

E-Waste Management in Thailand

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Background



No specific law and regulation regarding e-wastes.

Hazardous Substance Act B.E. 2535 (1992) and its amendment B.E. 2556 (2013) Wastes listed :

- No 5.2 Category: Chemical Wastes, Type : 3 (must obtain a permit by DIW)
- No.5. 3 Category: Used Electrical and Electronic Appliance, Type :3 (exemption for a permit and a register **but** importing conditions for used electrical and electronic equipment is required by DIW)

Hazardous Substance Act B.E. 2535

Waste List No. 5.2 category: CW



No.	Waste Type
2.9	Ashes from the incineration of insulated copper wire
2.15	Precious metal ash such as Gold, Silver, Platinum, Palladium, Iridium, Osmium, Rhodium, Ruthenium, etc. from incineration of printed circuit boards
2.16	Waste lead-acid batteries, whole or crushed
2.17	Unsorted waste batteries
2.18	Electrical and electronic assemblies or scrap (not included scrap from electric power generation) containing such as accumulators and other batteries, mercury-switches, glass from cathode-ray tubes and other activated glasses and PCB-capacitors, or contaminated with Cadmium, Mercury, Lead Polychlorinated Biphenyl

Hazardous Substance Act B.E. 2535

Waste List No. 5.2 category: CW



No.	Waste Type
3.1	Glass waste from cathode-ray tubes and other activated glasses
4.18	Wastes, substances and articles containing, consisting of or contaminated with polychlorinated biphenyl (PCB), polychlorinated terphenyl (PCT), polychlorinated naphthalene (PCN) or polybrominated biphenyl (PBB), or any other polybrominated analogues of these compounds, at a concentration level of 50 mg/kg or more

Hazardous Substance Act B.E. 2535

Waste List No. 5.3

category: **Used Electrical and Electronic Appliance**

- Used EEA such as refrigerator, TV, radio, video, cassette player, air-conditioner, washing machine, clothes dryer, rice cooker, kettle , microwave, oven, telephone, facsimile, telegraph, calculator, type writer, copy machine, mobile phone, computer, printer, arcade games and etc. **for reuse or modify, repair, improve, remanufacture for originally intended use or sorting for disposal**
- Part of used electrical and electronic appliance such as refrigerator, television, radio, etc.

Definition

Notification of the Ministry of Industry B.E. 2548 (2005), entitled Disposal of Wastes or Unusable Materials, under Factory Act B.E. 2535 (1992) prescribing codes and types of wastes or unusable materials, and functions of waste generator, disposer, collector and transporter.

“HW” shall mean waste having hazardous constituents, being contaminated with hazardous substance, or having hazardous characteristics as prescribed in Annex 2 of the Notification such as flammable, corrosive, reactive, toxic substances, or having the specified constituents.

Code of e-wastes under Notification of MoI 2005

- **16 02 (wastes from electrical and electronic equipment)**
- 16 02 09 HA
(transformers and capacitors containing PCBs)
- 16 02 10 HA (discarded equipment containing or contaminated by PCBs other than those mentioned in 16 02 09)
- 16 02 11 HM (discarded equipment containing chlorofluorocarbons, HCFC, HFC)
- 16 02 12 HM (discarded equipment containing free asbestos)
- etc.

HA: Hazardous waste-Absolute entry

HM: Hazardous waste-mirror entry

Who are in charge of e-waste management ?

Institutional mechanism :

National E-waste Strategy Approach Committee ;
qualified member appointed by NEB as chairman

Main agencies

- **Department of Industrial Works (DIW)**
Ministry of Industry
- **Department of Health (DoH)**
Ministry of Public Health
- **Department of Local Administration Office (DLAO)**
Ministry of Interior
- **Pollution Control Department (PCD)**
Ministry of Natural Resources and Environment

Estimation of e-waste generation 2014-2021



Product type	Waste generation (1,000 units) in year							
	2014	2015	2016	2017	2018	2019	2020	2021
TV	2,587	2,689	2,790	2,889	2,986	3,081	3,174	3,264
Digital camera/VDO camcorder	875	983	1,059	1,065	1,055	1,106	1,192	1,289
Media player	3,476	3,537	3,571	3,588	3,598	3,611	3,630	3,653
Printer	1,520	1,532	1,542	1,546	1,547	1,545	1,543	1,540
Mobile phone/Land line	9,750	10,337	10,907	11,456	11,983	12,486	12,966	13,419
PC	2,210	2,421	2,630	2,834	3,032	3,222	3,402	3,572
A/C	740	766	796	832	871	911	949	983
Refrigerator	922	972	1,023	1,074	1,125	1,174	1,223	1,271
Microwave	313	346	382	419	456	492	527	559
Washing Machine	467	495	523	551	581	611	644	681
Fan	1,916	1,996	2,079	2,164	2,251	2,340	2,431	2,524

Ref: PCD, 2012

Current status of E-Waste Management

- Factory Act B.E. 2535
 - Factory type 105 (sorting and/or landfill facility of wastes)
 - Factory type 106 (recycling facility in which unusable industrial products or industrial wastes being utilized in production process to produce raw material or new product)
- 22 permitted factories related to e-waste collecting and dismantling (2010).
- No specific license for recycling e-waste.
- No formal recycling factory of e-waste in Thailand.
- No mechanical large-scale dismantling equipment.
- Only manual dismantling with simple tools is used.
- Most of e-wastes goes to informal sectors, i.e. waste pickers, waste buyers, junk shops, waste-recyclers, and waste re-processors.

Establishment of WEEE Regulation

- ▶ **2004- 2013** Draft Act on “Fiscal Measures for Environmental Management” (by Fiscal Policy Office/MoF)
 - Draft Royal Decree and Ministerial Notification prescribing Rules, Procedures, Conditions and Management of Revenue Generated from Product Fees, B.E.....
 - Formulated by PCD/MNRE
 - pending-**
- ▶ **2014-** develop draft WEEE management Law (EPR concept will be complied)(PCD) **-ongoing-**

Other relevant projects

- Conduct a pilot project on take back of e-waste by producers - voluntary basis, 2014
: Dialogue with relevant stakeholders, esp. manufacturer, retailer, recycler, disposer, LAO to consider funding mechanism and strategy, to formalize informal sectors, to set up collection and recycling target.
- Develop a guideline on good practices for collection of household e-wastes for junk shops environmentally sound manner, 2014-
: review data/information, field survey, draft guideline, WS
- Conduct a project on “Impact and Solution Study of E-waste separation process for recycling problem in Khok Sa-at Community” June-Dec.2014 (academia, ROMNRE, LAO in Kalasin Province)

Thank you

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