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ไปรษณีย์ไทย Thailand Post

Postal Network as an Asset for National Climate Priorities:

Review of the Thailand context for mobilising the reverse value chain for W/EEE management

28 May 2025

Overarching business and environmental case for servicing second-hand EEE (a preview)

- WEEE collection + lifespan expansion of used EEE
- Reduced raw materials use, reduced full device manufacturing
- Reduced energy and water use, embodied GHG emission reduction
- Carbon asset generation (e.g., credits), carbon border adjustment mechanisms (CBAM) mitigation
- Reduced toxic chemicals and waste
- Booming second-hand/waste EEE market + e-commerce
- Informal sector support + green jobs creation

W/EEE management in Thailand – an overview

- Thailand generated approximately **750 million kg in 2022 (10.5 kg per capita)** – 2nd highest e-waste generation in SE Asia after Indonesia
- Challenges: High informal sector presence (e.g., approx., 218 million kg dismantled manually in 2023); no harmonized W/EEE management framework; fragmented authorities.
- **Opportunities:**
  - Around 80% of Thailand's e-waste had the potential for recycling (material flow accounts* study, 2023).
  - Thailand is home to large manufacturers of temperature exchange equipment (e.g., air conditioners, refrigerators), consumer electronics, EVs, and batteries. **Engaging domestic EEE producers** could be a strong win-win case.
- Interim measures required (consumer & industries) en route to a formalised EPR system – Thailand Post and its partners can **already start operating collection points and services?**
- Would this pave way to Thailand Post operating similarly to a **producer responsibility organization (PRO),** setting targets and quality assurance?

* Covering items including: refrigerators, air conditioners, computers, TVs, mobile phones

Thai regulatory landscape for W/EEE management

- Lack of a complete regulatory framework, yet.
  - W/EEE one of the most valuable product/material streams.
  - Coincides with growing circularity demands from both consumers and industries.
  - Opportunity to pre-emptively fill in the market demands for circular electronics?

- Some underpinning national plans to consider:
  - **National E-waste Management Plan (2018**, Pollution Control Department of the Ministry of Natural Resources and Environment): Aims to establish a more efficient and effective system for collecting and transporting e-waste (incl. e-waste collection points, safe and proper handling and transporting of e-waste). Overall, covers definitions and scope, National WEEE Committee, responsibilities per actor group, waste management plan, enforcement, penalties.
  - **Strategic Plan on Integrated E-waste Management in Thailand (2022-2026) (launched 2021)** to follow up on the 2018 Plan and establish long-term action steps.

Thai regulatory landscape for W/EEE management

- Drafting of legislation in progress:
  - **Draft WEEE Act** developed (Pollution Control Department) based on the EPR principles; currently being revised following consultation with national stakeholders, including producers (2024). Aims to cover: *W/EEE definition and categorisation, W/EEE treatment regulations, registration of treatment facilities*, *W/EEE management funds*

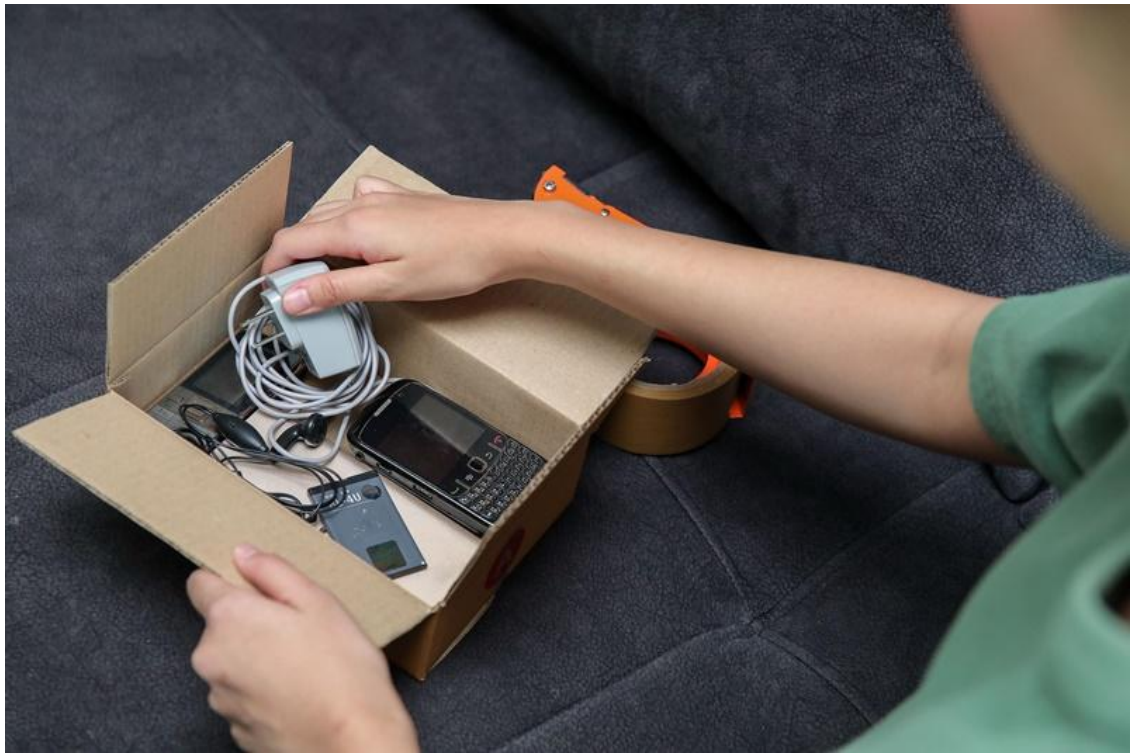
  - **Draft Industrial Waste Management Act** (released for stakeholder feedback March 2025): Proposed by the Department of Industrial Works (DIW); complements the Draft WEEE Act; aims to cover WEEE including batteries and ELVs. Proposes prohibition of incorrect disposal; licensing requirement from DIW for collection, transportation and disposal. No direct mention of the EEE manufacturers

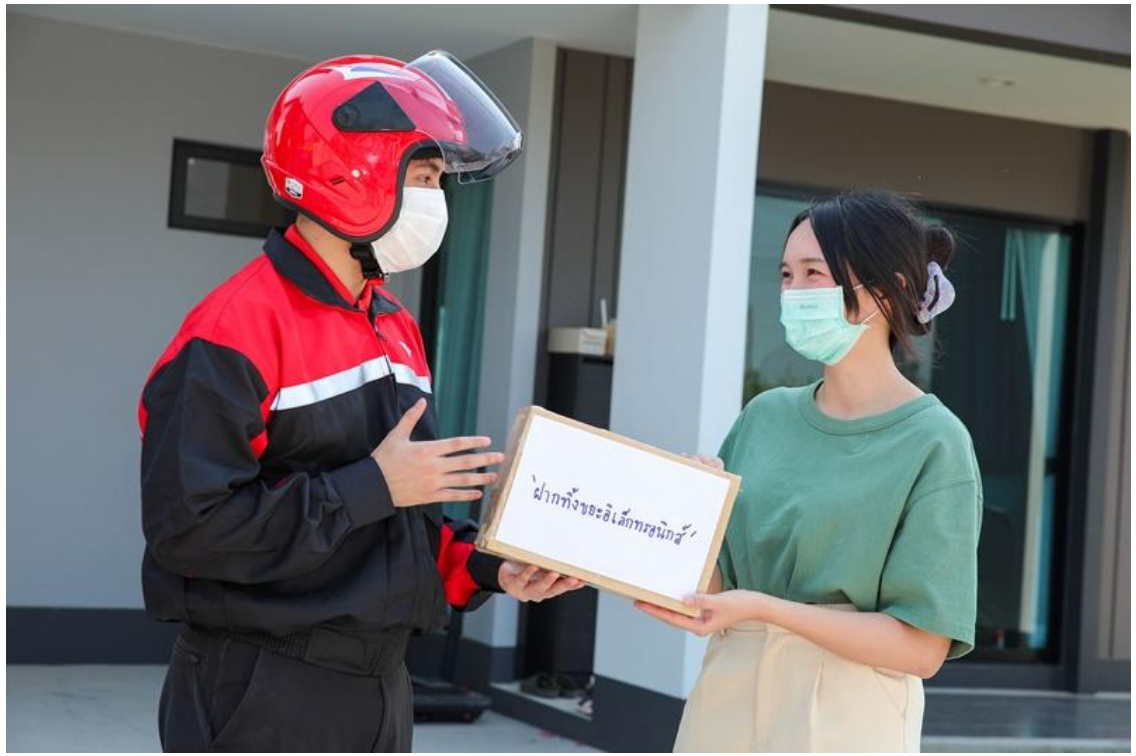
  - Recent movement that suggests Thailand **to lead ASEAN in adopting Right to Repair (R2R) laws** (Southeast Asia Public Policy Institute, the Thailand Environment Institute (TEI) and Rangsit University

Operational compliance – what to keep in mind already?

- **Some underpinning regulations**
  - Enhancement and Conservation of National Environmental Quality Act (NEQA) B.E. 2535 (1992)
  - Hazardous Substance Act B.E. 2535 (1992) and Amendments
  - Draft WEEE Act (Thailand Post & AIS collaboration already aligns with the Act)
  - Labour Protection Act B.E. 2541 (1998)
  - Occupational Safety, Health and Environment Act B.E. 2554 (2011)
- **Considerations overall:**
  - "Safe Logistics" – Safe packaging, labelling, documentation, pollution prevention
  - Fire safety – e.g., fire resistant (re-usable) packaging, specialized containers; case studies from AIS-Thailand Post + other postal operators that already service W/EEE
  - Categorisations W/EEE product types – what products are most optimal to serve?
  - Obtaining permits to collect and transport W/EEE from the Department of Industrial Works (DIW) + general labour regulations
  - Working with registered recycling, repair, refurbishment facilities
  - SOP for residual waste management
- **Recognising compliance requirements as enablers of efficient operation + business opportunities**

Thailand Post & AIS partnership – a stocktake





Thailand Post & AIS partnership – a stocktake

- *"Thais Say No to E-Waste"* initiative, originally launched in 2019
- Across the **entire AIS initiative**: 710 tonnes of waste have been disposed of (2020); 1 million pieces of WEEE collected (2024); more than 2,700 collection points set up

  Provision of **practical, convenient consumer engagement routes**:
  - Two easy steps: 1) Consumers to prepare any of the 5 types of E-Waste, Mobile phones/tablets, charging cords, headphones, power banks and mobile phone batteries; 2) Hand off the box to the postal worker delivering mail or parcels at no cost.
  - Management of collected WEEE by AIS, ensuring that the waste will be properly terminated or recycled in line with international standards including the Zero Landfill approach (E-waste+ application/blockchain for tracking)
- Launched together with nationwide social media/digital campaigns. Expansion of the initiative into campaigns renewed each year: E.g., "Aunjai Goes Nationwide: E-Waste Hunt" campaign
- **Remaining challenges > opportunities:**
  - Consumers asked to delete data / treat blistering or discolourisation in their own capacity > possible deterrent?
  - Provision of a financial incentive? + Long-term financing plan?

R2R policy developments – opportunity for device repairs

- Concept that consumers should have the **right to fix their products**, **devices and equipment**, with access to parts, tools and documentation; provides legal protections for repair and discourages software restrictions that degrade a product's utility.
- Draft WEEE Act does not yet explicitly outline R2R, but there is a rapidly emerging trend for a R2R specific regulation (or it to be enshrined as part of a WEEE legislation). Thai government also has begun **drafting a 'Lemon Law' (the Defective Product Liability Bill)**: To introduce liability provisions for additional types of product defects beyond those associated with safety risks; can provide a basis to an R2R legislation.
- **Strong independent repair services' presence** > a force to be reckoned with!
- Challenges outlined by the repair sector: limited access to repair information, tools, and parts; reduced repair demand due to consumer preference for newer models and upgrades; OEM warranty policies; lack of standardized pricing and access to parts, etc.
- **Going hand-in-hand with WEEE services, Thailand Post can consider:**
  - Servicing personalized/on-demand collection of devices for repair, creating the economy of scale
  - Connecting the fragmented repair sector, namely the repair technicians and parts/materials providers
  - Playing the role of a trusted intermediary, facilitating the flow of product data, providing certification services, consumer information campaigns, etc.
  - Creating a bottom-up demand for a harmonized, official R2R policy framework

Leading EEE industries in Thailand – industry opportunities

- **Leading industries:** Consumer electronics, automotive, semiconductors and integrated circuits, batteries. Big mid- & downstream manufacturing presence. Hence, Thailand as a **strategic location** for not only manufacturing, but also **materials circularity**.
- Steep rise of certain production (e.g., EVs, batteries) comes with EOL considerations; still faces lack of specific regulations for structured collection, recycling, disposal, and materials recovery.
- EEE industry POV:
  - Necessity for preemptive alignment to the future EPR system + diversifying services
  - **Hence, leading with company-led actions** to increase collection (e.g., Panasonic), specific technologies such as solvent recycling.
- **Thailand Post's emission reduction actions (e.g., WEEE collection) directly correlates to EEE producers' emissions reduction (product life-cycle).** Thailand Post can position as the country's EEE industry's GHG emissions reduction facilitator.
- In this context, demands for device/materials circularity are rising, but policy approaches remain fragmented. Would require **interim / market-driven support** for reverse logistics, data collection, tailored consumer services.

Questions and comments?