

THE CHALLENGES OF E-WASTE MANAGEMENT (INDONESIAN EXPERIENCE)

**HARUKI AGUSTINA
MINISTRY OF THE ENVIRONMENT
REPUBLIC OF INDONESIA**

SUBMITTED TO THE WEEE/E-WASTE MANAGEMENT WORKSHOP ON TAKE-BACK SYSTEM
UNEP-DTIE-IETC IN COLLABORATION WITH THE GLOBAL ENVIRONMENT CENTRE
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E-WASTE DETERMINATION

- NO SPECIFIC DEFINITION OF E-WASTE
- HOWEVER, WITH INTERPRETATION TO THE CURRENT EXISTING REGULATION ON HAZARDOUS WASTE, E-WASTE MIGHT BE UNDERSTOOD AS UNUSABLE AND OR UNWORKABLE OR UNWANTED ELECTRONIC OR ELECTRIC AND ELECTRONIC APPLIANCES DUE TO BECOME OBSOLETE STUFFS AND NEED TO BE DISPOSED, EITHER IN THE FORMS OF WHOLES OR AS PARTS.
- E-WASTE IN INDONESIA MIGHT BE CONSIDERED AS HAZARDOUS WASTE IF THE PRODUCTS CONTAIN SUCH A HAZARDOUS COMPONENTS OR SUBSTANCES
- WASTE OF ELECTRONIC APPLIANCES SUCH AS HOME AND OFFICE APPLIANCE MIGHT BE CONSIDERED AS E-WASTE FROM DOMESTIC AND OFFICE ACTIVITIES
- FOR EXAMPLE: CATHODE RAY TUBES AN THIN SOLDER IN TELEVISION OR MONITOR AND ELECTRONIC GOODS CONTAIN OF MERCURY, CADMIUM AND OTHER HARMFUL MATERAILS (PVCs OR PBB)
- DATA CONCERNING E-WASTE IS UNAVAILABLE SINCE THERE IS NO REGULATION IN MANAGING E-WASTE IN INDONESIA
- INDONESIA HAS CONDUCTED PELIMINARY INVENTORY OF ELECTRONIC AND ELECTRICAL (E-WASTE) IN YEAR 2007

EXISTING OF E-WASTE

ACTIVITIES	TYPE
HEALTH	COMPUTER
EDUCATION	HEALTH EQUIPMENT
FOOD	INDUSTRY MACHINE
TRANSPORTATION	ELECTRONIC
COMMUNICATION	TANSPORTATIONS YSTEM
ENV. PROTECTION	TELECOMMUNICATION
CULTURE	HOUSEHOLD APPLIANCE:
HOUSEHOLD	FRIDGE, WASHING
OTHERS	MACHINE, PC, MOBILE
	PHONE, COMPUTER,
	PRINTER, NOTE BOOK,
	LIGHTING
	OTHERS

PRODUCTION CAPACITY IN INDONESIA (2005): 63,8 MILLION TV, 29,1 MILLION AC, 8,5 MILION FRIDGES, 1,2 MILLION MONITOR PC

E-WASTE in UE, AS, India, China, Indonesia (2006):

179 Million TV, 77 Miliion monitor PC, 28,5 Million Firdegges 36,6 Million AC, 776 Million Lights, 139 Million Mobile Phone and 44 Millon of Home Appliances

EXISTING OF E-WASTE

- OTHER POSSIBLE SOURCES OF E-WASTE IS FROM:

1. INFORMAL HARBORS USUALLY SMALL AND LEFT UNATTENDED AS ENTRANCE EITHER USED ELECTRONIC APPLIANCE OR THE GOODS DID NOT WORK

THERE ARE TWO LOCATIONS IDENTIFIED AS SOURCES OF ILLEGAL USED ELECTRONIC GOODS TO INDONESIA, NAMELY BATAM ISLAND AND WAKATOBI ISLAND

2. FALSIFYING DOCUMENTS USED TO ENTER THE USED ELECTRONIC AND E-WASTE
- NO RECORD AVAILABLE ABOUT THIS VOLUME OF THIS ENTRY

A small informal seaport in Batam Island was used for trans-shipment of used goods



Example of illegal waste, bulk imported metal scarp containing of Polychlorobiphenyls (PCBs)

In 2005, a shipment of 50 forty-foot containers entered Indonesia under the importation document stated content of new office equipment and mix metal scarp with HS No. 3926.10.20.00

The purpose of import was to cover the scarp



PILES OF IMPORTED E-WASTE, MAINLY TELEPHONE BOXES,
FOUNDS IN ONE RECYCLING FACILITY.
DOCUMENT IMPORT STATED THE MATERIALS AS METAL SCRAP



REGULATION RELATED TO TRANS FRONTIER OF NON HAZARDOUS WASTE

- DECREE LETTER ON MINISTRY OF INDUSTRY AND TRADE NO. 229/MPP/KP/07 ON IMPORT REGULATIONS
- DECREE LETTER OF MINISTRY OF INDUSTRY AND TRADE NO. 230/MPP/KP/07/1997 ON REGULATED IMPORT GOODS
- DECREE LETTER OF MINISTRY OF INDUSTRY AND TRADE NO. 231/MPP/KP/07/1997 ON WASTE IMPORTING PROCEDURES
- DECREE LETTER OF MINISTER OF INDUSTRY AND TRADE NO. 520/MPP/KP/08/2003 ON THE PROHIBITION OF IMPORT OF HAZARDOUS WASTE
- LAW OF THE REPUBLIC OF INDONESIA NO. 10/1995 ON CUSTOM REGULATION
- ARTICLE 53 IN GOVERNMENTAL REGULATION NO 18/1999 JO/85/1999 ON HAZARDOUS WASTE MANAGEMENT
- MINISTERIAL DECREE OF MINISTRY OF INDUSTRY AND TRADE NO. 39/M-DAG/PER/12/2005 REGARDING IMPORTED OF USED MACHINERY AND EQUIPMENT
- BASED ON INDONESIA'S LEGISLATION, ONLY SELECTED NON HAZARDOUS WASTE ALLOWED TO BE IMPORTEDS AS LONG AS NOT IN THE FORM OF SLUDGE, PASTE OR DUST AND THE IMPORTERS MUST HAVE APPROVAL FROM THE MINISTRY OF INDUSTRY AND HAVE LICENSE FROM THE MINISTRY OF TRADE

**Used Electronic Equipment that can be Imported
(Based on Ministerial Decree of Ministry of Trade No. 39/M-DAG/PER/12/2005)**

No	H8s number	description
1	8418	Refrigerator, freezer, and its component, electrical and others compressor exclude for AC in HS number 84.15
2	8419	Machinery, plant or laboratory equipment, heated ellectrically, exclude burner, oven in 85.14
3	8419.11	Instant waer heater with gas
4	8422	Dish washer
5	8465	Machinery for processing PCB
6	8471	Authomatic data processing machine and its units, magnetic and optical reader and machinery for data writer
7	8475	Machinery for assembling of electrical lamp, tube or valve or flash lamp, in glass envelope machine for making glass or glass product
8	8501	Elctric motor and generator
9	8514	Burner and electric oven for industry or laboratory for heaing amterial process
10	8517	Elcetric apparatus fo thelephone or telegraph
11	8525	Transmission, receiver, recorder and reproduction apparatus, television camera, recorder
12	8525.20	Wireless LAN, internet mobile phone, ineternet video conference
13	8539	Lighrt bulb or tabular lamp

IMPORT OF SECOND-HAND MACHINERY AND EQUIPMENT

- UNDER MINISTERIAL DECREE OF MINISTRY OF INDUSTRY AND TRADE NO. 756/MPP/KEP/11/ 2002 REGARDING IMPORTED OF USED MACHINERY AND EQUIPMENT DEFINED USED MACHINERY AND EQUIPMENT AS *MACHINERY AND EQUIPMENT THAT CAN BE REUSED OR REFURBISHED AND NOT IN THE FORM OF SCRAP.*
- THESE MACHINERY AND EQUIPMENT CAN ONLY BE IMPORTED BY LICENSED END-USERS FOR PRODUCTION PROCESS OR OTHER DIRECT USE IN ITS BUSINESS ACTIVITY AND LICENSED REFURBISHMENT FACILITIES.
- IN RELATION WITH ELECTRONIC WASTE, THIS DECREE PROHIBITS IMPORT OF USED ELECTRONIC AS FOLLOW: AIR CONDITIONER, REFRIGERATOR, FAN, HOUSE-HOLD WASHING MACHINE, TELEVISION AND VIDEO PROJECTOR, TELEPHONE (INCLUDING WIRELESS TELEPHONE), PCB AND CRTS

E-WASTE UNDER THE BASEL CONVENTION

Annex VIII A1180	Waste electrical and electronic assemblies or scrap containing components such as accumulators and other batteries included on list A, mercury switches, glass from CRTs and other activated glass and PCB-capacitors, or contaminated with annex I constituents (e.g. Cd, Hg, Pb, PCB) to an extent that they possess any of the characteristics contained on Annex III
Annex IX B1110	Electrical and electronic assemblies: <ul style="list-style-type: none">• electronic assemblies consisting only of metal or alloys• WEE assemblies or scrap (including PCBoards) not containing components such as accumulators and other batteries included on list A mercury switches, glass from CRTs and other activated glass and PCB-capacitors, or not contaminated with annex I constituents (e.g. Cd, Hg, Pb, PCB) to an extent that they possess any of the characteristics contained on Annex III• EE assemblies (including PCBs, electronic components and wires) destined for direct reuse and not for recycling or final disposal

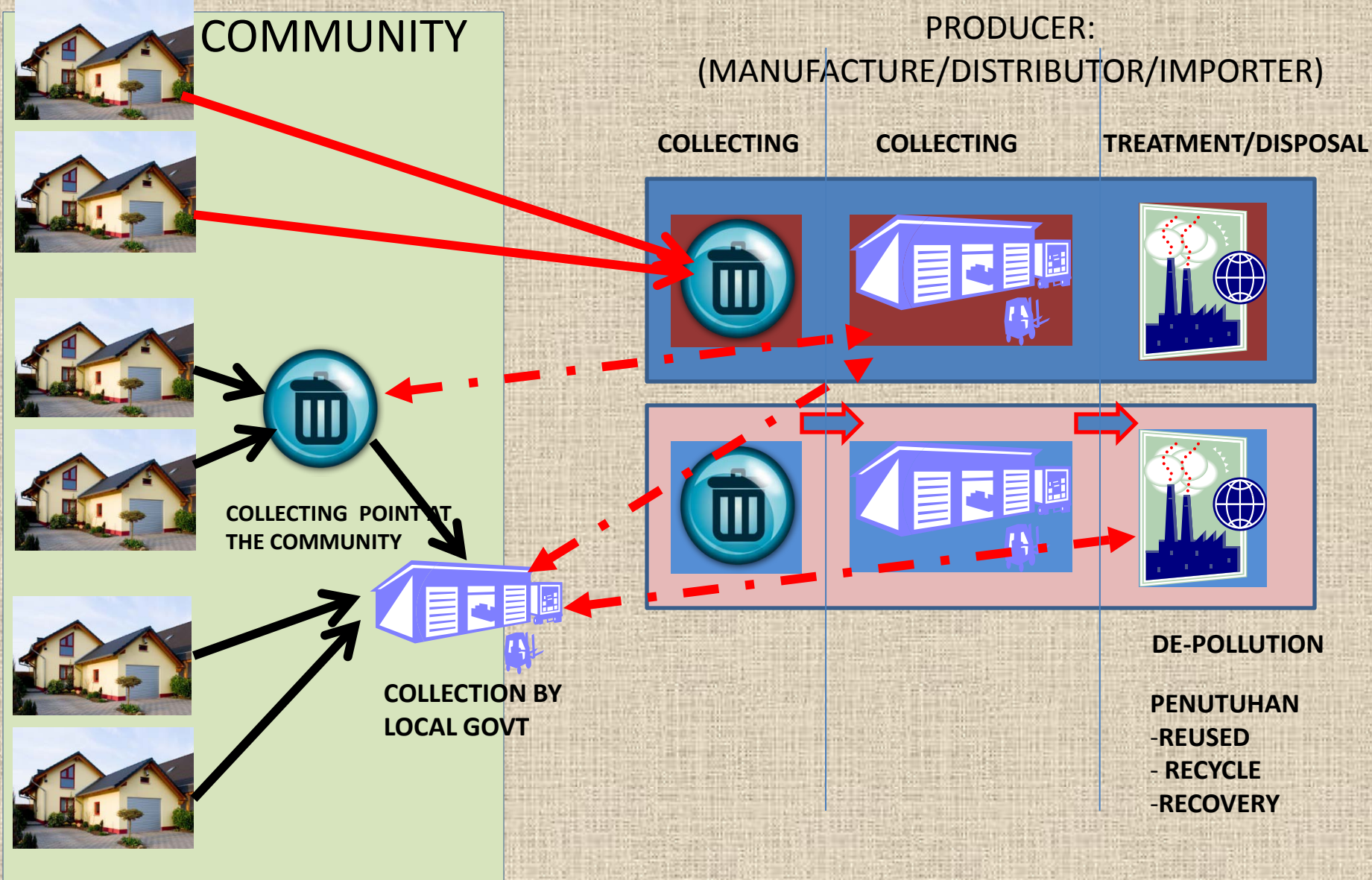
INDONESIA IS A TARGET OF E-WASTE DUMPING SITE

MODUS	REGULATION	DESCRIPTION
<ol style="list-style-type: none"> 1. WASTE FOR RAW MATERIAL 2. USED GOOD FOR RECONDITIONING 3. CHARITY FOR EDUCATION 4. DUMPING SITE 	ACT NUMBER 32 YEAR 2009 REGARDING ENVIRONMENTAL MANAGEMENT AND PROTECTION	69 (1): C. THE IMPORTATION OF WASTE INTO INDONESIAN TERRITORY IS NO ALLOWED. D. IMPORTATION OF HAZARDOUS WASTE INTO INDONESIA TERRITORY IS NOT ALLOWED
	ACT NUMBER 18 YEAR 2009 REGARDING DOMESTIC WASTE MANAGEMENT	THE IMPORTATION OF DOMESTIC WASTE INTO INDONESIAN TERRITORY IS NOT ALLOWED

DRAFT OF MINISTERIAL OF ENVIRONMENTAL DECREE REGARDING E-WASTE MANAGEMENT

- DEFERENTIATE BETWEEN E-WASTE AND SECOND-HAND EQUIPMENT
- MANAGEMENT APPROACHED:
 - EPR (*Extended Producer Responsibility*)
 - PARTICIPATION OF LOCAL GOVERNMENT
 - ECONOMIC INSTRUMENT
 - RECYCLE
- EXISTING CONDITION:
 - RECYCLER HAS TO GET PERMIT
 - PRODUCER'S INITIATIVE TO HAVE TAKE BACK MECHANISM (MOBILE PHONE, FC MACHINE AND LIGHTING)

SCENARIO OF E-WASTE COLLECTION SYSTEM FROM HOUSEHOLD



EXISTING E-WASTE MANAGEMENT

- FORMAL
 1. TRADE-IN PROGRAM; SOME ELECTRONICS SERVICE CENTERS USUALLY PROVIDE A SERVICE FOR THEIR CONSUMERS WHO WANT TO TRADE THEIR USED ELECTRONIC EQUIPMENT WITH THE NEW ONE.
 2. ELECTRONIC VENDORS OFFER THIS KIND OF PROGRAM IN COOPERATION WITH HYPERMARKETS TO BOOST THEIR SALE
 3. INDONESIA HAS LIMITED FACILITY TO RECYCLE ELECTRONIC AND ELECTRIC WASTES.
 4. IF E-WASTE CONSIDERED AS HAZARDOUS WASTE, THEN IT IS SUPPOSED TO BE ENDED ON THE SECURE LANDFILL FOR HAZARDOUS WASTE.
 5. E-WASTE WERE LANDFILLED IN FORMS OF ELECTRONIC COMPONENTS OR ELECTRONIC SPARE PARTS WHICH SENT BY ELECTRONIC COMPONENT MANUFACTURERS OR ELECTRONIC APPLIANCE ASSEMBLERS
 6. SOME PRODUCERS HAS INITIATED TO DO TAKE BACK SYSTEM OF THE USED ELECTRONIC OR UNUSABLE ELECTRONIC (LIGHTING, MOBILE PHONE AND FC MACHINE)

E-WASTE MANAGEMENT

- **INFORMAL**

1. THERE IS UNOFFICIAL SYSTEM TO ABSORB MOST E-WASTE IN INDONESIA
2. ELECTRONIC SERVICE CENTERS HAVE ROLES TO IDENTIFY THE ROUTE OF E-WASTE PRIOR ITS DISPOSAL OR DESTRUCTION
3. RESEARCH NEEDED TO LEARN HOW THE SYSTEM WORKS OF UNOFFICIAL SYSTEM OF E-WASTE



PEOPLE DOING SEPARATION AND RECYCLE OF E-WASTE WITHOUT ANY APPROPRIATE APPARATUS



Electronic parts and components found in a recycle facility in Batam

Metal Smelter Facility and Waste
Produced at the E-Waste
Recycling Facility in East Java



Disposal Area of Electronic
Waste at Special
Bonded Area in East Java



STORAGE OF IMPORTED
MONITORS IN A
RECONDITIONING
FACILITY IN EAST JAVA



RECYCLING AND
REFURBISHMENT E-
WASTE PRODUCT BASED
ON ITS FUNCTION THAT
READY TO EXPORT



CHALLENGES OF E-WASTE MANAGEMENT

- LACK OF AWARENESS ON E-WASTE
- THE MOST IMPORTANT THING TO BE ASSESSED IS LEGISLATION ON THE DEFINITION AND CRITERIA OF E-WASTE, SO THAT ALL EXISTING LEGISLATION CAN BE ENFORCED RESPECTIVELY
- DEFERENT INTERPRETATION OF RESTRICTION OF IMPORT OF SECOND-HAND EQUIPMENT REGULATION AND PROHIBITION OF E-WASTE
- ASSESSMENT ON THE IMPLEMENTATION OF BONDED ZONE LEGISLATION
- INTENSIVE COORDINATION BETWEEN INSTITUTIONS AND LOCAL GOVERNMENT TO WORK CLOSELY ON ILLEGAL IMPORTATION IN THEIR ADMINISTRATIVE BOUNDARIES.
- COMMUNICATION WITH BUSINESS SECTOR (MANUFACTURERS, DISTRIBUTORS, AUTHORIZED SERVICE CENTERS AND ASSOCIATION) WILL BENEFIT THE EFFORT OF PREVENTING ILLEGALLY TRAFFIC OF E-WASTE AND MANAGING E-WASTE GENERATED IN A PROPER MANNER
- LIMITED DATA AVAILABILITY NEEDED TO INITIATE NATIONAL INVENTORY ON E-WASTE.UNSKILLED WORKERS/TECHNICIANS FOR HANDLING E-WASTE FROM THE INFORMAL SECTORS
- IMPLEMENTATION OF FRIENDLY ELECTRONIC PRODUCTS BY REDUCING OR ELIMINATING IF APPROPRIATE ANY HAZARDOUS MATERIAL CONTENTS. MANUFACTURERS NEED TO BE ENCOURAGED TO IMPLEMENT CLEANER PRODUCTION SUCH AS ECO-DESIGN, EXTENDED PRODUCERS'S RESPONSIBILITY AND TAKE BACK MECHANISM

OPTIONS/OPPORTUNITIES FOR GOVERNMENT

- IMPROVE PUBLIC AWARENESS OF E-WASTE
- PROVIDE TECHNICAL GUIDELINE ON E-WASTE MANAGEMENT
- PUBLIC PRIVATE PARTNERSHIP FO DEVELOPMENT OF EWASTE MANAGEMENT
- DEVELOP MECHANISM FOR COLLECTION AND TRANSPORTATION OF E-WASTE UNDER THE TACK BACK SYSTEM

SUGGESTION ON FUTURE COOPERATION

- TO INITIATE THE POSSIBILITY OF PILOT PROJECTS ON E-WASTE INVENTORY AT NATIONAL LEVEL
- TO INVOLVE PRIVATE SECTORS FOR DEVELOPEMENT OF ENVIRONMENTALLY SOUND MANNER OF E-WASTE MANAGEMENT (COLLECTION, TRANSPORTATION, 3R AND DISPOSAL)

THANK YOU