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PT. Prasadha Pamunah Limbah Industri

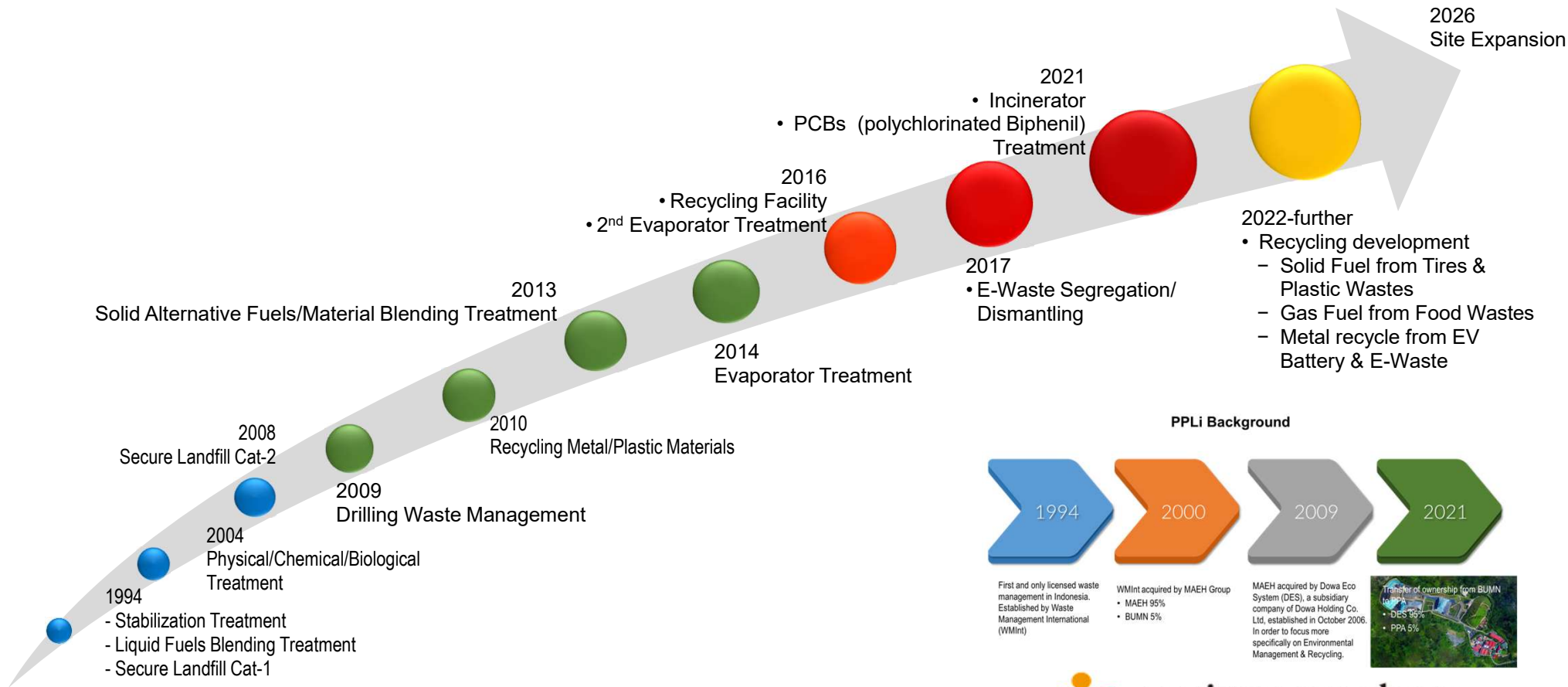
E-waste : Collection and Treatment

Vientiane Laos, 18 Juli 2024

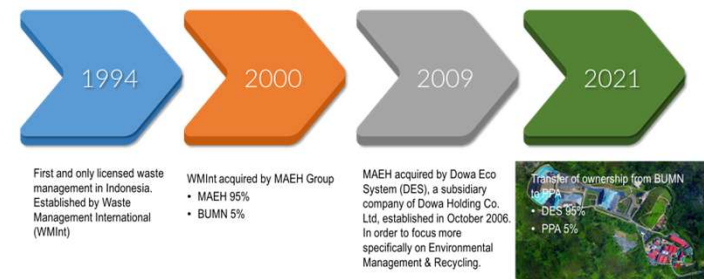
Integrated Environmental & Waste Management Services



DOWA PPLI Facility & Technology Development



PPLi Background



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PPLi Core Principle



Stage 1

Segregation

Finger Print to analyze Waste Characteristics to classify waste stream

Stage 2

Reuse and Recycling

Prioritize to Reuse and Recycle in a compliance manner

Stage 3

Phy-Chem-Bio Incineration

Waste Reduction, Treatment, and Reutilization

Stage 4

Controlled Landfill as Safety Net

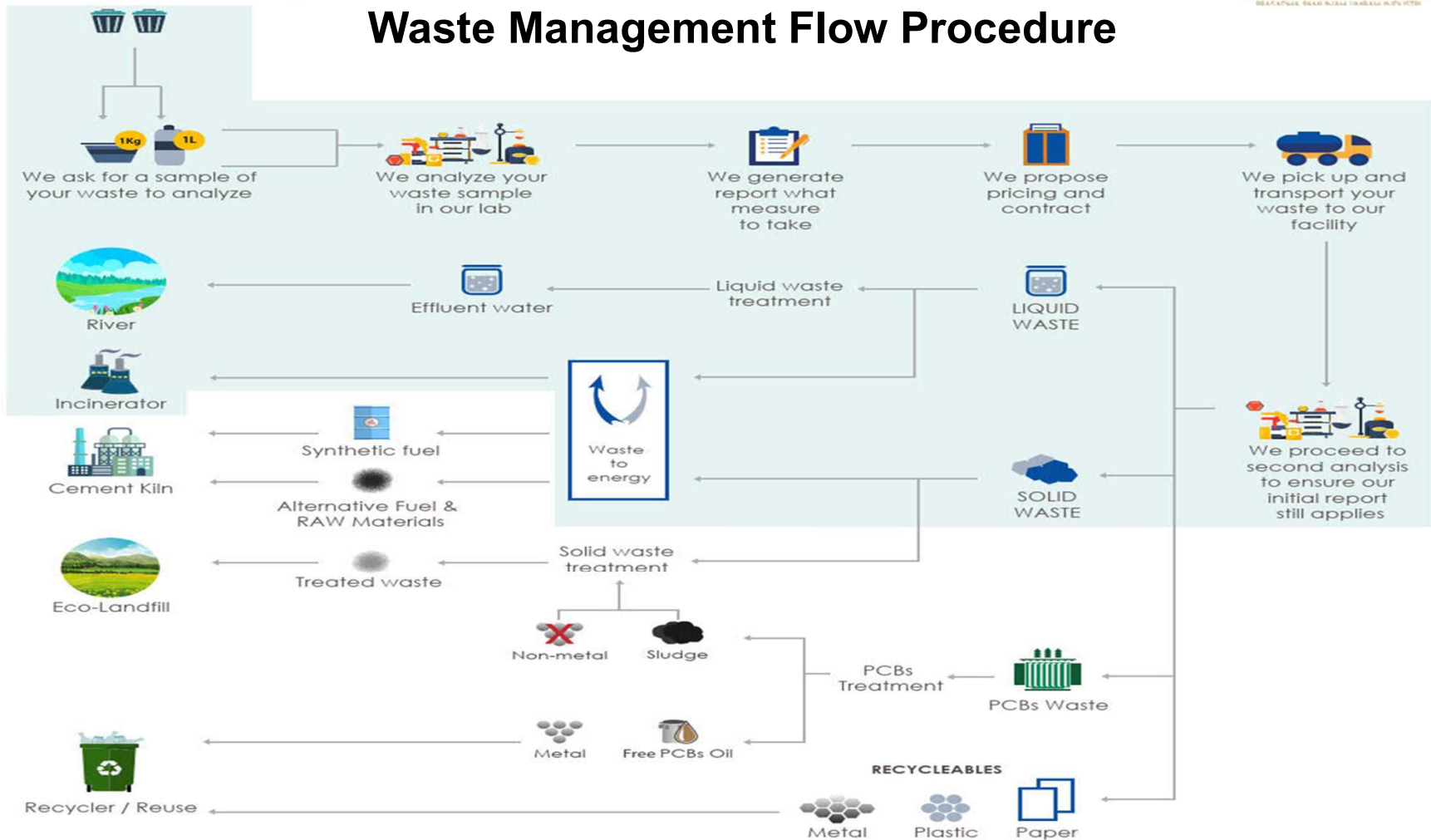
Untreated waste should be safely disposed at PPLi Controlled Landfill



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Waste Management Flow Procedure



Why so much concerns about e-waste

E-waste contains several different substances and chemicals, may of which are **toxic** and are likely to create **adverse impact** on **environment** and **health**, if not handled properly





Can all electronics be repurposed or recycled?

Not all electronics can be repurposed, but most can be recycled.

Main E-waste Components and Elements Reused/Recycled

- Metals (gold, silver, copper)
- Plastics
- Glass
- Rare earth elements

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Some of the harmful components in E-waste and its effects



Cadmium



Found in Nickel-cadmium rechargeable batteries
Causes severe damage to the lungs and kidneys.

Mercury



Found in fluorescent tubes, tilt switches,
and flat screen monitors.
Causes sensory impairment, dermatitis, memory
loss, and muscle weakness

Sulphur



Found in lead-acid batteries.
Health effects include liver damage, kidney
damage, heart damage, eye and throat irritation

Lead



Found in Solder, CRT monitor glass, lead-acid
batteries
impaired cognitive function, behavioural
disturbances, attention deficits, hyperactivity,
conduct problems and lower IQ

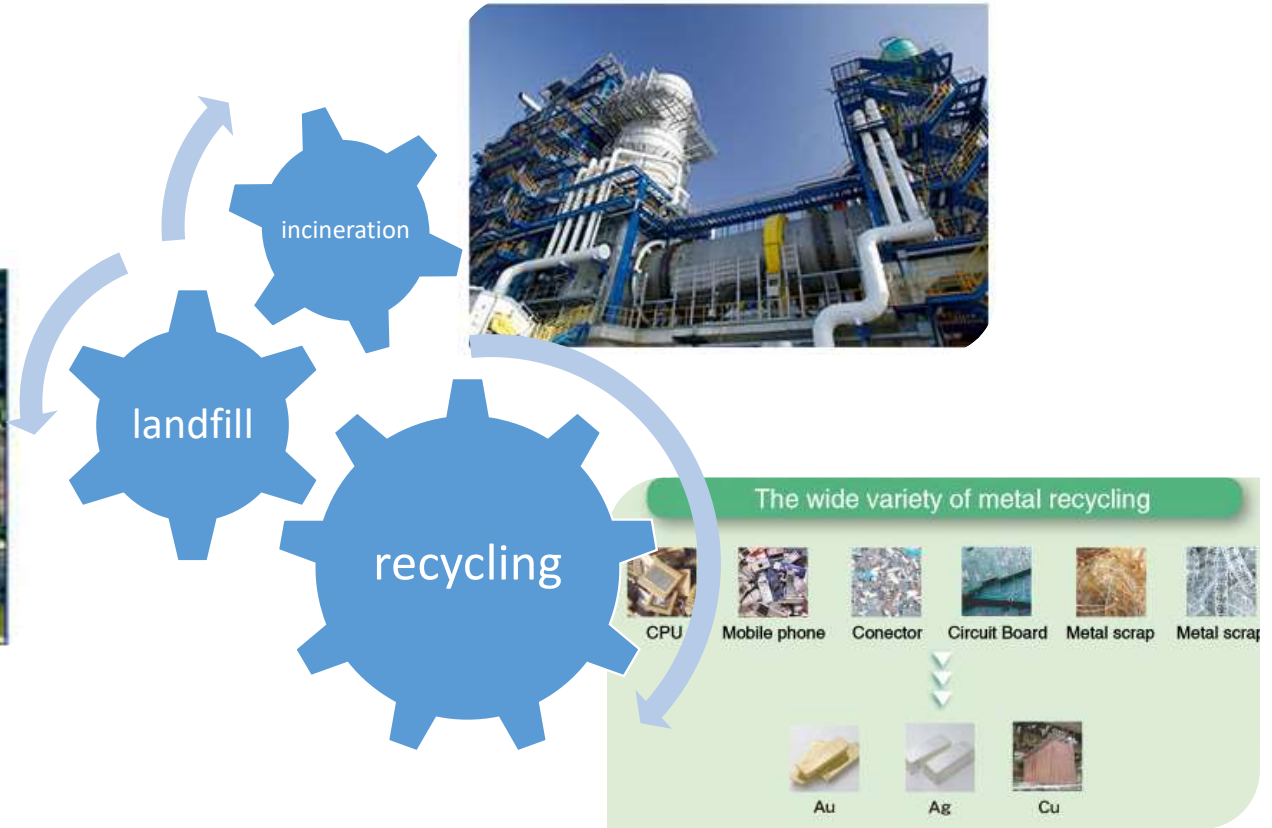
Why Hazardous Waste?

Indonesia's Regulatory Overview

for E-waste

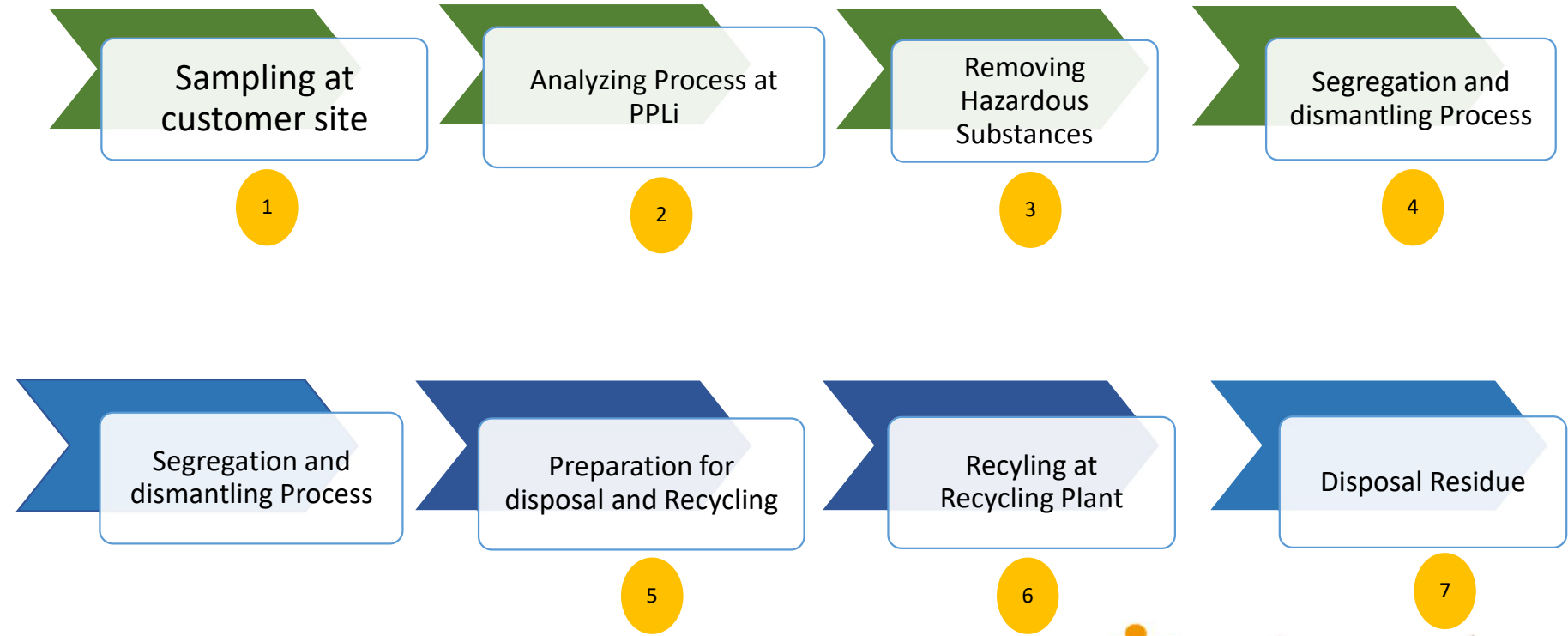
- Government Regulation Number 22 of 2021 concerning the Implementation of Environmental Protection and Management
- Government Regulation Number 27 of 2020 concerning the Management of Specific Waste
- Minister of Environment and Forestry Regulation Number 6 of 2021 concerning Procedures and Requirements for Hazardous and Toxic Waste Management
- Minister of Environment and Forestry Regulation Number 9 of 2021 concerning the Management of Waste Containing Hazardous and Toxic Substances and Hazardous and Toxic Waste

Treating e-waste





Recycling flow as one GREEN alternative



Solid Types

- ✓ Metal scraps
- ✓ ODU, IDU

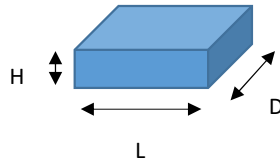




Grinding Mechanism

- Dimension:

L:	0,24 m
D:	0,22 m
H:	0,09 m
Q	0,004752 m ³



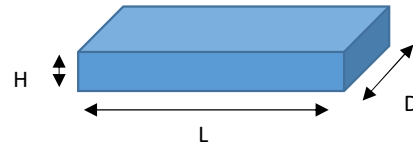
Dismantling Trial of ODU

- Pictures



- Dimension:

L:	0,44m
D:	0,23m
H:	0,045m
Q	0,004554m ³

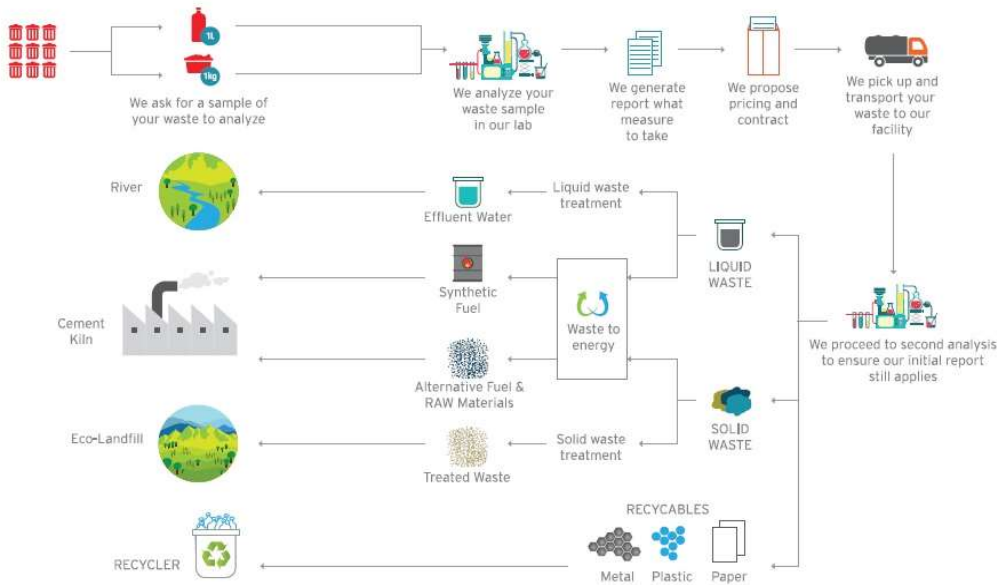


Dismantling Trial of IDU

- Pictures



To be able to recycle, compliance is a must!



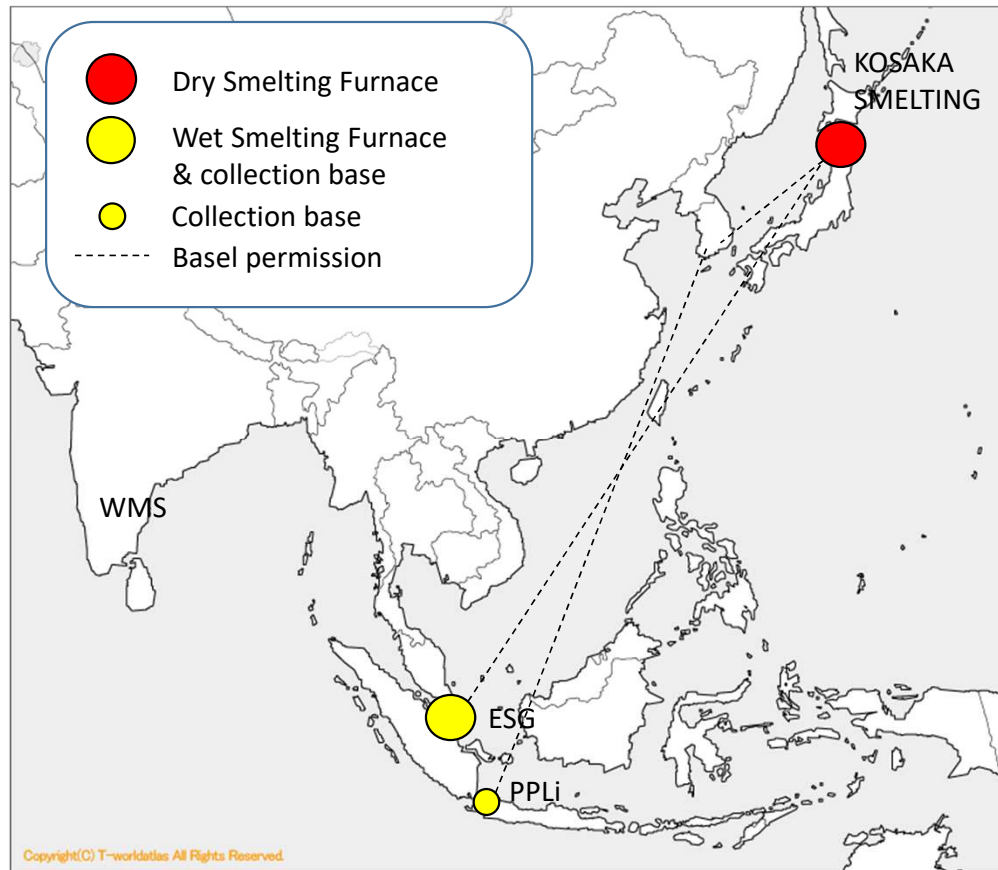
- ✓ Hazardous Waste Treatment Facility Permit
- ✓ Hazardous Waste Storage Facility Permit
- ✓ Hazardous Transportation Permit
- ✓ Basel Permit



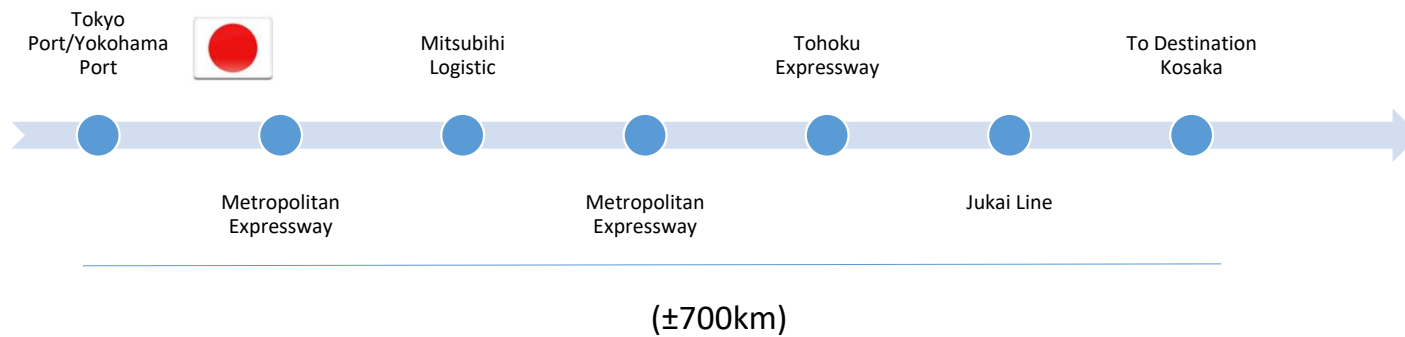
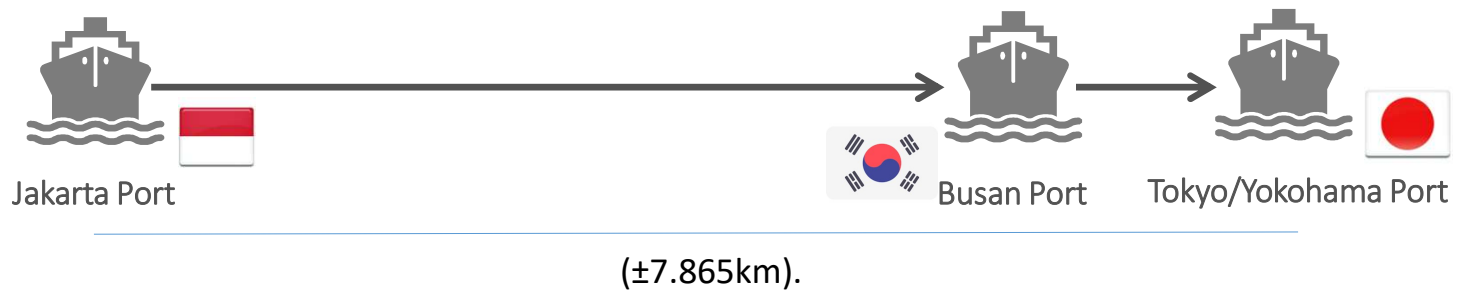
Regulation of Hazardous Waste Transboundary Movement

- PP 22 year 2021
- Basel Convention

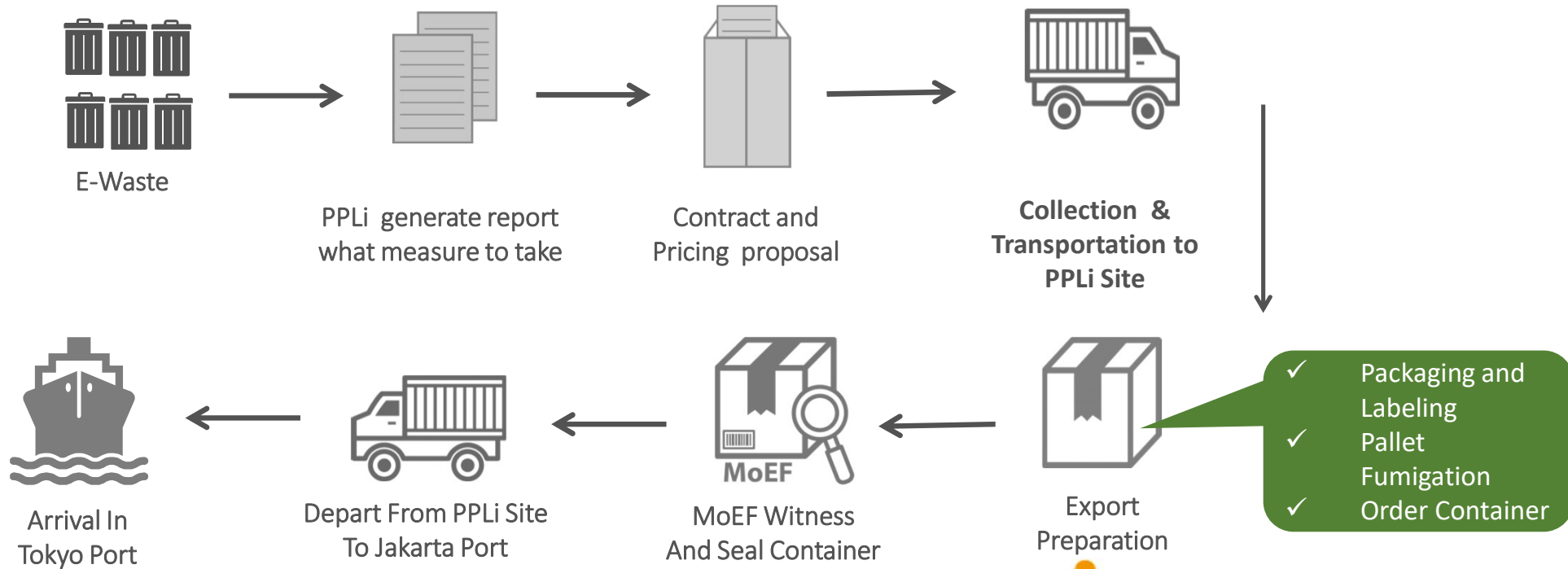




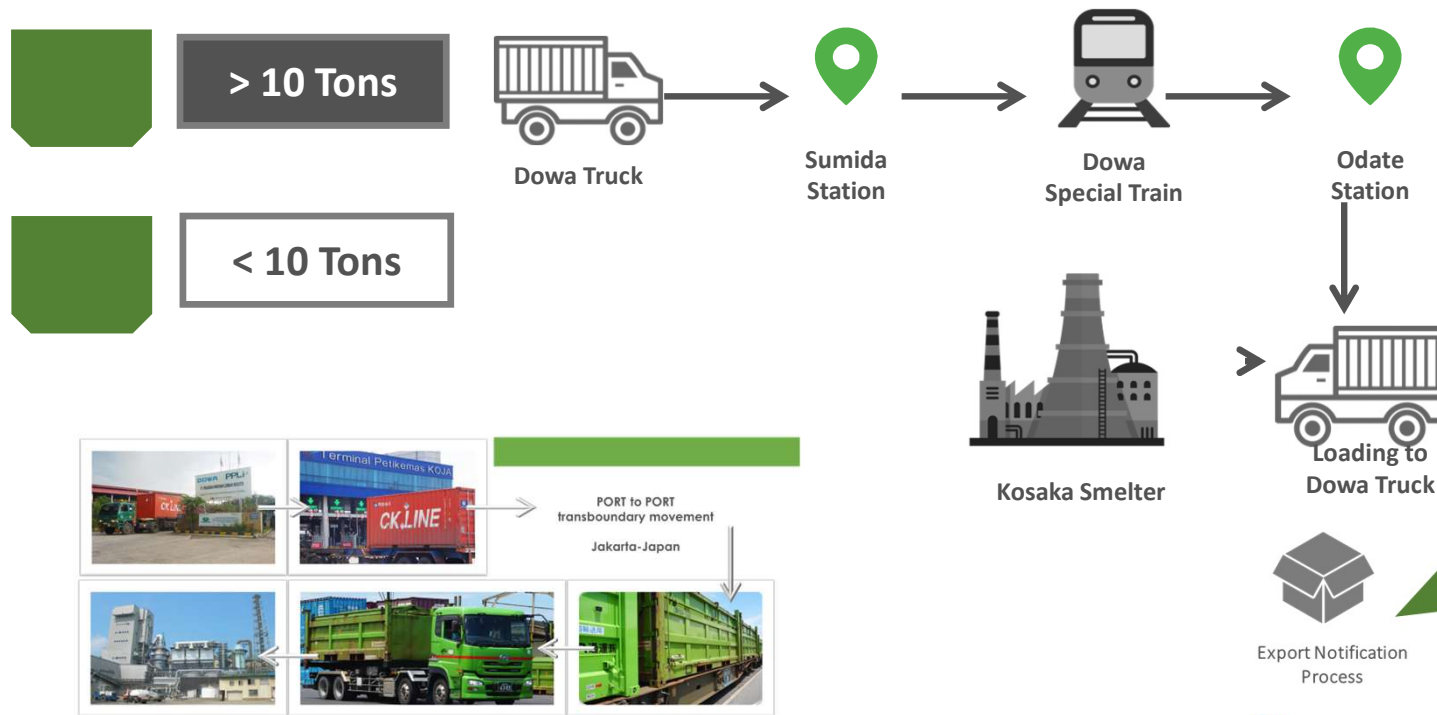
Route from Jakarta to Recycling Facility



Export Flow In Indonesia, Volume is very low less than 5 ton/year



Export Flow Tokyo Port



> 10 Tons

< 10 Tons



- ✓ Document Completion from MoEF
- ✓ MoEF Release Cover Letter and Base Notification Form Signed and Send to Japan and Transit Countries
- ✓ Japan Release Export Consent and send to MoEF
- ✓ MoEF Issue Export Approval Letter

E-waste at PPLi

- E-waste is able to be treated at Recycling Facility in Japan
- Metal segregation and Brand Removal will be conducted at PPLi Home Base Facility, Cileungsi Indonesia
- Disposal of non-hazardous waste and minor hazardous waste will be conducted at PPLi landfill



Company Programs for New Partners

Support for New Partners

- Mentorship programs, training workshops, and funding opportunities
- Collaboration with academic institutions and research centers
- Startups focusing on e-waste collection, recycling technologies, and material recovery (current opening relation with e-waste partner in Indonesia such as DULANG)

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Academics



- Interest in Recruiting Graduates from related major
- Focus on circular economy entrepreneurship

- Collaboration with Universities
- Internship programs, career fairs, and joint research projects
- Direct channels for students to apply and engage with the company

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discussion



Thank you