

Transboundary Movement of E-Waste : A Review of “*dumping ground*” Developing Country in Managing E- Waste

Apa itu E- Waste?

E-Waste sebagai Global Issue

International Regime

Pentingnya Pengelolaan E-Waste

Tantangan E- Waste di Indonesia?

Rekomendasi



E- Waste

- **Electronic- Waste or Waste Electrical and Electronic Equipment**
- All types of disposable electrics and electronical apparatus or parts
- Office electronic equipment (PCs), entertainment device electronics, mobile phones, television sets and refrigerator
- e-waste can cause environmental problems due to the content of potentially hazardous waste such as heavy metals, halogenated substances, PCBs, etc

It's happened...



The Source Of Toxic Substance In A Typical Desktop Computer



Toxic chemical in E-Waste and their effect on Human Health

No	Substance	Effects on Human Health
1	Arsenic	Lung and skin cancer
2	Brominates Flame Retardants	Hormonal problems
3	Cadmium	Long damage and eventual death
4	Chromium	Carcinogenic when it's entered lungs via breathing
5	Lead	Anorexia, muscular pain, headache and other annoyances
6	Mercury	Damages to the brain, kidney and fetus development(long term)
7	Polychlorate biphenyls	Harm to the endocrine system
8	PBDE	Harm to the endocrine system
9	Chlorine Fluorine	No effects
10	PVC	In low levels no harm
11	Barium	Gastrointestinal disorder and muscular weakness
12	Beryllium	Respiratory inflammation known as the Beryllium Chronic disease
13	Cr+6	Cold, nose bleeding, ulcer and damage to sinuses
14	Lithium	Damages to the central nervous system
15	Nickel	Lung cancer and sinusitis
16	Antimony	In low levels no harm
17	Selenium	Selenosis, hair loss, neurological problems
18	Zinc	Corrosive to skin and lungs

Life expectancy of Electronic Devices

Source: National Safety Council US

	Range of Primary and Secondary Use(Reuse) Life Expectancy(in years)
Video Products	
Direct View Color TV	13 to 15
Projection TV	13 to 15
LCD Color TV	13 to 15
Videocassette Players	7 to 10
VCR Decks	7 to 10
Camcorders	7 to 10
Laserdisc Players	7 to 10
Audio Products	
Rack Audio System	3 to 15
Compact Audio System	3 to 15
Portable CD	3 to 15
Portable Headset Audio	3 to 15
Total CD Players	3 to 15
Home Radios	3 to 15
Information Products	
Cordless/Corded Telephones	3 to 6
Wireless Telephones	2 to 4
Telephone Answering Machine	3 to 6
Fax Machine	3 to 6
Personal Word Processors	3 to 6
Personal Computers	3 to 6
Computer Printers	3 to 5
Computer Monitors	6 to 7
Modern/Fax Modems	3 to 6

Global Issue

- Sekitar 40 juta ton e-waste dihasilkan setiap tahunnya (UNEP, 2010) – sebagian besar adalah komputer and telepon genggam- namun hanya 15-20 persen saja yang *recycle* sisanya dibuang.
- e-waste AS (3 juta ton), China (2,3 juta ton), India (2 juta ton), sisanya tersebar di berbagai negara.
- Sisa E-Waste yang tidak *recycle* dikirim ke berbagai negara berkembang (China, India, Kenya, Malaysia, Ghana, dan negara-negara Asia dan Afrika –sebagian besar illegal--
- Negara berkembang menjadi *dump yard*. *Dump Agbogbloshie* di Accra, Ghana, adalah gurun elektronik terbesar di Afrika Barat.
- Pencemaran air termasuk sungai, laut dan air bawah tanah, polusi udara, kesehatan (*due to the methods of processing the waste*)
- Berdasarkan data WHO (2010) 7 dari 10 anak di Afrika terkontaminasi timbal dalam darah mereka
- *developing countries agreed to receive toxic wastes from western countries in exchange of a new source of money*. Motif ekonomi politik oleh oknum pemerintah dan institusi “memenggal” kelestarian lingkungan dan keberlangsungan hidup manusia → *Sustainable Development = BIG ZERO !*

Next “triple” e-waste production

- The average of lifespan of computers in developed countries has dropped from six years in 1997 to just two years in 2005
- Mobile phones have a lifecycle of less than two years in developed countries
- 183 million computers were sold worldwide in 2004 – 11,6 percent more than in 2003
- 674 million mobile phones were sold worldwide in 2004 – 30 percent more than in 2003
- 2010, there 716 million new computer in use. 178 million new computer users in China, 80 million new user in India
(*Greenpeace International*)

International Regimes

“rezim internasional adalah suatu tatanan yang berisi kumpulan prinsip, norma, aturan, proses pembuatan keputusan—baik bersifat eksplisit maupun implisit—yang berkaitan dengan ekspektasi atau pengharapan aktor-aktor dan memuat kepentingan aktor itu sendiri dalam hubungan Internasional” (Stephen Kresner)

Dalam Deklarasi Millennium ,PBB menekankan pentingnya melindungi generasi mendatang dengan melindungi lingkungan:

“We must spare no effort to free all of humanity, and above all our children and grandchildren, from the threat of living on a planet irredeemably spoilt by human activities, and whose resources would no longer be sufficient for their needs”

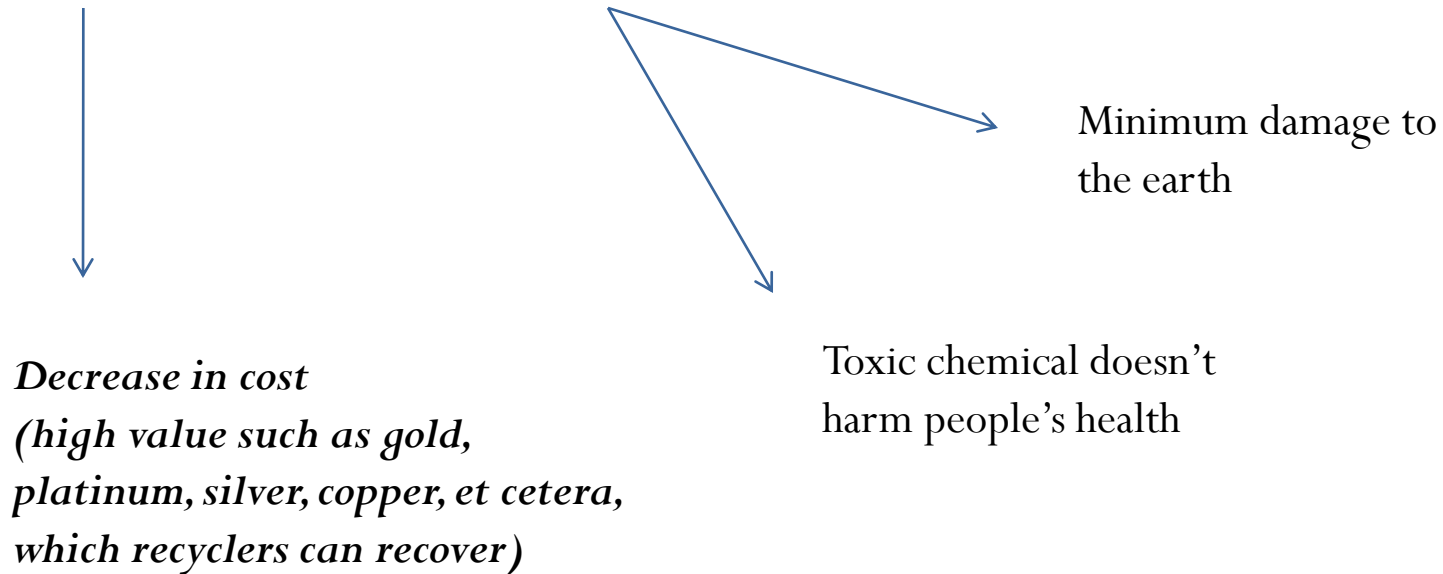
The creation of an international legal system regarding the question of waste is mainly due to several international or regional conventions

- **Basel Convention 1989** (*wastes is crucial because it helped create a system of responsibility both for exporters and importers*)
- **The Cairo guidelines** gathered a certain number of principles about the management of hazardous wastes.
- **Environmentally Sound Management (ESM)** dipelopori oleh OECD
- **Campaigning by NGOs**

Perlunya Manajemen E- Waste

- the cost of disposing wastes is usually significantly lower than either instituting waste minimization techniques at the source or utilizing an approved disposal facility located in the generating country
- State can take care of it in a sustainable approach :

Economic and Environment



Tantangan E Waste di Indonesia

- **Data tahun 2005 Kementerian LH “produksi” E- Waste di Indonesia :**
63,8 juta TV, 29,1 juta AC, 8,5 juta kulkas, 1,2 juta PC
- **Dalam hukum dan perundangan belum ada definisi spesifik mengenai e-waste. masih bersifat parsial berdasarkan kategori limbah. Hal ini menyulitkan pendataan E-waste di Indonesia**
Regulasi yang berkaitan : UU No.32 Tahun 2009 Tentang Perlindungan dan Manajemen Lingkungan, UU No.18 Tahun 2009 tentang Majamen Limbah Padat, KepPres No.61 tahun 1993 tentang ratifikasi Konvensi Basel, KepMen Perdagangan 63/M-DAG/PER/12/2009 (*reconditioning, remanufacturing, re-use*), KepMen Perdagangan dan Industri No.520 tahun 2003 tentang Larangan Impor Limbah Berbahaya dan Beracun)
- **Impor Limbah Non HZW harus berdasarkan persetujuan Kementerian Perindustrian dan Izin dari Kementrian Perdagangan**
- **Data di lapangan menunjukkan import illegal E-Waste didapati di sejumlah wilayah di Indonesia seperti Batam, Pulau Wakatobi, Jakarta, Jawa Barat dan Jawa Timur**

Kebijakan E Waste di Berbagai Negara

<p>Europe's directive on waste from electrical and electronic Equipment</p>	<p>The directive aimed at reducing the amount of waste from electrical and electronic equipment that ends up in landfill. This goal is to be achieved by changes throughout the EEE product cycle including improved product design to ease dismantling, recycling and reuse and, more significantly, provision of national WEEE collection points and processing systems. (The European Parliament and the Council of the European Union, 2003)</p>
<p>Malaysian Solid Waste and Public Cleansing Management Act 2007</p>	<p>Management of solid waste is put under Federal Government's jurisdiction, allocates responsibilities to newly established agencies, redefines the roles of local authorities, and aims to improve the collection, recycling and disposal of solid waste throughout the peninsular of Malaysia (UNDP Malaysia 2008)</p>
<p>Philippines Republic Act 9003 – Ecological Solid Waste Management Act 2000</p>	<p>The Act involves systematic administration of activities which provides for: segregation at source, segregated transformation, storage, transfer, processing, treatment, and disposable solid waste, and all other waste management activities does not harm the environment</p>
<p>The UK Waste Management Licensing Regulations 1994</p>	<p>The regulation addressed measures relating to the prevention, reduction and elimination of pollution of water and the prevention, reduction and elimination of pollution caused by waste (UK Government, 1994)</p>
<p>Washington Statute</p>	<p>Manufacturers have responsibility for both collecting and recycling of their products</p>

What we are supposed to do ?

- The **3R (Reduce, Reuse, Recycle)** and **Repair** and **Refurbishment (5R)** of Electrical and Electronic Waste
- *Regulasi, Law enforcement dan Inspection*
- *Small islands is market targeted for illegally e-waste import into territory* → memerlukan pengawasan yang ketat di wilayah perbatasan serta koordinasi diantara berbagai pihak terkait
- An obligation for producers to manage or “*take back*” their obsolete products indicates that there is no liable part responsible for generation of e-waste including its management.
- Technical Aspects (funding, technology, protections)