

*IEMN Meeting Vietnam- July 14, 2014*



# Definitions



- **EEE:** “All equipment which is dependent on electric currents or electromagnetic fields in order to work properly and equipment for the generation, transfer and measurement of such currents.”
- **WEEE:** EEE when they are disposed of or discarded, including all components, subassemblies and consumables that are part of the product.
- **Hazardous waste:** It is a residue or waste given its corrosive, reactive, explosive, toxic, flammable, radioactive or infectious characteristics may cause risk or harm to human health and the environment. Likewise, consider the containers, and packaging which had been in contact with them.
- **E-waste or WEEE materials currently regulated as hazardous waste:** WEEE are considered differentiated waste management that must be managed according to the guidelines purposed by the Ministry of Environment. However Annex II, list A is adopted from Basel convention: include A 1180
- **Government ministries/agencies in charge of e-waste/WEEE management:** led by Ministry of Environment. Law 1672 states the establishment of the technical WEEE round table, conformed by other ministries and private sector. Supported by SRI Project

# Statistics



Tabla 24. Estudios previos en Colombia sobre la generación de RAEE

TÍTULO DEL ESTUDIO	CORRIENTE	AÑO BASE DE PROYECCIÓN	ESTIMADO AÑO BASE (Ton)	ESTIMADO AÑO 2013 (Ton)	ULTIMO AÑO DE PROYECCIÓN	ESTIMADO ULTIMO AÑO (Ton)
Diagnóstico de Computadores y Teléfonos Celulares (Ott-EMPA,2008)	Computadores	2005	6,000*	19,000*	2013	19,000*
Análisis de flujos de residuos de computadores en el sector formal e informal en Colombia (EMPA-León, 2010)		2005	8,500*	17,500*	2020	43,000*
Diagnóstico de Computadores y Teléfonos Celulares (EMPA-Ott,2008)	Teléfonos Celulares	2005	500*	2,600*	2013	2,600*
Diagnóstico de Electrodomésticos y Aparatos Electrónicos de Consumo (EMPA-Blaser, 2009)	Neveras	2004	9,000	16,000	2018	19,000
	Lavadoras	2004	3,000	13,000	2018	22,000
	Televisores	2004	6,000	23,500	2018	38,000
	Equipos de video	2004	1,000	6,500	2018	8,000
	Equipos de audio	2004	5,000	16,000	2018	14,000
	Subtotal	2004	24,000	75,000	2018	101,000
	Gestión de los residuos posconsumo de fuentes de Iluminación, pilas primarias y secundarias (MAVDT-UNAL, 2008).	Bombillos	2003	4,142	15,218	2015
	Pilas	2009	9,778	9,698	2014	9,685
<b>Total</b>				<b>120,016</b>		

\*Nota: En las proyecciones de varios escenarios se tuvo en cuenta el valor del escenario mayor.

Fuente: MADS, 2012

# Imported and manufactured EEE (2002- 2012)



Household appliances

Automotive and parts

Electronic & ICT equipment

Machinery and electrical equipment

Link	% Participation (weight)	% Participation Accumulated
Audio & Video equipments	13,1	13,1
Large Household appliances	10,4	23,5
Telecommunication equipments	6,2	29,7
Computers and data processing equipments	5,5	35,2
Computers parts and boards	1,7	36,9
Small Household appliances	4,7	41,6
Commercial refrigeration	4,6	46,1
Domestic refrigeration	2,0	48,1
Batteries and acummulators	3,4	51,5
Lighting equipments	2,6	54,1
Cables and conductors	9,4	63,5
Equipment and electrical installations	4,5	68,0
Motors and generators	3,7	71,7
Industrial equipment	3,4	75,1
Generators	3,2	78,2
Protection and control equipments	2,9	81,1

# Issued Resolutions - 2010



- Establish Selective Collection Systems (SCS) and Waste Environmental Management
- Resolution 1512: computers and/or Peripherals
- Resolution 1511: luminaries (bulbs)
- Resolution 1297: Batteries and portable accumulators





- Establishes guidelines for the adoption of a public policy on WEEE management.
- Applies to all WEEE categories
- Differentiated Management Residue (according to MADS directives)
- Principles: EPR, active participation, prevention, production and sustainable consumption, etc.
- Producer: Manufacturers, Importers, assemblers, remanufacturers with own.
- Obligations for the government, producers, marketers, final user, recyclers.

# Current Status of E-Waste Industries



- **Collection**

- Permanent programs by producers: Computers, bulbs, batteries. Fridges in progress



- Recycling companies: 10, sporadic campaigns, national coverage

- **Refurbishing companies:** 1 (CPE), another emerging (private)

- **Recycling companies:** 6 – Increase in the last years. Some expanding their infrastructure. At least 4 new companies since last year trying to gain market.

- **Disposal companies:** 5

# Current Status of E-Waste Industries



- Technologies/processes used and level of environmentally sound management (ESM)
  - Mainly manual disassembly processes. Few companies have some mechanical processes (CRT, bulb eater, PCB)
  - Three leading companies > 10 years experience
  - Environmental license required for storage, treatment, recovery / recycling, disposal. No required for repair nor refurbish
  - some companies have ISO certifications (9000, 14000) and must meet standards of corporate customers (Dell, HP) and are giving EHS training to their employees. National standard in progress.
- Anticipated future developments in processes and environmentally sound management:
  - Set of standards available for producers. New requirements to recyclers from take-back systems regarding the adoption of ESM standards.
  - Developing audit formats consistent with international standards

# Other Relevant Projects



- SRI Project (e-waste project)
- Some Results from the past year:
  - WEEE Law (1672)
  - Study: “Development of Technical and Legal Elements for the Definition of a WEEE Integrated Management Model”
  - Technical Standards for WEEE Treatment
  - Fridges Take-back System
  - Strengthening of existing collection programs

# Collection Results



	<b>Year</b>	<b>GOAL (Ton)</b>	<b>COLLECTED (Ton)</b>
Computer & peripherals > 1200 TON	2012	371,60	150,20
	2013	953,20	1.043,00
Batteries > 220 TON	2012	99,3	54,00
	2013	213,7	163,00
Lamps > 820 TON	2012	243	254,00
	2013	504	562,80



Thank You !

EPAA

EPAT

