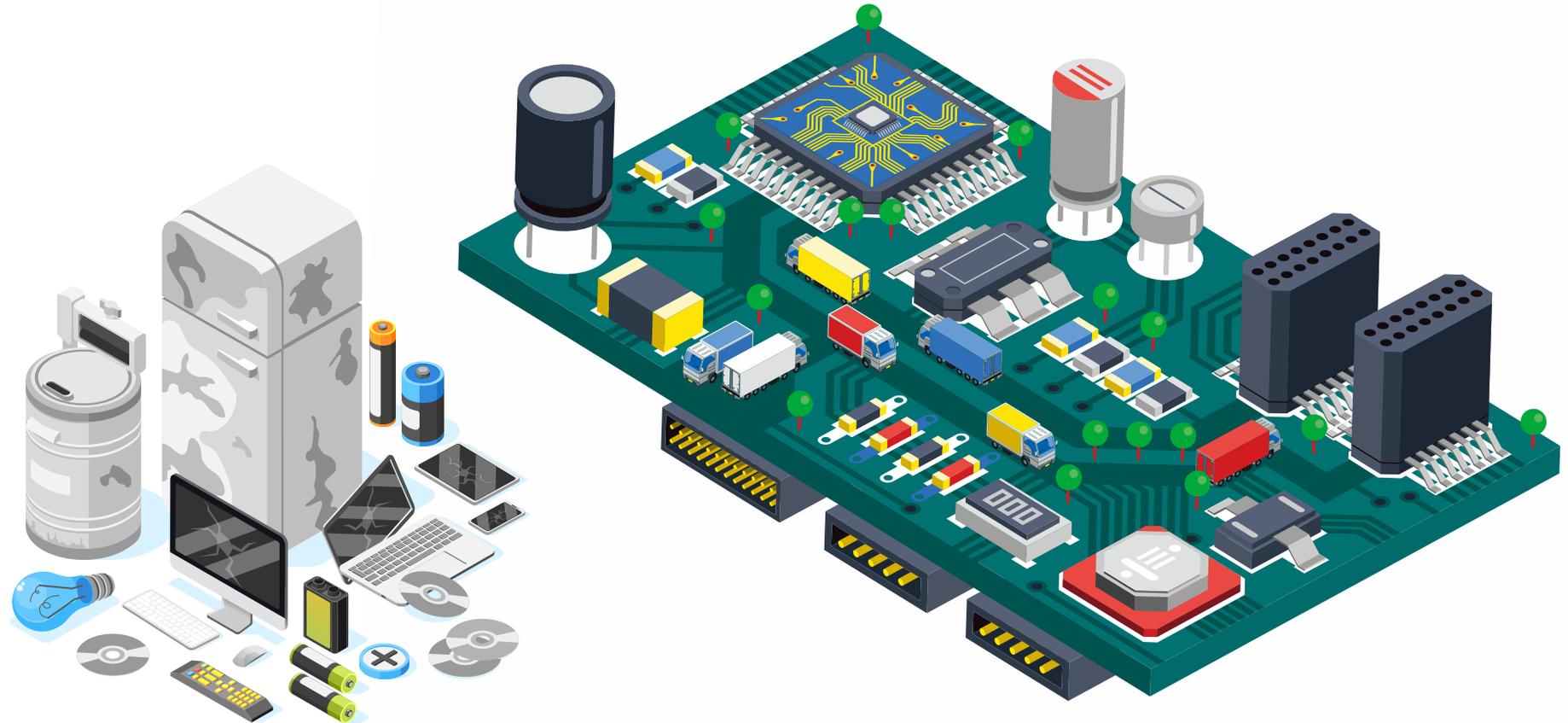




Dec
2025



Management of Electronic Waste (E-Waste) IN INDONESIA

Directorate of Hazardous and Non-Hazardous Waste Management
Ministry of Environment, Republic of Indonesia



GENERAL LAW & REGULATION



Kementerian Lingkungan Hidup/
Badan Pengendalian Lingkungan Hidup

Law of the Republic of Indonesia Number 32 of 2009
on Environmental Protection and Management

Everyone is prohibited

Point b **to bring Hazardous Substance that is prohibited by the prevailing laws and regulations into the territory of the Republic of Indonesia**

Point c **bring wastes from outside the territory of the Republic of Indonesia to the media of environment within the territory of the Republic of Indonesia**

(Explanatory article: excluded waste that regulated in other law)

Point d **to bring Hazardous wastes into the territory of the Republic of Indonesia**

Point e **to dispose waste into the environment**

Point f **to dispose hazardous substance and waste into the environment**



Law No.18/2008 Article 29 section 1

Everyone is prohibited from entering waste into the territory of the Republic of Indonesia

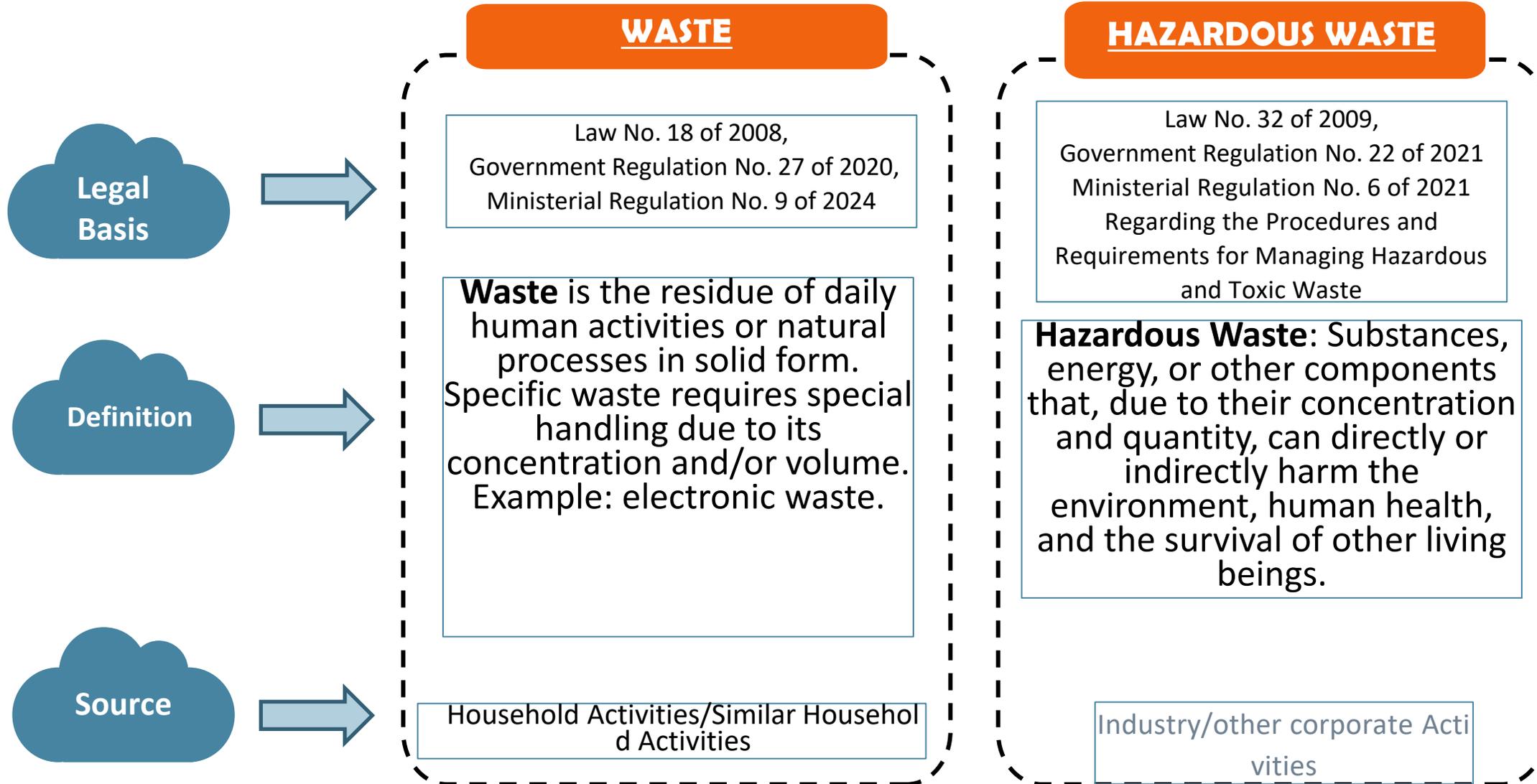
Import of Non Hazardous Waste is ALLOWED, but only used as industrial raw materials

(Regulation of Minister of Trade Number 24 of 2025– 6 commodities: paper, plastic, rubber, metal, textile, glass

- and used electrical and electronic equipment (UEEE)



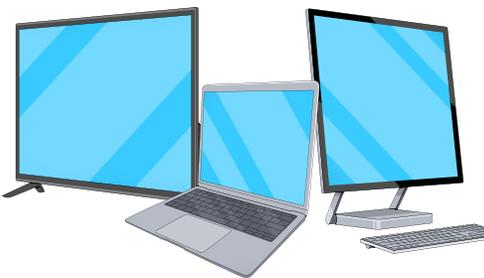
Differences Between Waste & Hazardous Waste in Indonesia?



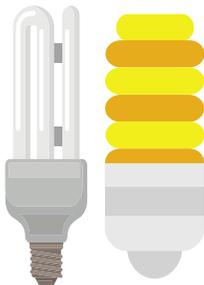
Types of E-Waste



Temperature Exchange Equipment



Devices with Screens and Monitors

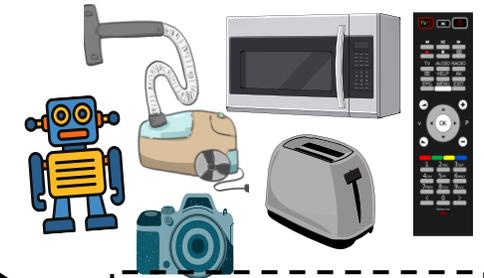
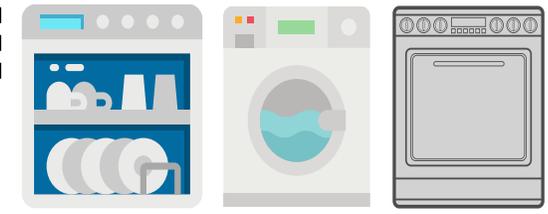


Lighting Equipment



Electronics or electrical equipment typically operated by batteries or electricity, discarded by the last owner.

Large-sized Electronic Equipment



Small-sized Electronic Devices



Communication Devices

Hazards of E-Waste



Lead (Pb), Damages the central and peripheral nervous system, impairs brain growth in children.

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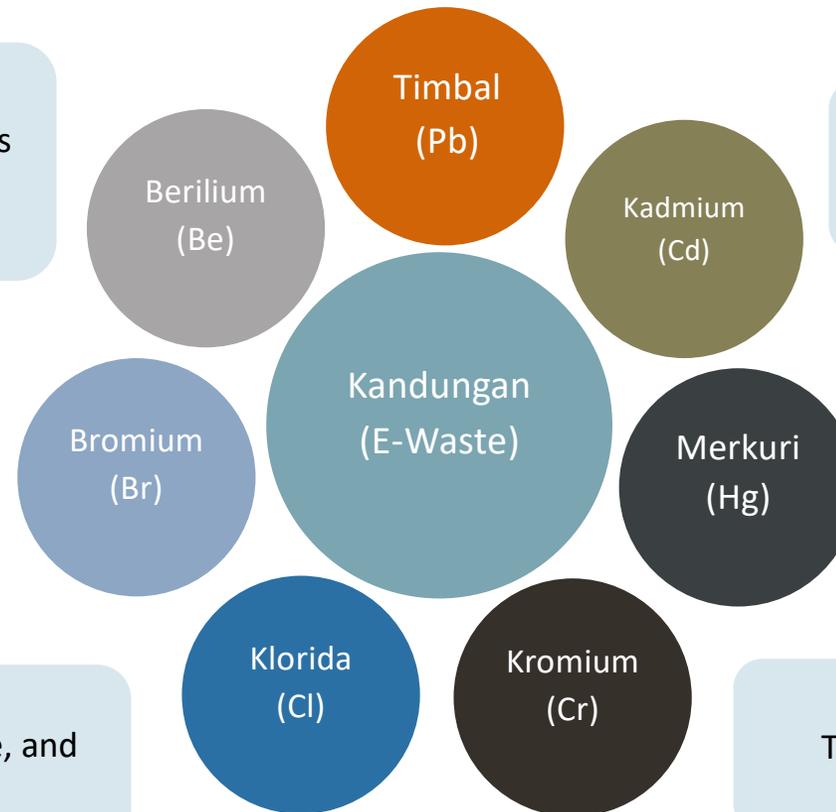
Causes neurological damage

Causes damage to the liver, heart, spleen, and weakens muscles.

Causes chronic brain, respiratory damage, and skin diseases.

Damages the reproductive, immune, and hormonal systems.

Triggers asthma and damages DNA.





Codification of Electronic Waste based on PP 22 of 2021 Attachment IX

Tabel 1.
List of Hazardous
Waste from Non-
Specific Sources

- **B107d:** Electronic waste includes cathode ray tube (CRT), fluorescent lamps, printed circuit boards (PCB), and metal wires.

Tabel 3.
List of Hazardous
Waste from General
Specific Sources

Activities 26: Dry cell batteries and utilization of used batteries, batteries that do not meet technical specifications, and expired
B326-1: Used batteries, batteries that do not meet technical specifications, and expired batteries

Activities 27: Wet cell batteries
B327-1: Used batteries, batteries that do not meet technical specifications, and expired batteries

Activities 28: Assembly of electronic components or equipment

- A328-1: *Mercury contactor/switch*
- A328-2: *Lampu fluoresen (Hg)*
- A328-4: *Caustic strapping (photoresist)*
- B328-1: *Cathod Ray Tube (CRT)*
- B328-4: *Printed circuit board (PCB)*

Activities 29: Reconditioning or remanufacturing of electronic goods

- A329-3: *Caustic strapping (photoresist)*
- A329-4: *Cathod ray tube (CRT)*
- B329-3: *Printed circuit board (PCB)*

- ****Y49 code**** in the Basel Convention refers to "Used batteries that do not fall under categories Y1 to Y45, which contain hazardous substances such as mercury, cadmium, lead, or persistent organic pollutants (POPs)."

- ****Code A1181**** in the Basel Convention refers to "Waste lead-acid batteries, Ni-Cd batteries, and other mercury-containing batteries are prohibited, especially if they do not meet specifications for safe recycling."

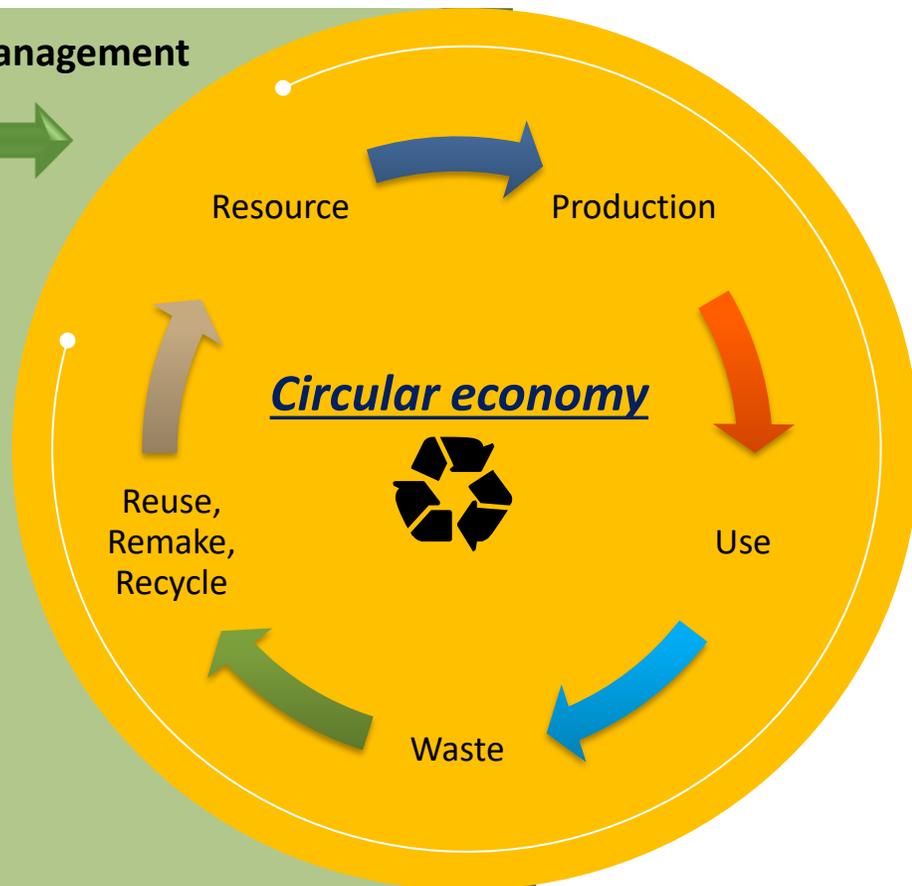
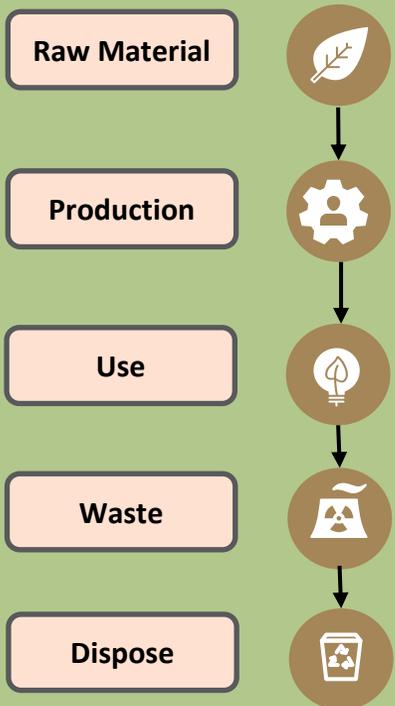
Waste Management Paradigm



Kementerian Lingkungan Hidup/
Badan Pengendalian Lingkungan Hidup

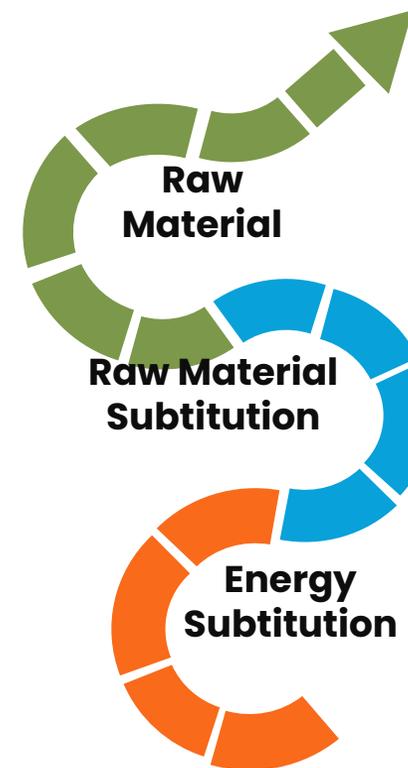
Paradigm Change of Hazardous Waste Management

Linear economy



Definition of Resources: Production factors consist of land, labor, and capital used in economic activities to produce goods and services, as well as distribute them (ref: KBBI).

Circular Economy – Utilization of waste (PP 22 Tahun 2021)



Hazardous Waste (B3) 100% replaces natural materials

Hazardous Waste (B3) replaces part of the raw materials used in product manufacturing.

replaces part of the raw materials used for energy.

Hazardous Waste (B3) has the potential to be utilized as a resource, **-serving as a production factor to generate products.**

Management of Hazardous Waste



CRADLE TO GRAVE

CRADLE TO CRADLE

Hazardous Waste Producer
(Generator)



Hazardous Waste Management Service

Identifying of the hazardous waste

Temporary Storage Site

1. Technical Specifications of the Temporary Storage Site (TPS)
2. Waste storage duration at TPS in accordance with Government Regulation No. 22 of 2021
3. Recording of Hazardous waste and reporting on storage and further management activities of Hazardous waste



Utilized/processed/disposed of internally within the factory (Has **Technical Approval (Pertek)** and **Operational License (SLO)**)



Hazardous waste collectors that already have **Technical Approval (Pertek)** and **Operational License (SLO)**



Utilizers/processors/disposal sites for Hazardous waste that already have **Technical Approval (Pertek)** and **Operational License (SLO)**

Amount of Generated Hazardous Waste

Manifest System

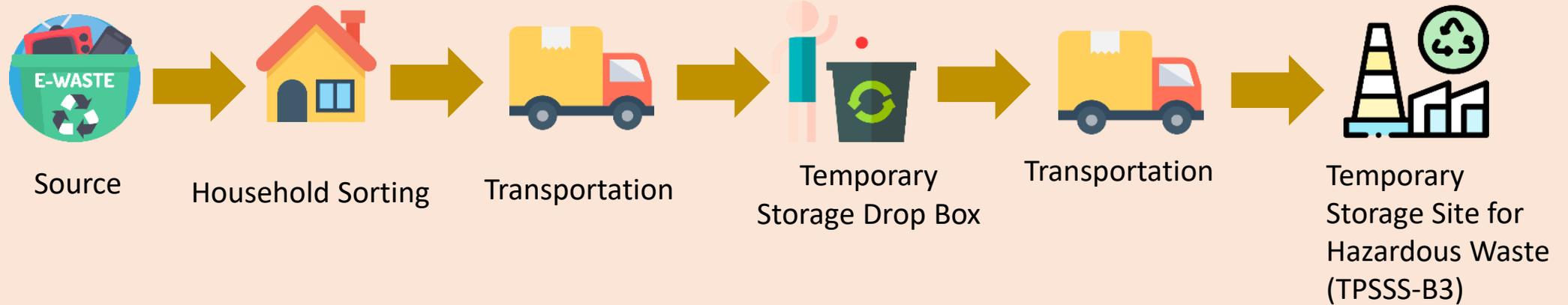
Amount of Utilized/Processed/Disposed Hazardous Waste

E-WASTE MANAGEMENT



Kementerian Lingkungan Hidup/
Badan Pengendalian Lingkungan Hidup

Waste Management Regulations



Hazardous Waste Management Regulations



Potential Utilization of E-Waste



The Ministry of Environment (MoE), Indonesia strongly encourages efforts to utilize electronic hazardous waste while still considering the impact on the environment and human health.



Manual separation using solder pot

This block illustrates a manual recycling process. On the left, a person is shown using a soldering iron to separate components from a printed circuit board (PCB). A blue arrow points to the right, where two red trays are filled with the separated components, showing a mix of dark and light-colored materials.

Example of
electronic
hazardous waste
utilization



Processing using a crusher machine

This block shows a more industrial recycling method. On the left, a large green PCB is being processed. A blue arrow points to the right, where a worker in a white protective suit and red helmet is operating a machine. The final product is a large white bag filled with a fine, grey granular material.



Separation of PCB components section

This block details the separation of PCB components. On the left, a person is shown using a tool to separate components from a PCB. A blue arrow points to the right, where two trays are shown. The top tray contains a mixture of dark and light components, while the bottom tray contains a large quantity of small, yellow, rectangular components.

Potential Utilization of E-Waste



Pelleting process of plastic components in electronic B3 waste

This diagram illustrates the pelleting process of plastic components from electronic B3 waste. It starts with a photograph of a factory interior where workers are operating machinery. A large blue arrow points to a circular pile of dark, granular plastic pellets.



Wire process peeler

This diagram shows the wire peeling process. It begins with a pile of tangled black and white wires. A blue arrow points to a green industrial wire peeling machine. A second blue arrow points to a pile of reddish-brown metal shavings, which are the byproduct of the peeling process.



Metal smelting process (Cu, Zn, Pb, etc.)

This diagram depicts the metal smelting process. It starts with a box of shredded metal components. A blue arrow points to a pile of dark metal granules. Another blue arrow points to a large industrial furnace where molten metal is being processed. Below the furnace, two blue trays labeled 'Cu' are shown, filled with metal granules. A final blue arrow points to a stack of finished metal bars.



Hazardous Electronic Waste – B107d



Kementerian Lingkungan Hidup/
Badan Pengendalian Lingkungan Hidup

E-waste producer by
Province in Indonesia (top
producer) Periode Jul-Dec 2024

Provinsi	Limbah Dihasilkan (Ton)
Jawa Barat	438.39
Kep. Riau	178.13
Jawa Timur	161.82
DKI Jakarta	82.44
Jawa Tengah	37.15
Banten	32.13
Riau	27.34



Total E-Waste produced 2023
6.345.19 Ton

Total E-Waste produced 2024
4.995,03 Ton

Jawa Tengah
PT Bion Inovasi Generasi
PT Eben Haezer Logam

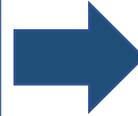
Jawa Timur
PT Dowa Eco System Indonesia

Source: SPEED (Update November 6th 2025)





E - Waste
Non-functional used electrical and electronic equipment (UEEE)



IMPORT

1. Functional second-hand electronic equipment (allowed with strict conditions) → Regulation of Minister of Trade Number 24 of 2025
2. Non-functional UEEE / e-waste, which is **prohibited from import**



EXPORT

1. Total e-waste Exported 2024 : 10.441 ton based on application and approval from importing country
2. Country of destination : Japan, Singapore, South Korea, Canada

Notes:



Indonesia can be transit country → no loading and unloading



Indonesia has steadily improved its implementation of the Convention through:

a. Alignment of National Regulations

Indonesia has aligned its national classification and control system with the amendment by:

- Clarifying the distinction between:
 - Functional second-hand electronic equipment (allowed with strict conditions), and
 - **Non-functional UEEE / e-waste, which is prohibited from import.**

b. Full application of the Prior Informed Consent (PIC) Procedure

- All importation of waste materials, including categories related to electronic waste, strictly follows PIC requirements.
- **Used electronics entering Indonesia must meet functionality, testing, and documentation requirements consistent with the amendment.**

c. Prohibition of transboundary movement of hazardous e-waste

d. Strengthened port monitoring and inspection

- Enhanced collaboration between the Ministry of Environment, Customs, and port authorities.
- Illegal shipments have been denied entry **and re-exported.**

Online Hazardous Waste Management Reporting



Kementerian Lingkungan Hidup/
Badan Pengendalian Lingkungan Hidup

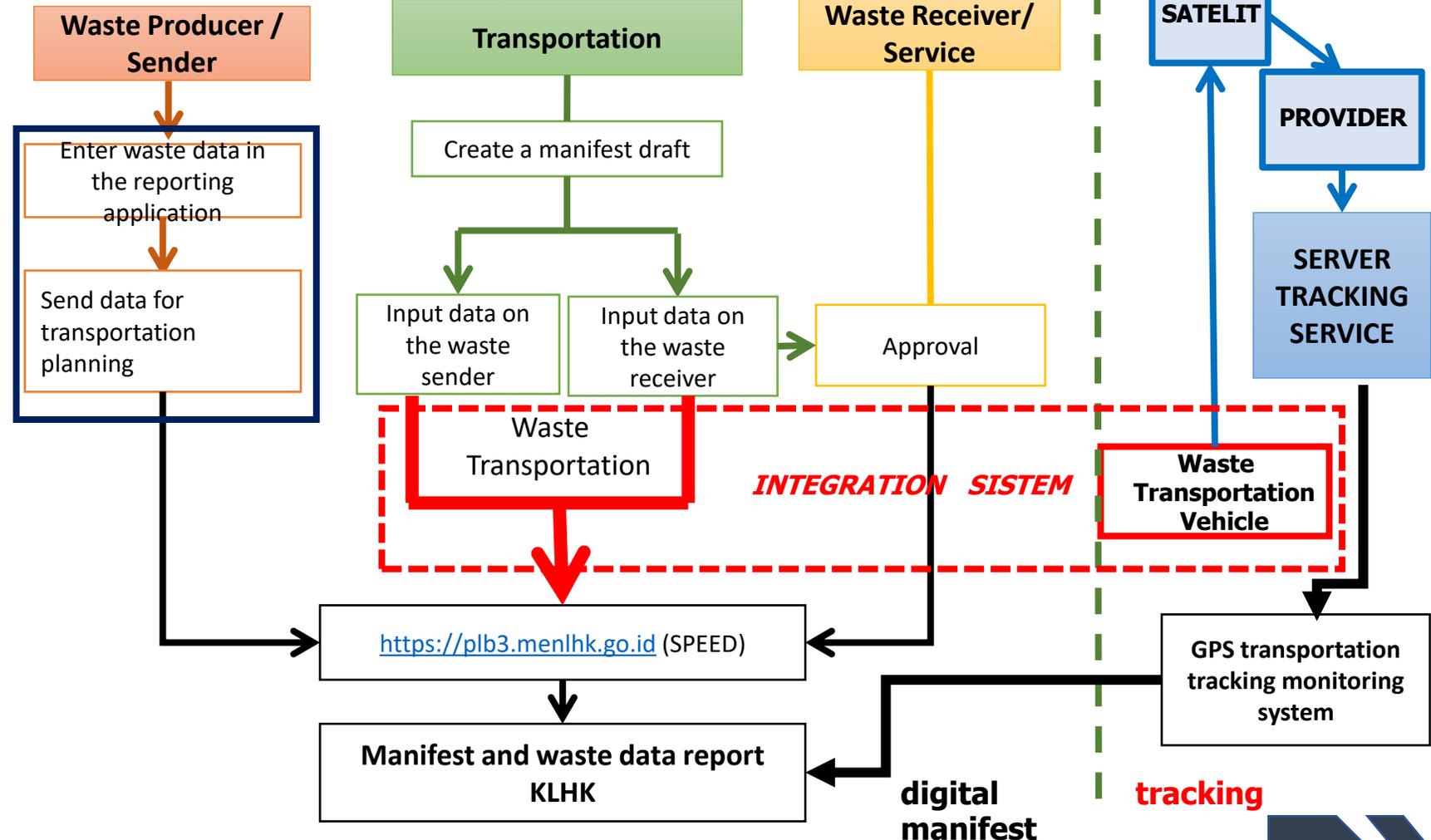
Ministry Reg. No. 06 of 2021

Reports are submitted electronically through the website <https://plb3.kemenvh.go.id> (SPEED) with proof of submission in the form of an electronic receipt.

Ex: ELECTRONIC RECEIPT

 Direktorat Penilaian Kinerja Pengelolaan Limbah B3 dan Limbah Non B3 Direktorat Jenderal Pengelolaan Sampah, Limbah dan B3 Kementerian Lingkungan Hidup dan Kehutanan Gedung A Lantai 5 Jl. D.I. Panjaitan Kav. 24 Kebon Nanas, Jakarta Timur 13410	
TANDA TERIMA ELEKTRONIK (ID : 1693767544-3318)	
Telah diterima DATA PENGELOLAAN LIMBAH B3 dari :	
Nama Perusahaan	: UJICOBAA1
Sektor / Sub Sektor	: Manufaktur / Pabrikasi
Alamat	: DESA SEKAKO, Kabupaten Kutai Timur, Kalimantan Timur
Periode	: TRIWULAN 2 (01-04-2020 S/D 30-06-2020)
Tanggal	: 03-07-2020
Perizinan Limbah B3	: Penyimpanan Sementara Limbah B3
Tertanda, ttd Direktur Penilaian Kinerja Pengelolaan Limbah B3 dan Limbah Non B3	

Flowchart of SPEED website usage





THANK YOU
TERIMA KASIH