

Circular Economy: Enhancing the Regulatory Framework for Recycling of End-of-Life Electric and Electronic Equipment

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Foreword

As the agency entrusted with championing productivity in Malaysia's public and private sector, the Malaysia Productivity Corporation ("**MPC**") is pleased to produce the publication "Enhancing the Circular Economy: The Regulatory Framework for Recycling of End-of-Life Electric and Electronic Equipment From Local and International Sources". It is prepared to serve as an additional reference to the ongoing discussion of improving Malaysia's Circular Economy ("**CE**") efforts.

This is in line with the objectives set under various policies including the Thirteenth Malaysia Plan (2026 – 2030), the Circular Economy Policy Framework for the Manufacturing Sector in Malaysia (2024 – 2030) and the Circular Economy Blueprint for Solid Waste in Malaysia (2025-2035). CE is a crucial aspect in transitioning Malaysia into a more sustainable and responsible nation.

CE has been defined by the MacArthur Foundation as an "industrial economy that is restorative by intention. It aims to enable effective flows of materials, energy, labor and information so that natural and social capital can be rebuilt. It seeks to reduce energy use per unit of output and accelerate the shift to renewable energy by design, treating everything in the economy as a valuable resource".

Internationally, CE has been increasingly prioritized as a solution to climate change, by steering away from the traditional "take, make, and dispose" economic model to a "Reduce, Reuse, Recycle, Refuse, Repair, Refurbish, and Remanufacture" model. ASEAN, for example, has adopted the Framework for Circular Economy for the ASEAN Economic Community, as a reference for ASEAN Member States to adopt core CE principles in their local economies.

This publication looks at Malaysia's CE goals under nine (9) key policy documents, and identifies potential best practices from best-in-class countries that Malaysia could emulate to improve its own CE efforts.

We hope that this publication will serve as a useful reference point in helping key policymakers and regulators in designing and implementing CE policies that further strengthen its efforts towards a more sustainable nation.

Glossary

ASEAN	Association of Southeast Asian Nations
Basel Convention	Basel Convention on the Control of Transboundary Movements of Hazardous Waste and their Disposal
CA 1967	Customs Act 1967 [Act 235]
CE	Circular Economy
CEPF	Circular Economy Policy Framework for the Manufacturing Sector in Malaysia
CESW	Circular Economy Blueprint for Solid Waste in Malaysia (2025-2035)
DOE	Department of Environment
EC	European Commission
EPR	Extended Producer Responsibility
EQA 1974	Environmental Quality Act 1974 [Act 127]
EQR 2005	Environmental Quality (Scheduled Waste) Regulations 2005
ESG	Environmental, Social and Governance
ESM	Environmentally Sound Management
EU	European Union
FI-SYKE	Finnish Environment Institute
HDD	Hard Disk Drives
KE	Ministry of Economy
KPKT	Ministry of Housing and Local Government
MITI	Ministry of Investment, Trade and Industry
MPC	Malaysia Productivity Corporation
MPSR	Malaysian Plastics Sustainability Roadmap (2021 - 2030)
NCCP 2.0	National Climate Change Policy 2.0
NEA	National Environment Agency (Singapore)
NEP	National Energy Policy (2022 - 2040)
NETR	National Energy Transition Roadmap
NIMP	New Industrial Masterplan 2030

NRES	Ministry of Natural Resources and Environmental Sustainability
OECD	Organization of Economic Cooperation and Development
OHS	Occupational Health & Safety
PCBA	Printed Circuit Board Assembly
PCS	Pollution Control System
PGM	Platinum Group Metals
PIC	Prior Informed Consent
PRS	Producer Responsibility Scheme
RFID	Radio Frequency Identification
RMCD	Royal Malaysian Customs Department
RMK12	12th Malaysia Plan
RMK13	13th Malaysia Plan
SDG	Sustainable Development Goals
Seagate	Seagate Technology Holdings
SPM	Shan Poornam Metals Sdn. Bhd.
	Review of the Regulatory Framework of the Importation of End-of-
Study	Life HDD
UEEE	Used Electrical and Electronic Equipment
UEEE	Guidelines for the Transboundary Movement of Used Electrical
Guidelines	and Electronic Equipment (UEEE) in Malaysia
UMB	<i>Umweltbundesamt</i> or Germany Environment Agency
USA	United States of America
VCM	Voice Coil Motor
WEEE	Waste Electrical and Electronic Equipment

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Chapter 1: Background and Methodology

1. Project background

The Circular Economy (“**CE**”) is a concept in which Malaysia has fully embraced since 2021. Its catalyst, the 12th Malaysia Plan (“**RMK12**”), has provided the imprint for the country’s pursuit of a more sustainable economy which moves away from the linear “take, make, and dispose” to one which is able to ensure every product maintains its value within the economy.

Following the establishment of CE as a crucial policy goal in RMK12, other policies have followed suit, most notably the recently announced 13th Malaysia Plan (“**RMK13**”) as well as more specific policies such as the Circular Economy Policy Framework for the Manufacturing Sector in Malaysia (“**CEPF**”) and the Circular Economy Blueprint for Solid Waste in Malaysia (“**CESW**”).

Under Malaysia’s CE goals, electronic waste or “e-waste” makes up a large part of the goods which require close attention. The Department of Environment (“**DOE**”) estimates that Malaysia produces upwards of 24.5 million units of E-Waste in 2025.

More pertinently, Malaysia has also faced an increase in illegal e-waste importation. Recently, 510,461 kg of illegal e-waste was intercepted in Port Klang, with many more cases of smuggling uncovered¹.

Given Malaysia’s emphasis on achieving circularity, coupled with the need to improve our e-waste management, it is crucial that a holistic review of Malaysia’s CE ecosystem and its management of e-waste is examined.

¹ Justin Zack (2026). *Authorities uncover 22 more e-waste containers in Port Klang operation*, The Star. Accessed at: <https://www.thestar.com.my/news/nation/2026/03/09/authorities-uncover-21-more-e-waste-containers-in-port-klang-operation>

With that goal in mind, the Malaysia Productivity Corporation (“**MPC**”) has acted to undertake this study titled “*Enhancing the Circular Economy: Enhancing the Regulatory Framework for Recycling of End-of-Life Electric and Electronic Equipment*” (“**Study**”) based on its mandate to drive productivity growth and competitiveness.

The Study aims to analyze Malaysia’s CE policies, identify the current regulatory framework pertaining to the management of e-waste, review international best practices of selected countries and determine the way forward for the improvement of the ecosystem to enable both the collaboration and future endeavors by industry players that want to contribute to Malaysia’s CE vision.

2. Project scope

2.1. The Study reviews the regulatory framework pertaining to e-waste importation including but not limited to the following legal instruments:

- a) The Basel Convention
- b) Environmental Quality Act 1974 and Environmental Quality (Schedule Waste) Regulations 2005
- c) Solid Waste and Public Cleansing Management Act 2007
- d) Customs Act 1967 and Prohibition of Import Order 2023

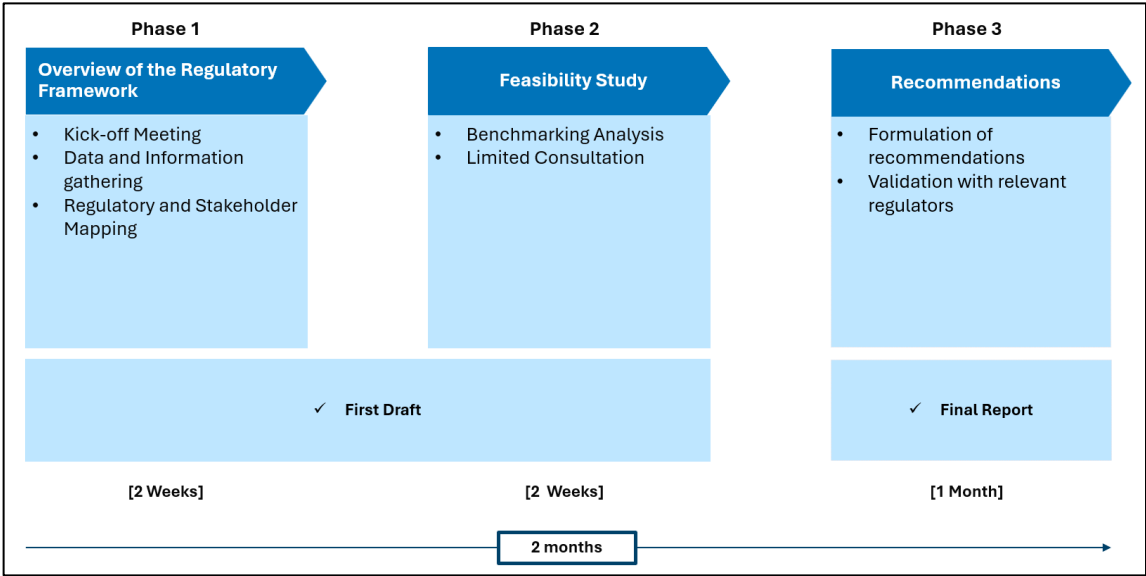
2.2. Further to the above, the Study identified six (6) benchmarks namely:

- a) European Union
- b) Singapore
- c) South Korea
- d) Japan
- e) Germany
- f) Finland

3. Project methodology

3.1. The Study was conducted through three (3) phases across two (2) months and was completed by January 2026. The phases are as follows:

Figure 1: Study methodology



4. Activities undertaken

- 4.1. In preparation of this paper, three (3) key activities were conducted which are as follows:
- a) Data collection utilizing various methods of data collection;
 - b) Submission of a Data and Information Requisition List on 19 November 2025; and
 - c) Site-visit to Shan Poornam Metals on 3 December 2025.

Data Collection

- 4.2. To identify the ‘baseline’ of Malaysia’s Circular Economy goals, the overview of the recycling industry, and its regulatory framework, the Study utilized the following methods in conducting data collection:

Table 1: Data collection methods

Method	Objective
Legal Journal (Lexis Nexis, CLJLaw, LawNet)  LexisNexis®  PNMB Trusted Secure Professional  CLJ	The use of legal journals such as Lexis Nexis, CLJLaw, and LawNet to identify the regulatory framework pertaining to Malaysia’s Circular Economy and recycling regulations.
Publicly available sources	The Study utilized publicly available sources such as official Government websites to identify policy documents such as blueprints, masterplans, frameworks and policies.

Literature Review	This Study undertook literature review through publicly available sources such as published articles, reports and working papers.
Limited consultation	Consultation was conducted with selected government and industry stakeholders to obtain validation and input on the initial findings of the Study

Data and Information Requisition List

- 4.3. On 19 November 2025, a Data and Information Requisition List (“**Requisition List**”) was submitted to SPM which contains clarifications pertaining to among others, issues faced by the industry with regards to their operations. Input on the Requisition List was obtained on 11 December 2025. The list of questions in the Requisition List is as follows:

Table 2: Requisition List questions

No.	Questions
Section A – Preliminary Information	
1.	Please provide a brief description of the regulatory framework in which SPMs operations are in compliance with?
2.	Please indicate any licences, permits, and/or any application by SPM which has not been approved?
3.	What is the total amount (in KG) of local HDDs that SPM has procured for recycling purposes up to November 2025?
4.	Briefly explain the current procedure and costs involved in procuring local HDDs, (i.e., current sources of HDDs, licences/approvals/agreements required, transport cost).
5.	Briefly explain the current procedure and costs involved in extracting the precious metals from the HDDs, (i.e., handling of HDDs, process flow,

	chemical processes, waste disposal, summary of expected operational costs).
6.	Based on SPMs' current experience in procuring and recycling HDDs, what is the anticipated volume of HDDs required by SPM to commercially justify the proposed collaboration with Seagate?
Section B – Recycling & Regulatory Information	
7.	Kindly confirm whether SPM has received any certification/ approval/ authorisation from any regulatory authority for receiving, storing, or handling for the purpose of recycling? (e.g., Department of Environment (DOE), SIRIM, MITI, Customs)
8.	Kindly describe SPMs current processes for ensuring compliance with DOE's requirements (e.g., reporting obligations, inspections, environmental monitoring).
9.	Under which Scheduled Waste code(s) does SPMs classify HDDs or components derived from HDDs?
10.	Does the facility maintain proper consignment notes and inventories for all incoming and outgoing scheduled wastes, as required by DOE?
11.	How does SPM ensure that the storage, labelling, transport, and record-keeping of HDDs comply with the Scheduled Waste Regulations
12.	Kindly describe SPMs internal processes for ensuring that no restricted or prohibited materials enter Malaysia without the required Customs and DOE approvals.

Site Visit and key findings

- 4.4. Lastly, on 3 December 2025, a site visit was conducted as part of the Study to a local recycling facility in Perai, Pulau Pinang. The site visit was intended to provide the Study with a walkthrough of the facility's recycling capabilities, safety mechanisms, and operational proposals for the Collaboration. The following were the key findings from the site visit.
- 4.5. **Firstly, that the current feedstock of e-waste is insufficient to commercially justify the operation of local e-waste recycling lines at full capacity.** Most local recycling facilities rely on domestic sources of e-waste, which have begun to steadily decline. For example, the quantity of e-waste domestically procured by the recycling facility has dropped more than half, from 205,659 kilograms in 2021 to only 80,860 kilograms in 2025. The limited feedstock has resulted in many of the recycling facilities processing lines remaining idle until enough e-waste is received, increasing storage costs and decreasing recovery capabilities.
- 4.6. **Notwithstanding, Malaysia's recycling facilities are equipped with world-class recycling facilities which cover the end-to-end recycling process.** This includes manual segregation of e-waste components, use of advanced pyrometallurgy and refining processes, and comprehensive Pollution Control Systems ("PCS"). This includes the use of wet scrubbers to remove airborne pollutants and an on-site Industrial Effluent Treatment System ("IETS") to address effluent discharge.
- 4.7. **Local facilities are capable of high rates of recoverable material from the processed e-waste.** Laboratory testing indicates that 99.9% of metals were recovered from used HDD's recycled – including precious metals such as gold, silver, copper and palladium.
- 4.8. **Ultimately, the recycling capabilities offer a legitimate solution towards achieving circularity.** The end-to-end process from collection to final recovery closes the loop by allowing precious metals to be extracted from e-waste.

CHAPTER 2:

INTRODUCTION

In this chapter, the report shall discuss an overview of the E-Waste Recycling Industry in Malaysia, the concept of the Circular Economy, Malaysia's aspirations in nine (9) key policies, and Malaysia's goals in each of the policies.

1. Overview of e-waste in Malaysia

As Malaysia moves towards becoming a more developed country, factors such as urbanization, increased purchasing power, the increased access to goods, and shorter product lifespans has resulted in an increase of overall e-waste produced.²

While there are many definitions of what constitutes e-waste, for the purpose of this Study, e-waste is defined under the Environmental Quality (Scheduled Waste) Regulations 2005 as:

Figure 2: Definition of e-waste

***“Waste from electrical and electronic assemblies** containing components such as accumulators, mercury-switches, glass from cathode-ray tubes, and other activated glass or polychlorinated biphenyl-capacitors, or contaminated with cadmium, mercury, lead, nickel, chromium, copper, lithium, silver, manganese or polychlorinated biphenyl”*

Additionally, there are generally two (2) sources of e-waste, namely industrial and household e-waste. This Study does not distinguish between the two unless stated otherwise.

Malaysia follows a global trend of increased production of e-waste generated. The DOE anticipates that in 2025, Malaysia would have produced up to 24.5 million units of e-waste from both industrial and householder sources.³ Other reports such as Global E-Waste Monitor 2024 reported that in 2022, Malaysia produced around 411 million kilograms of e-waste or 12.2 kg/per capita.⁴ This statistic seems to be validated by a statement made by the Director General of DOE where it was mentioned Malaysia has recorded 536,709.04 tonnes of e-waste, according to reports by licensed premises between January 2021 to June 2025.

² Mawardi Omar, Nurshuhada Samsudin, Wan Nur Syaziayani Wan mohd Rosly, Sharifah Sarimah Syed Abdullah (2025) *Environmental and Economic Implications of Electronic Waste (E-Waste) in Malaysia*,

³ A unit is defined as a singular unit of electronic or electrical item for example, one (1) mobile phone is considered one unit.

⁴ United Nations Institute for Training and Research, UNITAR (2024) *The Global E-Waste Monitor 2024*, accessed at https://ewastemonitor.info/wp-content/uploads/2024/12/GEM_2024_EN_11_NOV-web.pdf

For household e-waste, the latest reports from DOE indicate that 2,459 tonnes of e-waste was collected in 2021 with the majority at 30% of e-waste being mobile phones.⁵ As for industrial e-waste, the data pertaining to the volume of e-waste generated is very limited.

In spite of the high volume of e-waste generated, the rate of e-waste recycling is low. Several sources have indicated that the recycling rate for Malaysia ranges from 10% to 25% of the entire e-waste produced.⁶ When compared against the potential capacity to recycle, it was reported in 2024 that only 42.3% of the total approved e-waste processing capacity of the licensed recycling facilities was utilized, which stood at 131,004 tonnes.⁷

One of the notable challenges hindering the current state of e-waste recycling from meeting Malaysia's Circular Economy goals include limited feedstock of e-waste. This relates to the availability of collected e-waste to be recycled into new raw materials.⁸ This is contributed by issues such as limited collection efforts both in industry and household e-waste, resulting in overall low volumes of e-waste recycling.⁹

E-waste recycling possesses tremendous economic opportunity for Malaysia. It contains valuable materials such as aluminum, copper, gold, silver and palladium which can be used as raw materials for new products. It is estimated that in 2025, the global e-waste recycling market is valued at USD43.2 billion and is expected to reach USD147.9 billion in 2035 with a CAGR of 13.1%.¹⁰ Countries such as South Korea and Japan as examples, have an e-waste recycling market value of USD2.1 and USD1.4 billion in 2025, indicating a large economic impact including job creation and investments.¹¹

⁵ Izzah As Zahra Ahmad et. al (2025) *Factors Influencing Malaysian' Intention to Participate in E-Waste Recycling*, International Journal of Service Management and Sustainability, vol. 10(2), pg 169

⁶ Nway Nandi Hetet & Syazwani Sahrir (2025) *Determinants of E-Waste Recycling Behaviour among Residents in Klang Valley, Malaysia*, International Journal of Research and Innovation in Social Science, (01), pg 6 -17;

⁷ TheSTAR (2024) *M'sia generated over 55,000 tonnes of e-waste in 2024, Dewan Rakyat told*, accessed at <https://www.thestar.com.my/news/nation/2025/10/10/m039sia-generated-over-55000-tonnes-of-e-waste-in-2024-dewan-rakyat-told>

⁸ Ministry of Investment, Trade and Industry (2024) *I Circular Economy Policy framework for the Manufacturing Sector in Malaysia*, accessed at <https://www.miti.gov.my/miti/resources/CIRCULAR%20ECONOMY%20POLICY%20FRAMEWORK.pdf>

⁹ Abd Shukor Mohd Yunus, Nurul Asyikeen Abdul Jabar, Normawati Hashim, Angelina Anne Fernansez, Mumtaz Narowi (2025) *The Law of E-Waste: Closing the Loop for Green Digital Technologies and Economic Resilience – A Malaysian Perspective*, Information Management and Business Review, Vol 17, No.3 (S), p. 348

¹⁰ Fact.MR (2025) *Electronics Recycling Market Forecast and Outlook 2025 to 2035, Market Research Survey*, accessed at <https://www.factmr.com/report/electronics-recycling-market>

¹¹ Ibid.

Further to the above, the e-waste recycling industry and practices contributes largely to Malaysia's CE goals. This includes Malaysia's goals embedded in key policies such as the 13th Malaysia Plan and the New Industrial Master Plan 2030 which calls for the implementation of the Circular Economy principle.

Despite the low feedstock available for recycling, Malaysia currently only permits local e-waste to be recycled. This is regulated under the Environmental Quality Act 1974 ("**EQA 1974**") and the Environmental Quality (Scheduled Waste) Regulations 2005 ("**EQR 2005**") which only permit local sources to be recycled and prohibit any foreign e-waste from being imported. These local sources are then recycled by the 17 available facilities for full recovery or 106 facilities under partial recovery licensed by the DOE.

Although it is important to continue with existing collection efforts of local sources, it is crucial to re-evaluate the current efforts towards a more circular economy. Taking inspiration from best practices from other countries, efforts such as private-public collaborations, Extended Producer Responsibility ("**EPR**") regulations, and green incentives, may hold the key to spur the ecosystem.

2. The Circular Economy

First mooted in 1966, the early CE concept began with the notion that natural resources are finite, and the pollution created by human activities cannot be fully ‘absorbed’ by nature, hence, it became imperative that actions are taken by world leaders to prevent the scarcity of raw materials and abate environmental pollution.¹²

While several works have built on this idea, the first time the term “Circular Economy” has been mentioned was in 1990 by David W. Pearce and R. Kerry Turner in the “Economics of Natural Resources and Environment”. In their work, they identified that the problem with the current economic system which allows for activities which are continuously producing waste and proposed that the only viable solution is to “consider waste as a source for more resources” by reinventing the economy into a circular one.

As time progressed, the discussion surrounding CE has evolved significantly with various advocates, some of which attempted to re-define CE. One of the global frontrunners of CE, the Ellen MacArthur Foundation, provides for the current working definition of CE which has been adopted by international organisations. Further to this, organisations such as the European Union (“**EU**”) and the Association of Southeast Asian Nations (“**ASEAN**”) have also developed policy definitions of CE. Each framework defines CE differently but collectively serves to ensure that member countries are aligned in their effort in implementing CE. A comparison between each definition is provided below:

¹² Carlos Andrade, Sandrine Selosse, Nadia Maizi (2021) *Thirty years since the circular economy concept emerged: has it reached a consensus*, Working Paper 2021-02-30, Chaire Modélisation prospective au service du développement durable

Figure 3: Definitions of the Circular Economy

Definitions of the Circular Economy

**Ellen Macarthur Foundation**

“The circular economy refers to an industrial economy that is restorative by intention. It aims to enable effective flows of materials, energy, labor and information so that natural and social capital can be rebuilt. It seeks to reduce energy use per unit of output and accelerate the shift to renewable energy by design, treating everything in the economy as a valuable resource. The idea goes beyond the requirements of the production and consumption of goods and services.”¹

**European Union (Closing the Loop – An EU Action Plan for the Circular Economy)**

‘...Circular Economy, where the value of products, materials and resources is maintained in the economy for as long as possible, and the generation of waste minimized’

**ASEAN (Framework for Circular Economy for the ASEAN Economic Community)**

‘The Circular Economy model is defined as an economic model that is restorative regenerative by design, and makes efficient use of materials and energy’.

At its core, CE is an attempt at moving away from the “Take, Make, and Dispose” economic model to a more complex framework. The Malaysian Investment Development Authority (“**MIDA**”) provides a **nine (9)** point framework for the Circular Economy.

Table 3: MIDA’s 9-point CE Framework

	Refuse	The principle of avoiding unnecessary consumption of goods.
	Rethink	Under this principle, all stakeholders are urged to design smarter, more sustainable products.
	Reduce	All stakeholders are called to minimize material and energy use at all stages.
	Reuse	The extension of a products use beyond the first ownership.
	Repair	All used goods should be fixed instead of typically discarding them,
	Refurbish	The restoration of used products to working conditions.
	Remanufacture	Rebuilding used products to original specifications.
	Repurpose	The adaption of materials from old products into new uses.
	Recycle and recover	Extracting value and materials from used products at the end-of-life stage.

3. Malaysia's Circular Economy Ecosystem

3.1. Malaysia's Circular Economy Policies.

Since 2021, Malaysia has developed **nine (9)** key policies with the aim of implementing CE at all levels. This is indicative of the Government's commitment to ensuring a sustainable future for the country. Each of the key policies cuts across various Ministries and Industry, ranging from manufacturing, plastics, energy, and solid waste.

Twelfth Malaysia Plan 2021 – 2025



The 12th Malaysia Plan (2021 – 2025) (“RMK12”) issued by the Ministry of Economy (“KE”) sets out one of Malaysia's first commitments in implementing CE, with it positioning CE under Theme 3: Advancing Sustainability. Under this theme, the CE model was embraced as Game Changer VIII and called for the adoption and integration of Sustainable Development Goals (“SDG”) and Environmental, Social, and Governance (“ESG”) principles in decision making by both public and private sectors. Further to this, it calls for several enabling ecosystems to be in place to expedite the transition to a CE model including:

- a) Setting up an enabling ecosystem;
- b) Promotion of the sharing economy models;
- c) Increased use of recycled materials and recycling of production waste; and
- d) Extending the responsibility of producers in managing their end-of-life products.

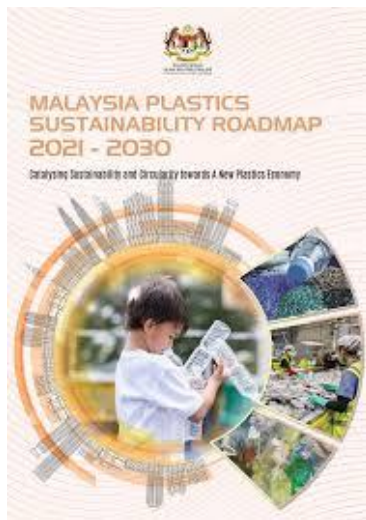
As part of RMK12, under Chapter 8: Advancing Green Growth for Sustainability and Resilience (Strategy A2), RMK 12 calls for the implementation of Extended Producer Responsibility (“EPR”) for managing household electrical and electronic waste.

Thirteenth Malaysia Plan 2026 – 2030

The 13th Malaysia Plan (“RMK13”) continues the CE goals from RMK12. This is done by embedding in Chapter 5 (Enhancing Wellbeing of the Rakyat and Environmental Sustainability), Priority D6 (Preservation of Planetary Health), the strategy of Enhancing Implementation of CE and Improving Waste Management. Under this, the Government of Malaysia aims to improve the implementation of CE by focusing on among others, the transition into a more integrated, high-tech and sustainable approach, supported by modern recycling infrastructure, including material recovery facilities.

Although the above-mentioned policies discuss the implementation of CE as part of a broader goal such as plastic management, industry growth, and the energy sector, there are **two (2)** policies in Malaysia which establishes the implementation of CE as its main subject.

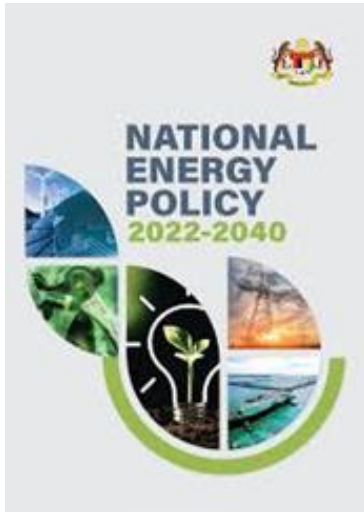
Malaysian Plastics Sustainability Roadmap (2021 – 2030)



The **Malaysian Plastics Sustainability Roadmap (2021 – 2030)** (“**MPSR**”) issued by the Ministry of Natural Resources and Environmental Sustainability (“**NRES**”) sets out Malaysia’s CE model for plastics by promoting among others, that plastics at the end-of-life cycles are designed to be reused, recycled, or disposed of in a clean and sanitary way. This builds on the mandate under RMK12 by setting out the goal of implementing an EPR policy by calling for all stakeholders in the plastic value chain to extend their financial and/or physical responsibility across the plastic value chain including designing, improvement of product design, and treatment or disposal of their post-consumer products.

A major feature of the roadmap is the introduction and expansion of Extended Producer Responsibility (EPR) as a structural policy tool to redesign Malaysia’s plastics ecosystem. The roadmap sets a clear target to implement a mandatory EPR scheme for plastic packaging by 2026, requiring producers to take financial and physical responsibility for post-consumer plastics, including eco-modulated fees based on recyclability and recoverability. This EPR framework includes establishing Producer Responsibility Organisations (PROs) to manage collection, sorting, recycling, and disposal, with fees funding system improvements and infrastructure upgrades. Such measures are expected to transform product design, boost recycled content, and increase recovery rates.

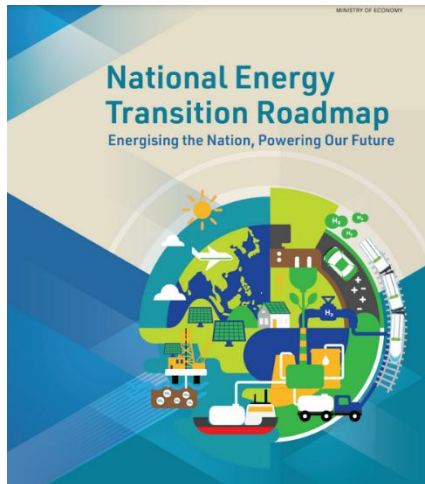
National Energy Policy (2022 – 2040)



Under National Energy Policy (2022 – 2040) (“NEP”), issued by KE, the government furthered its CE goals in the energy sector by developing long-term strategies to transition from fossil fuels toward cleaner energy while ensuring affordability, security, and sustainability, with targets such as increasing renewable energy capacity and electric vehicle uptake, the exploration of high potential nascent new energy sources including from waste-to-energy, third-generation bioenergy, solar thermal, and ocean thermal energy conversion (“**OTEC**”) and the adoption of CE principles by stakeholders.

To deliver these outcomes, the NEP outlines **thirty-one (31)** action plans structured around four strategic goals: optimising energy resources for sustainable economic growth, enhancing market opportunities and cost advantages, strengthening environmental sustainability, and safeguarding energy security alongside financial resilience. Implementation includes expanding large-scale solar projects, incentivising innovative solar applications such as agri-voltaics and floating solar, extending net energy metering, enhancing private capital access, and establishing a National Energy Council chaired by the Prime Minister to coordinate national energy governance. These initiatives collectively position Malaysia to capture the economic benefits of the global energy transition while ensuring long-term national energy stability.

National Energy Transition Roadmap (“NETR”)



The momentum for the adoption of CE in the energy sector was continued through the launch of the National Energy Transition Roadmap (“NETR”). Under the roadmap, Malaysia aims towards a shift from a fossil-fuel-dependent system toward a **clean, resource-efficient, low-carbon energy economy**. Spanning electricity, transport, industry and residential sectors, the NETR aims for **net-zero emissions by 2050**, with renewable energy targets of **31% by 2025, 40% by 2035, and 70% by 2050**.

It recognizes the challenges of adopting Bioenergy as one of the Energy Transition Lever which includes high usage of open landfills, unattractive economics of waste-to-energy plants and low national recycling rates. To deal with this, the roadmap called for the acceleration of recycling targets and increase recycling infrastructure investments.

New Industrial Master Plan 2030



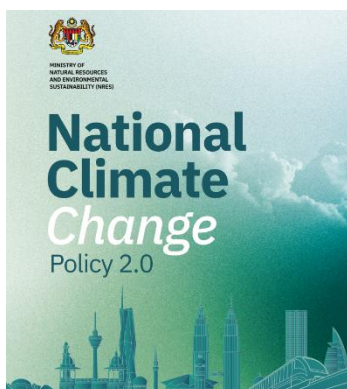
The New Industrial Masterplan 2030 (“NIMP”)

issued by the Ministry of Investment, Trade and Industry (“MITI”) sets out in Mission 3, the ambitious goal to Push for Net Zero, which ultimately aims to decarbonize the manufacturing sector as early as 2050 while capitalizing on new green growth areas. Under the Decarbonization pathway, it illustrates **six (6)** steps in achieving the Net Zero goals which are:

- (a) Renewable energy and energy storage;
- (b) Energy efficient technology and processes;
- (c) Electrification of processes;
- (d) Utilization of sustainable raw materials;
- (e) Recycle and reuse waste; and
- (f) Carbon Capture utilization and storage.

Additionally, the NIMP sets out in Strategy 3.3, Action Plan 3.3.3 to develop circular economy framework for the industry. This mandate is the foundation of the Circular Economy Policy Framework for the Manufacturing Sector in Malaysia.

National Climate Change Policy 2.0



The **National Climate Change Policy 2.0** (“**NCCP 2.0**”) issued by the also embeds the implementation of CE through sustainable consumption and production for waste management. Under the NCCP, national commitments such as achieving net-zero gas emission by 2050 are affirmed. Key policy goals under the NCCP includes promoting mechanisms such as EPR, user-pay and polluter-pay principles, and self-regulation among industries.

Circular Economy Policy Framework for the Manufacturing Sector in Malaysia



Firstly, is the **Circular Economy Policy Framework for the Manufacturing Sector in Malaysia** (“**CEPF**”) issued by MITI, builds on the mandate established under the NIMP for the development of a Circular Economy framework for the industry under Strategy 3.3, Action Plan 3.3.3. The CEPF, positions the goal of guiding the evolution and enhancement of circularity in the manufacturing sector in Malaysia.

At its core, the CEPF positions EPR as a key driver, calling for producers to assume responsibility for the environmental impact of their products throughout their lifecycle by prioritizing investments in **remanufacturing, refurbishment, industrial waste management, and advanced recycling**, reflecting a strategic push to accelerate innovation and reduce manufacturing waste intensity across the value chain.

Circular Economy Blueprint for Solid Waste in Malaysia 2025 - 2035



Circular Economy Blueprint for Solid Waste in Malaysia (2025-2035) (“CESW”) issued by the **Ministry of Housing and Local Government (“KPKT”)** and acts as the blueprint to steer Malaysia in the direction of implementing CE principles in managing solid waste.

Similar to other blueprints before, the CESW also prioritises the integration of **Extended Producer Responsibility (EPR)** as a key mechanism to shift waste management responsibilities upstream to producers. This includes requiring manufacturers to take greater accountability for the lifecycle of their products and supporting the development of circular business models.

The Blueprint also features the introduction of a **zero-waste-to-landfill certification** for manufacturers, incentivizing industries to adopt higher recycling rates, better material recovery systems, and cleaner production methods.

Key to the blueprint would be **twenty (20)** initiatives pertaining to implementing CE through **five (5)** strategic pillars including Governance and Regulations, Guidelines and Procedure, Digitalization and Technology, Instructure, and Market Development.

3.2. Where does e-waste fit under these policies?

Under these policies, several goals and interventions directly impact the development of e-waste recycling. The table below identifies and provides a comparison between all the policies mentioned above and their significance to e-waste.

Table 4: Comparison of CE policies in Malaysia

Name of Policy	RMK12	RMK13	MPSR	NEP	NETR	NIMP	NCCP 2.0	CEPF	CESW
Ministry	KE	KE	NRES	KE	KE	MITI	NRES	MITI	KPKT
Timeframe	2021 - 2025	2026 - 2030	2021 – 2030	2022 – 2040	2023 - 2050	2023 - 2030	2024 - 2050	2024 – 2030	2025 - 2035
Role in the ecosystem	Catalyzed the Circular Economy	Placed CE as a key priority	To provide guidance for the implementation of CE	Determine CE goals in the country's energy landscape	Established CE goals in the transition to a high value green economy	Setting CE goals and frameworks for industry to achieve Net-Zero emission	Places CE as a key strategy in fighting climate change	Established the CE framework for the manufacturing sector	Established the CE framework for solid waste
How it affects e-waste	Increase use of recycled materials and recycling of production waste	Implement modern recycling infrastructure, including material recovery facilities.	Implementation of EPR and the increased use of local feedstock for recycling	Does not affect e-waste	Does not affect e-waste	The development of a circular economy framework for the industry	Promotion of EPR in relation to waste management	Interventions which aim to promote local recycling including the increase in local recycling feedstock	Increase local recycling capabilities through grants, subsidies, EPR, and Waste Eco-parks

 Relevant for e-waste

Legend:

KE – Ministry of Economy

NRES – Ministry of Natural Resources and Environmental Sustainability

MITI – Ministry of Investment, Trade and Industry

KPKT – Ministry of Housing and Local Government

3.3. Circular Economy Stakeholders

The stakeholders are categorized according to government and industry stakeholders.

Government stakeholders

Overarchingly, there are **eight (8)** key stakeholders from the Federal Government which are involved in the Circular Economy:

Table 5: Government stakeholders involved in CE

No.	Entity	Role in the Circular Economy	Key policies/legislation
1.	Ministry of Economy (KE)	The ministry is in charge of the overall planning and execution of Malaysia's economic policy goals. Under the Ministry, key policies – specifically 12MP and 13MP – has embedded the Circular Economy as a key policy tool in achieving a more sustainable economy.	• 12th Malaysia Plan • 13th Malaysia Plan
2.	Ministry of Investment, Trade and Industry (MITI)	The ministry is in charge of overseeing Malaysia's investment and industry goals. The ministry has issued several key policies aiming at achieving Malaysia's circularity goals for the industry	• NIMP • CEPF
3.	Ministry of Housing and Local Government (KPKT)	The ministry in-charge of the housing, development, and management of local governments. The National Solid Waste Management Department is a	• Solid Waste and Public Cleansing Management Act 2007 [Act 672]

		department under the Ministry with the duty to manage solid waste in Malaysia.	• CESW
4.	National Solid Waste Management Department (JPSPN)	A department under the Ministry of Housing and Local Government, it oversees the implementation of the Solid Waste and Public Cleansing Management Act 2007, however only in specific states which have adopted the Act.	• Solid Waste and Public Cleansing Management Act 2007 [Act 672]
5.	Solid Waste and Public Cleansing Management Corporation (SWCorp)	The Corporation was established under the Solid Waste and Public Cleansing Management Corporation Act [Act 673] to provide a comprehensive, integrated, cost-effective and sustainable solid waste management system.	• Solid Waste and Public Cleansing Management Act 2007 [Act 672] • Solid Waste and Public Cleansing Management Corporation Act [Act 673]
6.	Ministry of Natural Resources and Environmental Sustainability (NRES)	The ministry in-charge of sustainability management of natural resources and environment. The Department of Environment is a department under NRES which acts as the key regulator of Malaysia's environmental laws.	• Environmental Quality Act 1974 [Act 127] • MPSR • NCCP 2.0
7.	Department of Environment (DOE)	A department under NRES, the DOE is the regulator in charge of enforcing the Environmental Quality Act 1974	• Environmental Quality Act 1974 [Act 127]

		[Act 127] and its related subsidiaries, as well as the licensing body for E-Waste Recovery Facilities, Collection Points, and Collection Centers.	
8.	Royal Customs Department of Malaysia (RMCD)	A department under the Ministry of Finance, the RMCD enforces key policies relating to the export and import of e-waste under the Customs (Prohibition of Import) Order 2023	• Customs (Prohibition of Import) Order 2023

Industry stakeholders

The e-waste industry is generally categorized into **five (5)** groups. Each play a role in the ecosystem, ranging from producers of e-waste, consumers, up to the Recycling Facilities.



Manufacturers of Electric and Electronic Goods

Role in Circular Economy:

The manufacturers are the stakeholders which are involved in the production of electric and electronic goods ranging from laptops, mobile phones, hard-disk drives, and household appliances. The goods produced eventually become e-waste when discarded.

Regulated by:

Typically, manufacturers are governed by various authorities for various aspects including

- a) Business permits: Local Government
- b) Consumer protection: Ministry of Domestic Trade and Cost of Living
- c) Product safety: SIRIM Berhad
- d) E-Waste Pollution Control : DOE



Industries

Role in Circular Economy:

Other than the manufacturers, other industry players in almost all sectors including agriculture, transportation, manufacturing, food, and even service industry are a part of the Circular Economy.

These industries, in some shape or form, utilize electric and electronic goods in their day-to-day operations, including laptops, mobile phones, power generators, robotics, hard-disk drives, and circuitry, to name a few.

While there is no specific public data on this, it is estimated that industrial e-waste accounts for a significant majority of the e-waste produced.

Regulated by:

Similar to the manufacturers of Electric and Electronic products, they are typically governed by the following.

- a) Business permits: Local Government
- b) Consumer protection: Ministry of Domestic Trade and Cost of Living
- c) Product safety: SIRIM Berhad
- d) E-Waste Pollution Control : DOE



Consumers

Role in Circular Economy:

Consumers are the end-user of most electric and electronic goods. The goods – ranging from personal devices to household appliances – make up a large amount of the e-waste produced in Malaysia.

Regulated by:

Several key legislations such as the EQA 1974 which regulates the disposal of electric and electronic goods.



E-Waste Collection Center and Collection Points

Role in Circular Economy:

An E-Waste Collection Center and Collection points are dedicated stakeholders which are licensed to collect e-waste for the purpose of disposal or recycling.

Collection Centers are simply larger collection points and may be in dedicated areas, or integrated into other buildings such as shopping malls or housing areas. Currently, there are **one hundred forty-seven (147)** Collection Centers and **one hundred thirty-one (131)** Collection Points licensed by the DOE.

Regulated by:

All collection centers and points are licensed and regulated by the DOE.



Recovery Facilities

Role in Circular Economy:

A recovery facility is simply a recycling factory which is licensed for the recycling of e-waste. They are specialized to break down discarded electric and electronic waste including laptops, mobile phone, and householder appliance. The result of the recycling is typically the recovery of valuable materials such as gold, copper, and palladium which may be re-used to make new goods.

Currently, only **sixty-six (66)** recovery facilities are licensed by the DOE.

Regulated by:

All recovery facilities are licensed and regulated by the DOE.

4. Key gaps and challenges in Malaysia's Circular Economy ecosystem.

While Malaysia has made significant and visible progress in embedding CE principles into various key policies as outlined, it is not without its challenges.

1. Low rate of recycling

Currently, Malaysia only is able to recycle roughly 10% of its entire e-waste produced (for both industrial and domestic usages). Factors include low awareness on the need for recycling, low available collection centers and collection points, and in some cases, preference of consumers to retain electronic products at home or disposing of them with other types of solid waste.

2. Low rate of awareness by consumers

Related to the above, this challenges specifically relate to the behaviours of consumers. Due to a low rate of awareness on the environmental impacts of e-waste, various studies have indicated that consumers seldom, if not at all, segregate their household waste. As a result, e-waste is typically discarded together with municipal solid waste.

3. Low CE investment

The CEPF identifies the challenges faced by industries in adopting better CE policies including fulfilling EPR commitments. Key to this includes the higher cost associated with using recycled materials such as iron, aluminium, gold, and palladium. If adopted, the increased cost of the goods is passed down as premiums on the consumer.

4. Difficulty in sourcing feedstock

Feedstock refers to the available recyclable waste which value can be extracted from it. In relation to E-Waste, a common challenge faced by recovery facilities is the low amount of e-waste available to commercially justify scaling up its production. This results in a premium placed on the recycled materials. This

eventually gives rise to the incentive to smuggle illegal e-waste, as we have seen recently¹³.

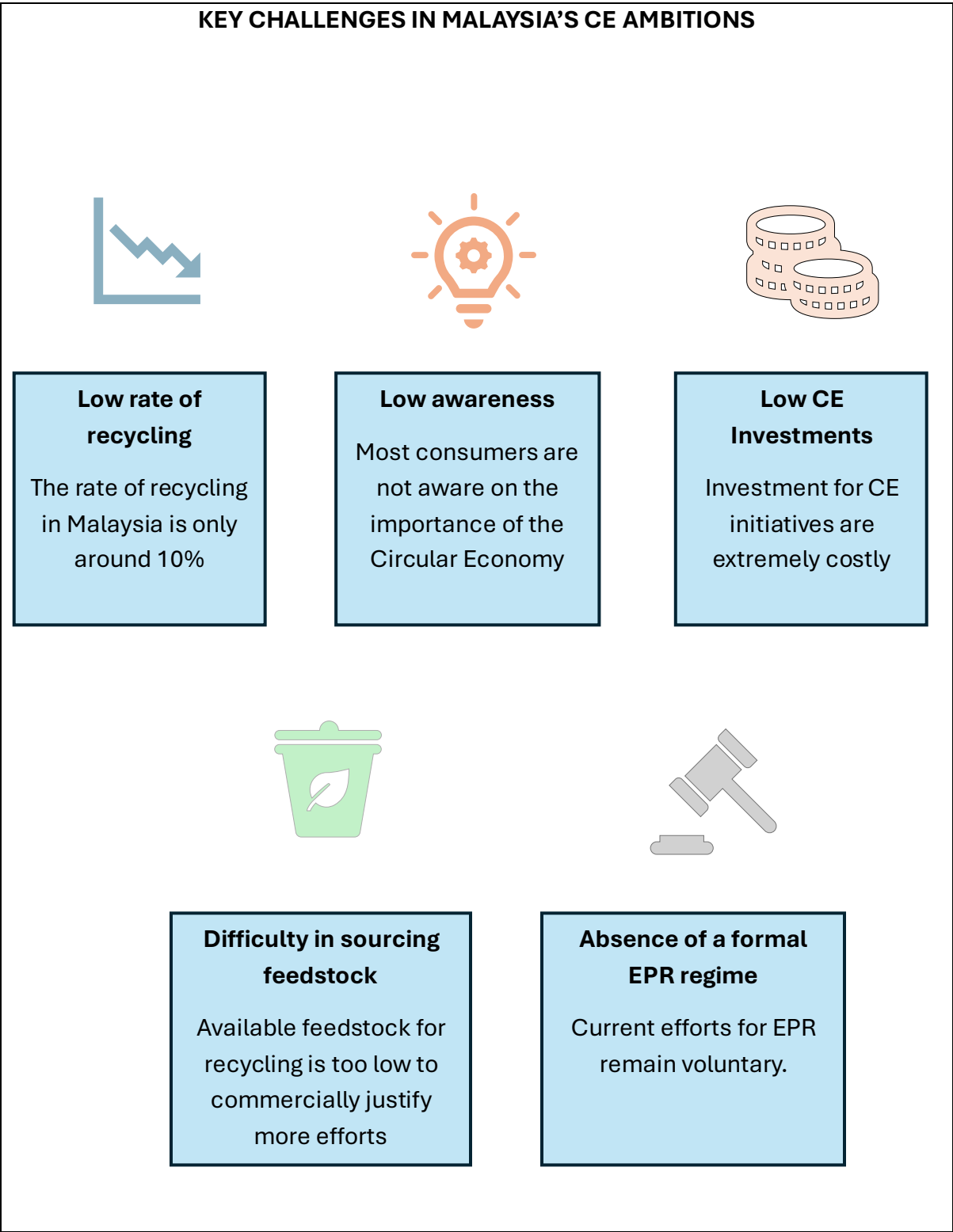
5. **Absence of a formal Extended Producer Responsibility regime**

Currently, most EPR policies are only relegated to the policy goals and ambitions in documents such as the RMK12, RMK13, CEPF, CESW, and the United Nations Sustainable Development Goals (“**SDG**”). These policies, at this stage, remain voluntary. When compared to more mature economies such as the European Union where the EPR laws are mandatory, Malaysia remains behind. This leaves room for interpretation by industry players on the levels of their commitment.

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¹³ Free Malaysia Today (2026). *Tighten noose around e-waste smugglers, say NGOs*. Accessed at: <https://www.freemalaysiatoday.com/category/nation/2026/02/05/tighten-noose-around-e-waste-smugglers-say-ngos>

Figure 4: Key challenges in Malaysia’s CE ambitions



CHAPTER 3 :

THE CURRENT REGULATORY FRAMEWORK FOR RECYCLING OF E-WASTE IN MALAYSIA

In this chapter, the regulatory framework of the Circular Economy and e-waste is put under the lens. Key legal instruments including Acts, subsidiaries, guidelines, and international conventions are identified together with answering **two (2)** key questions. What are the permitted sources for e-waste recycling, and what are the policies in place for Extended Producer Responsibility?

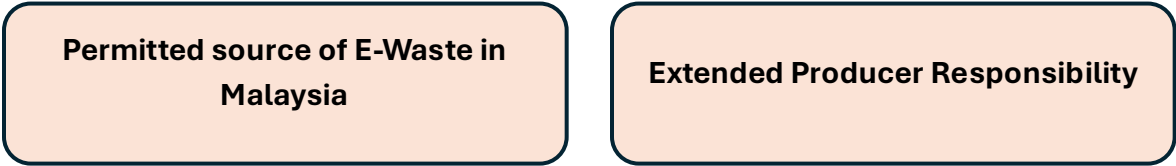
1. Overview of Malaysia’s Regulatory Framework

Malaysia’s regulatory framework pertaining to the recycling of e-waste is governed by **one (1)** international convention and **five (5)** national legal instruments including Acts, Subsidiaries, and Administrative Guidelines outlined as follows.

Table 6: Regulatory framework on e-waste

No.	Instrument	Regulator
International Convention		
1.	Basel Convention on the Control of Transboundary Movements of Hazardous Waste and Their Disposal	The Basel Convention
National Legal Instrument		
1.	Environmental Quality Act 1974 [Act 127]	Department of Environment, Ministry of Natural Resources and Environmental Sustainability
2.	Environmental Quality (Scheduled Waste) Regulations 2005	
3.	Guidelines for the Transboundary Movement of Used Electrical and Electronic Equipment (UEEE) in Malaysia	
4.	Customs Act 1967 [Act 235]	Royal Malaysian Customs Department
5.	Customs (Prohibition of Imports) Order 2023	

This Chapter will discuss **two (2)** broad aspects of the regulatory framework relating to e-waste.



The Basel Convention on the Control of Transboundary Movements of Hazardous Waste and their Disposal adopted on 22 March 1989.



The Basel Convention on the Control of Transboundary Movements of Hazardous Waste and their Disposal (“**Basel Convention**”) adopted on 22 March 1989 by the Conference of Plenipotentiaries in Basel, Switzerland acts as a global environmental treaty on hazardous and other waste.

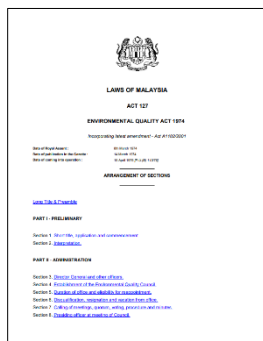
To date, it has 170 member countries or “Parties” and sets out the following aims:

- a) Reducing hazardous waste generation and the promotion of environmentally sound management of hazardous wastes, wherever the place of disposal;
- b) Restrict transboundary movements of hazardous waste except where it is perceived to be in accordance with the principles of environmentally sound management; and
- c) A regulatory system applying to cases where transboundary movements are permissible.

Malaysia’s regulatory framework in relation to e-waste complies with the Basel Convention in which Malaysia became a party to on 8 October 1993 and has designated the DOE as the Competent Authority for Malaysia.¹⁴

¹⁴ Department of Environment website, *Basel Convention* accessed at <https://www.doe.gov.my/en/basel-convention/>

Environmental Quality Act 1974 [Act 127], Environmental Quality (Scheduled Waste) Regulation 2005, and Guidelines for the Transboundary Movement of Used Electrical and Electronic Equipment (UEEE) in Malaysia



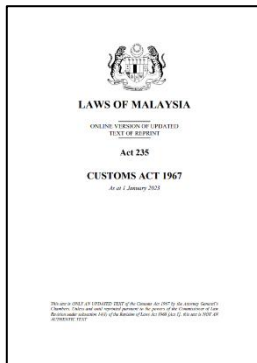
The Environmental Quality Act 1974 [Act 127] (“**EQA 1974**”), the Environmental Quality (Scheduled Waste) Regulations 2005 (“**EQR 2005**”) and the Guidelines for the Transboundary Movement of Used Electrical and Electronic Equipment (UEEE) in Malaysia (“**UEEE Guidelines**”) are the key legal instruments which governs Malaysia’s e-waste importation. These instruments are under the purview of the DOE of the Ministry of Natural Resources and Environmental Sustainability (“**NRES**”).

The EQA, in force from 15 April 1975, is a primary legislation which relates to the prevention, abatement, control of pollution and enhancement of the environment and for purposes connected therewith.

Pursuant to the powers under Section 21 and 51 of the EQA, the Minister, after consultation with the Environmental Quality Council, has enacted the EQR which among others, classifies E-Waste as Schedule Waste SW110 under the First Schedule.

Lastly the UEEE Guidelines was introduced in 2016 and replaced the previous Guidelines for the Classification of Used Electrical and Electronic Equipment 2010. It acts to provide guidance for the transboundary movement of UEEE or its components for direct reuse, reuse, repairing, and refurbishment.

Customs Act 1967 [Act 235] and Customs (Prohibition of Imports) Order 2023



The Customs Act 1967 [Act 235] (“**CA 1967**”) and the Customs (Prohibition of Imports) Order 2023 (“**CO 2023**”) are legal instruments related to Customs under the purview of the Royal Malaysian Customs Department (“**RMCD**”).

The Act provides for, among others, the control of importation into, or the exportation from Malaysia or any part thereof, either absolutely or conditionally, or from or to any specified country, territory, or place outside of Malaysia. This may include the prohibition of importation or exportation of any goods or class of goods. Further to this, the determination of the prohibition of importation and exportation may be determined by the Minister pursuant to an Order.

2. What constitutes as “e-waste” under the law

Prior to discussing Malaysia’s regulatory framework for the recycling of e-waste, it is a crucial step to first define what constitutes ‘e-waste’. There are **two (2)** instruments referred to provide such a definition. They are the EQR and the Basel Convention.

In Malaysia, e-waste is defined in the First Schedule of the EQR as a Scheduled Waste under Code SW110. The First Schedule provides that:

Figure 5: Definition of SW110

“SW110 Waste from electrical and electronic assemblies containing components such as accumulators, mercury-switches, glass from cathode-ray tubes, and other activated glass or polychlorinated biphenyl-capacitors, or contaminated with cadmium, mercury, lead, nickel, chromium, copper, lithium, silver, manganese or polychlorinated biphenyl”

While Malaysia has a single definition, the Basel Convention provides for **two (2)** definitions of e-waste within its texts. Firstly, Annex II (Categories of waste requiring special consideration) classifies e-waste under Code Y49. It states:

Table 7: Classification of e-waste under Code Y49

Electrical and electronic waste:
- Waste electrical and electronic equipment - not containing and not contaminated with Annex I constituents to an extent that the waste exhibits an Annex III characteristic, and - in which none of the components (e.g. certain circuit boards, certain display devices) contain or are contaminated with Annex I constituents to an extent that the component exhibits an Annex III characteristic. - Waste components of electrical and electronic equipment (e.g. certain circuit boards, certain display devices) not containing and not contaminated with Annex I constituents to an extent that the waste components exhibit an Annex III characteristic, unless covered by another entry in Annex II or by an entry in Annex IX.

- *Wastes arising from the processing of waste electrical and electronic equipment or waste components of electrical and electronic equipment (e.g. fractions arising from shredding or dismantling), and not containing and not contaminated with Annex I constituents to an extent that the waste exhibits an Annex III characteristic, unless covered by another entry in Annex II or by an entry in Annex IX*

Notwithstanding the above, Annex VIII of the Basel Convention, in List A, provides for the definition of E-Waste under code A1181 as follows:

Table 8: Classification of e-waste under Code A1181

Electrical and electronic waste (note the related entry Y49 in Annex II)
• <i>Waste electrical and electronic equipment</i> • <i>containing or contaminated with cadmium, lead, mercury, organohalogen compounds or other Annex I constituents to an extent that the waste exhibits an Annex III characteristic, or</i> • <i>with a component containing or contaminated with Annex I constituents to an extent that the component exhibits an Annex III characteristic, including but not limited to any of the following components:</i> • <i>glass from cathode-ray tubes included on list A</i> • <i>a battery included on list A</i> • <i>a switch, lamp, fluorescent tube or a display device backlight which contains mercury</i> • <i>a capacitor containing PCBs</i> • <i>a component containing asbestos</i> • <i>certain circuit boards</i> • <i>certain display devices</i>

- *certain plastic components containing a brominated flame retardant*
- *Waste components of electrical and electronic equipment containing or contaminated with Annex I constituents to an extent that the waste components exhibit an Annex III characteristic, unless covered by another entry on list A.*
- *Wastes arising from the processing of waste electrical and electronic equipment or waste components of electrical and electronic equipment, and containing or contaminated with Annex I constituents to an extent that the waste exhibits an Annex III characteristic (e.g. fractions arising from shredding or dismantling), unless covered by another entry on list A.*

The two definitions are introduced pursuant to the 15th meeting of the Conference of the Parties to the Basel Convention on 17 June 2022 with the intention of enlarging the control of transboundary movements of e-waste. These definitions present varying classifications of e-waste.

The e-waste categorized under Annex II are e-waste which do not contain or is contaminated by Annex I constituents to an extent which it exhibits Annex III characteristics. Comparatively, e-waste categorized under Annex VIII are e-waste which contain or is contaminated by Annex I constituents to an extent which it exhibits Annex III characteristics. The table below provides for the distinction between the two definitions:

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Table 9: Distinction between waste classified under Annex II and Annex VIII

No.	Annex	Contain Annex I constituents	Exhibits Annex III characteristics
1.	Annex II - Waste electrical and electronic equipment	X	X
2.	Annex VIII - Waste electrical and electronic equipment	✓	✓

The definitions above shall be referred to when discussing their relevant legal instruments. For clarity, when discussing Malaysia's legal instruments, the definition under the EQR shall be referred while the definition in the Basel Convention shall be referred when discussing it.

Figure 6: Sample of e-waste



3. Permitted sources of E-Waste for Recycling

As previously discussed, key national policies such as the MPSR 2021 – 2030 and CEPF have acknowledged one of the main challenges in achieving Malaysia's CE goals include the limited feedstock for recycling.

Hence, it is crucial to explore the regulatory framework for the permitted sources of e-waste for recycling in Malaysia, in order to formulate potential policy interventions to address this issue.

This report will highlight the regulatory framework governing the procurement of e-waste for recycling from both foreign and local sources, as well as the limitations, specifications and conditions set by such frameworks.

E-waste for recycling from local sources

In Malaysia, sourcing local e-waste for recycling and recovery purposes is permitted and is governed under the EQA and the EQR. The DOE acts as the regulator overseeing all local sourcing of e-waste (which is classified as “**schedule waste**”) through licensed collection centers, collection points, and recovery facilities. (a list of all collection centers, collection points, and recovery facilities is appended as “**Appendix A**”)

Under the EQA, no person may place, deposit or dispose of, or cause or permit to place, deposit or dispose of, except at prescribed premises only, any scheduled waste on land or into Malaysian waters. Further, no person is permitted to receive or send, or cause or permit to be received or sent any scheduled waste in or out of Malaysia. An exception provided would be with those with the permission of the Director General of Environment.

To give effect to Malaysia’s e-waste recycling industry, the EQR regulates various aspects of e-waste recycling including but not limited to the management of disposal, treatment, recovery, storage, labelling, and transportation of e-waste.

Other relevant aspects which are governed by the EQR include the notification of generation of schedule waste, inventory of schedule waste, responsibility of waste generators, and procedures in the event of spill or accidental discharge of any schedule waste.

Figure 7: Local e-waste recovery facility



E-waste for recycling from foreign sources

The importation of e-waste for recycling purposes is governed by the Basel Convention (where Malaysia is a party to since 8 October 1993), the Environmental Quality Act 1974 (EQA 1974), Environmental Quality (Schedule Waste) Regulations 2005 (EQR 2005), the Customs Act 1967 (CA), and the Customs (Prohibition of Imports) Order 2023 (CO).

The legal framework is discussed below:

The Basel Convention

The Basel Convention is the overarching framework which guides Malaysia's domestic framework pertaining to e-waste management. Under the Basel Convention, member states are provided with the sovereign right to determine their own local position for the transboundary movement of hazardous or other waste (which for all intents and purposes includes e-waste)¹⁵. However, there are **two (2)** categories of transboundary movements discussed in the Basel Convention.

Firstly, the transboundary movement of hazardous waste between Parties is governed under the Prior Informed Consent (“PIC”) Principle. Under this principle, the country of export is obligated to notify the prospective country of import and transit with proper information about the hazardous waste and other wastes¹⁶, and transboundary movement may only be permitted once all parties have consented.¹⁷ The exercise of this, as mentioned under Article 4, is contingent upon the right of the parties to the Convention to allow or prohibit the import of hazardous waste.

Although the sovereign right to allow the importation of hazardous waste rests with each Party, the Convention also specifies three (3) situations where transboundary movement may be allowed¹⁸. They are as follows:

- a) The State of export does not have the technical capacity and the necessary facilities, capacity or suitable disposal sites in order to dispose of the waste in question in an environmentally sound and efficient manner; or

¹⁵ Article 4 (General Obligations), Basel Convention

¹⁶ As defined under Annex I,

¹⁷ Article 6 (Transboundary Movement between Parties), Basel Convention

¹⁸ Article 4(9), Basel Convention

- b) The waste in question is required as a raw material for recycling or recovery industries in the State of import; or
- c) The transboundary movement in question is in accordance with other criteria to be decided by the Parties, provided those criteria do not differ from the objectives of this Convention.

More recently, the “E-waste Amendments” had recently become effective as of 1 January 2025, expanding the controls for transboundary movements of e-waste. The E-waste Amendments provided three changes to the text of the Convention, specifically to Annex II, Annex VII, and Annex IX. The key amendments and their impact on the importation framework are provided in the Table below:

Table 10: Summary of e-waste amendments

No.	Amendment	What has changed	Effects
1.	Annex II	Inclusion of category <u>Y49</u>	The following shall require PIC for transboundary movement a) UEEE and end-of-life electrical and electronic equipment b) Components, assemblies, and subassemblies c) Shredded or processed UEEE
2.	Annex VIII	Inclusion of category <u>A1181</u>	The following is classified as hazardous waste and shall require PIC for transboundary movement a) UEEE and its components that contain or are contaminated with hazardous substances under Annex I to a degree that it exhibits hazardous characteristics under Annex III

			b) Shredded or dismantled fractions of UEEE that still contain hazardous materials.
3.	Annex IX	Deletion of entry B1110 (e-waste) and B4030 (single-use cameras) from Annex IX of the Basel Convention.	Prior to the deletion, UEEE for repair and sale may be imported under exemptions. These exemptions no longer apply and thus UEEE shall be subject to the PIC principle.

Under the PIC principle all transboundary movement of hazardous waste and other waste is bound by the requirements under Annex V. There are **two (2)** parts to Annex V namely Part A and B. Part A pertains to “Information to be provided on notification” while Part B is regarding “Information to be provided on the movement document”.

Part A provides for twenty-one (21) requirements which must be provided by the exporting state when notifying the State of import of their intention of transboundary movement. They are as follows:

Table 11: Requirements under Part A, Annex V

(Information to be provided on notification)	
No.	Requirement
1.	Reason for waste export
2.	Exporter of the waste ¹
3.	Generator(s) of the waste and site of generation ¹
4.	Disposer of the waste and actual site of disposal ¹
5.	Intended carrier(s) of the waste or their agents, if known ¹
6.	Country of export of the waste Competent authority ²
7.	Expected countries of transit Competent authority ²

8.	Country of import of the waste Competent authority ²
9.	General or single notification
10.	Projected date(s) of shipment(s) and period of time over which waste is to be exported and proposed itinerary (including point of entry and exit) ³
11.	Means of transport envisaged (road, rail, sea, air, inland waters)
12.	Information relating to insurance ⁴
13.	Designation and physical description of the waste including Y number and UN number and its composition ⁵ and information on any special handling requirements including emergency provisions in case of accidents
14.	Type of packaging envisaged (e.g. bulk, drummed, tanker
15.	Estimated quantity in weight/volume ⁶
16.	Process by which the waste is generated ⁷
17.	For wastes listed in Annex I, classifications from Annex III: hazardous characteristic, H number, and UN class
18.	Method of disposal as per Annex IV
19.	Declaration by the generator and exporter that the information is correct
20.	Information transmitted (including technical description of the plant) to the exporter or generator from the disposer of the waste upon which the latter has based his assessment that there was no reason to believe that the wastes will not be managed in an environmentally sound manner in accordance with the laws and regulations of the country of import
21.	formation concerning the contract between the exporter and disposer

Note:

1. Full name and address, telephone, telex or telefax number and the name, address, telephone, telex or telefax number of the person to be contacted.
2. Full name and address, telephone, telex or telefax number.
3. In the case of a general notification covering several shipments, either the expected dates of each shipment or, if this is not known, the expected frequency of the shipments will be required.
4. Information to be provided on relevant insurance requirements and how they are met by exporter, carrier and disposer.
5. The nature and the concentration of the most hazardous components, in terms of toxicity and other dangers presented by the waste both in handling and in relation to the proposed disposal method.
6. In the case of a general notification covering several shipments, both the estimated total quantity and the estimated quantities for each individual shipment will be required.

On the other hand, Part B of Annex V provides for **fourteen (14)** key information to be provided on the movement document by the state of export to the state of import. The requirements are as follows:

Table 12: Requirements under Part B, Annex V

Information to be provided on the movement document	
No.	Requirement
a)	Exporter of waste
b)	Generator(s) of the waste and site of generation
c)	Disposer of the waste and actual site of disposal
d)	Carrier(s) of the waste or his agent(s)
e)	Subject of general or single notification
f)	The date the transboundary movement started and date(s) and signature on receipt by each person who takes charge of the waste
g)	Means of transport (road, rail, inland waterway, sea, air) including countries of export, transit and import, also point of entry and exit where these have been designated
h)	General description of the waste (physical state, proper UN shipping name and class, UN number, Y number and H number as applicable)
i)	Information on special handling requirements including emergency provision in case of accidents
j)	Type and number of packages
k)	Quantity in weight/volume
l)	Declaration by the generator or exporter that the information is correct
m)	Declaration by the generator or exporter indicating no objection from the competent authorities of all States concerned which are Parties
n)	Certification by disposer of receipt at designated disposal facility and indication of method of disposal and of the approximate date of disposal.

Secondly the Basel Convention has introduced the “Ban Amendment” which prohibits countries listed in Annex VII from all transboundary movement of hazardous and other waste intended for disposal operation¹⁹ to the rest of the world.²⁰ The States which are prohibited from transboundary movement are members of the Organization of Economic Cooperation (“OECD”), European Commission (“EC”), and Liechtenstein (as listed under Annex VII) from all transboundary movements of hazardous wastes (a) covered by the Convention that are intended for final disposal; and (b) covered by paragraph 1(a) of Article 1 of the Convention that are destined for reuse, recycling or recovery operations.²¹

In total, **forty-five (45)** countries are covered under the Ban Amendment and are prohibited from any transboundary movement of hazardous waste to all countries which are not listed under Annex IV. The full list of countries is as follows:

¹⁹ As ~~listen~~listed in Annex IV (A) and (B)

²⁰ Adopted via decision III/1 of the third meeting of the Conference of the Parties in 1995 and in force on 5 December 2019

²¹ Article 4A, Basel Convention.

Table 13: List of countries under Annex VII

No.	Country	No.	Country
States which are members of OECD			
1.	Australia	20.	Japan
2.	Austria	21.	Korea
3.	Belgium	22.	Latvia
4.	Canada	23.	Lithuania
5.	Chile	24.	Luxembourg
6.	Colombia	25.	Mexico
7.	Costa Rica	26.	Netherlands
8.	Czechia	27.	New Zealand
9.	Denmark	28.	Norway
10.	Estonia	29.	Poland
11.	Finland	30.	Portugal
12.	France	31.	Slovak Republic
13.	Germany	32.	Slovenia
14.	Greece	33.	Spain
15.	Hungary	34.	Sweden
16.	Iceland	35.	Switzerland
17.	Ireland	36.	Türkiye
18.	Israel	37.	United Kingdom
19.	Italy	38.	United States
Members of the European Commission			
1.	Austria	15.	Italy
2.	Belgium	16.	Latvia
3.	Bulgaria	17.	Lithuania
4.	Croatia	18.	Luxembourg
5.	Cyprus	19.	Malta
6.	Czech Republic	20.	Netherlands
7.	Denmark	21.	Poland
8.	Estonia	22.	Portugal

9.	Finland	23.	Romania
10.	France	24.	Slovakia
11.	Germany	25.	Slovenia
12.	Greece	26.	Spain
13.	Hungary	27.	Sweden
14.	Ireland		
Liechtenstein			
1.	Liechtenstein		

Position Under Malaysian Law

Since 2012, Malaysia has opted for the position of an absolute prohibition of the importation of e-waste in Malaysia for the purposes of recycling or recovery.²² This position is taken by the Competent Authority of Malaysia under the Basel Convention – the DOE – which also is the custodian of the legislation governing the importation of e-waste namely the EQA. Malaysia’s policy position is part of its commitments and accession to the Basel Convention.

The policy position is exercised pursuant to Section 34B of the EQA 1974. It provides that the importation of any scheduled waste – which includes e-waste – is strictly prohibited unless with the prior written approval of the Director General. For clarity, the Section is produced below.

“(1) No person shall –

- (a) place, deposit or dispose of, or cause or permit to place, deposit or dispose of, except at prescribed premises only, any scheduled waste on land or into Malaysian waters;*
- (b) receive or send, or cause or permit to be received or sent any scheduled waste in or out of Malaysia; or*
- (c) transit or cause or permit the transit of scheduled waste,*
without prior written approval of the Director General.

(2) The Director General may grant the written approval either subject to conditions or unconditionally.

Further to the above, Section 7(1) of the CO 2023 prohibits the importation of e-waste save for with the approval of the Director General of Environment. In Section 7(1), the importation of goods listed in the Third Schedule is prohibited except in the manner provided for in column (5) of the Third Schedule. Item 54(i)(j) of the Third Schedule provides that the following imports are prohibited from all countries except that the imports are accompanied by a letter of approval issued by or on behalf of the Director General of Environmental Quality:

²² Department of Environment (DOE) *Basel Convention* access at <https://www.doe.gov.my/en/basel-convention/>

“(j) Waste from electrical and electronic assemblies containing components such as accumulators, mercury switches, glass from cathode-ray tubes and other activated glass or polychlorinated biphenyl-capacitors, or contaminated with cadmium, mercury, lead, or nickel, chromium, copper, lithium, silver, manganese or polychlorinated biphenyl.”

Notwithstanding, Malaysia allows the importation of Used Electronic and Electrical Equipment (“UEEE”) for the purpose of Direct Reuse, Reuse, Repair, and Refurbishment only. The key distinction between e-waste and UEEE is provided in the UEEE Guideline where UEEE’s:

- a) Does not fulfil the definition of SW110 or not contaminated with any scheduled waste under the provision of the EQR; and
- b) The Age of equipment and its components must be five (5) years or less from the date it was manufactured.

However, a key development on the importation of e-waste took place in February 2026. As announced by the Special Task Force on the Enforcement Management Roadmap for Plastic and E-waste Imports (the “Special Task Force on E-waste”) through the Malaysian-Anti Corruption Commission (“MACC”), the DOE has formally requested the Royal Malaysian Customs Department to place e-waste under the “Absolute Prohibition” category under the CO 2023 with the aim of strengthening oversight over entry of hazardous waste into Malaysia. While e-waste was previously listed under “Conditional Prohibition” – which granted the Director General of DOE with discretionary authority to allow certain imports.

This move effectively means that there would be no exception granted to the importation of e-waste into Malaysia under any circumstances. This announcement follows the recent influx of illegal e-waste imports hidden in containers of other scheduled wastes²³,

²³ Austin Camoens (2026). Absolute ban on e-waste imports takes effect today. New Straits Times. Accessed at: <https://www.nst.com.my/news/nation/2026/02/1371216/updated-absolute-ban-e-waste-imports-takes-effect-today>

which poses a significant threat to Malaysia's commitment to upholding environmental protection.

Thus, it can be surmised that based on Malaysia's commitments to the Basel Convention, and the powers exercised under the EQA, the EQR, and the recent change to be made under the CO 2023, all importation of e-waste which falls under the definition of Scheduled Waste SW110 is **prohibited**.

4. Extended Producer Responsibility (EPR)

NIMP, NCCP2.0, CEPF, and CESW, Malaysia does not have any dedicated EPR law which mandates the implementation of EPR principles by the industry.

A similar review was undertaken by the World Wildlife Fund – Malaysia (“**WWF-Malaysia**”) in 2024 which identifies **six (6)** potential legislations government stakeholders and their respective legislation which may be relevant to EPR. The analysis by WWF-Malaysia is reproduced below with additional stakeholders identified:

Table 14: EPR Analysis by WWF-Malaysia

	•	The ministry is in charge of coordinating Malaysia’s economic trajectory through key national policies such as RMK12 and RMK13
	• Promotion of Investments Act 1986 -Strategic trade Act 2010	Ministry that is responsible for international trade, industry, investment, productivity, small and medium enterprise and development financial institutions. Also responsible to plan, legislative and implement international trade and industrial policies towards achieving National economy policy and vision 2020
	•	Responsible for approval for petrochemicals plants manufacturing license and its associated facilities relating to the project
		Malaysia Productivity Corporation (MPC) is a statutory body under the Ministry of International Trade and Industry (MITI). MPC promotes productivity, quality and competitiveness to the industries and organisations in Malaysia
	Malaysian External Trade Development Corporation Act 1992	Responsible for trade policy import restriction.

	Solid Waste and Public Cleansing Management Act 2007 [Act 672] MPSR CESW	
	Solid Waste and Public Cleansing Management Act 2007 [Act 672]	JPSPN has the authority over the issuance of Approved Permits (AP) for importing certain materials including plastics for recycling nation-wide. Also acts as the regulator for the Solid Waste and Public Cleansing Management Act 2007 [Act 672] including the “segregate-at-source” policy.
	Food Act of 1983 (Act 281)	Food packaging in Malaysia is regulated under the Food Act of 1983. Malaysia prohibits the use of recycled packaging for certain foods such as sugar, flour, and edible oil. In addition, packaging for a product / packaging of swine-origin shall not be used for food of non-swine origin and any bottle that has previously been used for alcoholic beverage or shandy shall not be used for any food, other than alcoholic beverage and shandy. Lastly, reuse of packaging material previously used for milk, soft drink, alcoholic beverage or shandy, vegetable, fish or fruit, and polished rice, is prohibited.

²⁴ TheEdge Malaysia (2024) *Housing Ministry launches circular economy blueprint, study on Circular Economy Act*, accessed as <https://theedgemaalaysia.com/node/721869>

CHAPTER 4:

BENCHMARKING INTERNATIONAL BEST PRACTICE

In this chapter, **six (6)** benchmarks are identified for best practice. Key comparisons between the countries include their sources for e-waste recycling, and unique Extended Producer Responsibility initiatives.

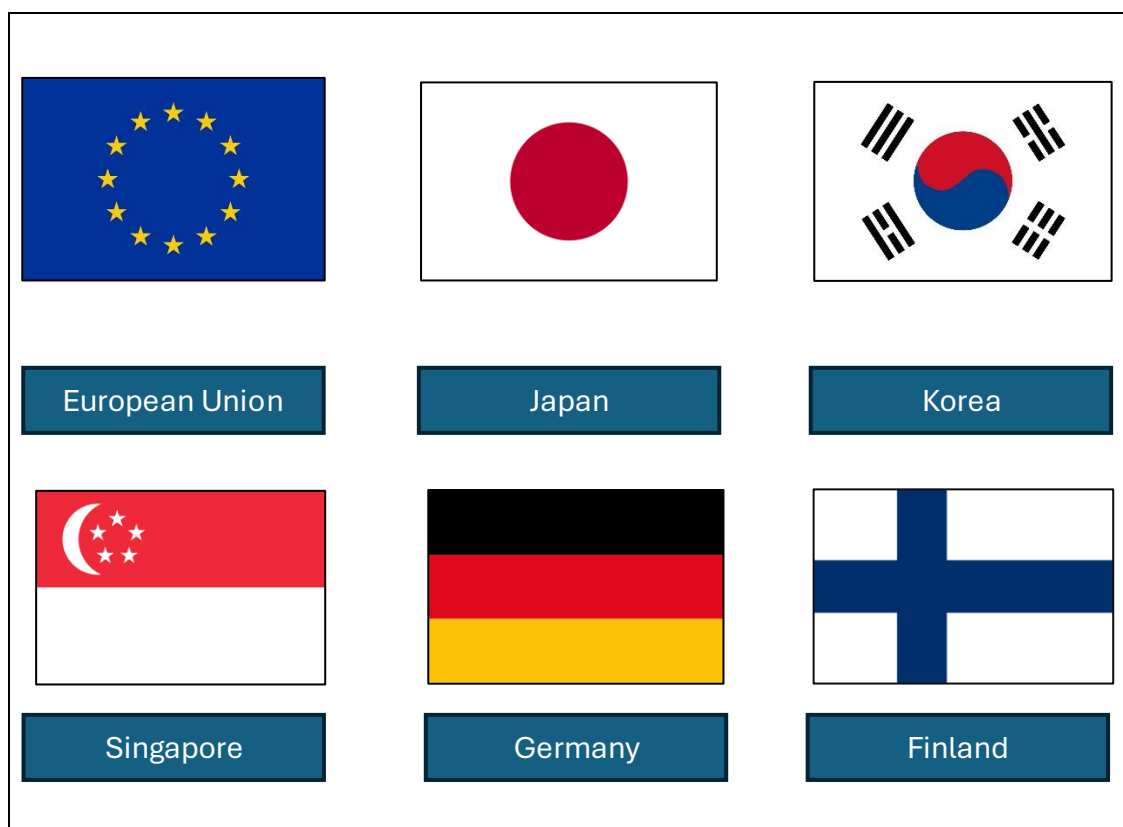
1. Overview of benchmarking

1.1. In this chapter, selected countries will be reviewed and compared with Malaysia to understand if there are any best practices that can be adopted to facilitate this activity. The countries selected were based on a number of criteria to ensure that a holistic comparison was made. The criteria are as follows:

- a) The country is a party to the Basel Convention or the European Union;
- b) The country has in place Environmentally Sound Management (“**ESM**”) practices including online tracking systems; and
- c) The country has in place robust EPR initiatives.

1.2. Based on the criteria above, **six (6)** benchmarks were selected namely Japan, South Korea, Singapore, Germany and Finland.

Figure 8: Selected e-waste benchmarking



2. European Union

The European Union (“**EU**”) is a group of European countries that have chosen to work closely together for economic, political, and social cooperation. Today, it includes **twenty-seven (27)** member states. Member countries remain largely independent, however cooperate in certain areas such as trade, agriculture, environmental protection, and consumer rights.

The EU functions through shared institutions. The European Commission proposes laws and policies, the European Parliament and the Council of the European Union debate and approve them, and the Court of Justice of the EU ensures laws are followed equally. Once a law is agreed upon, member states must apply it within their own national systems. This means EU decisions can directly affect all members, such as setting common product standards, protecting workers’ rights, or regulating competition.

EU’s efforts towards a Circular Economy have been robust and extensive beginning in 2015 with its circular economy action plan and progress to several policy directives, regulations, and frameworks. Key policies are produced below:

Table 15: Summary of EU’s key CE policies

No.	Policy	Year	Description
1.	EU Circular Economy Action Plan	2015	The action plan announced 54 measures throughout the whole lifecycle of products to accelerate the EU’s transition towards a Circular Economy.
2.	Waste Framework Directive 2018/851	2018	Sets out clear recycling targets and a long-term plan for modern waste management including targets for recycling of municipal and packaging waste, targets to reduce landfills, and measures to reduce food waste and marine litter.
3.	Single-Use Plastic Directives	2018	The Directive restricts 10 single-use plastic items including but not limited to expanded polystyrene containers, straws, and cutlery.
4.	European Green Deal	2019	The policy sets out the plan to transform the EU’s economy, energy, transport and industries into a more sustainable future,

			achieving its goal of becoming the first climate-neutral continent.
5.	Second Circular Economy Action Plan	2020	Building from the European Green Deal, the action plan includes initiatives that addresses the entire lifecycle of products, how they are designed, and waste prevention.
6.	EU strategy for sustainable and circular textiles	2022	The strategy aims to implement circular economy principles in the textiles industry
7.	Batteries Regulation	2023	The regulations impose Circular Economy principles in the management of used batteries, aiming to minimise the environmental impact of battery usage.
8.	Ecodesign for Sustainable Products Regulation (ESPR)	2024	The regulations, binding to all member states, establishes rules for sustainable packaging and products within the EU.
9.	Directive empowering consumers for the green transition	2024	Ensure consumers are provided with better information at the point of sale on the durability and reparability of goods and the consumer's legal guarantee rights.
10.	Directive on repair of goods	2024	The directive establishes a 'right to repair' for used items.
11.	Industrial and Livestock Rearing Emissions Directive (IED 2.0).	2024	Specifically focusing on livestock, the direction integrates circular economy practices and resource efficiency in the Best Available Techniques.
12.	Regulation on Packaging Waste (PPWR)	2025	Replacing the previous directive, it regulates the EU internal market for secondary raw materials, manufacturing, recycling and reuse.

Currently, the EU is on the verge of adopting a Circular Economy Act which aims to establish a "Single Market for secondary raw materials, increase the supply of high-quality recycled materials and stimulate demand for these materials within

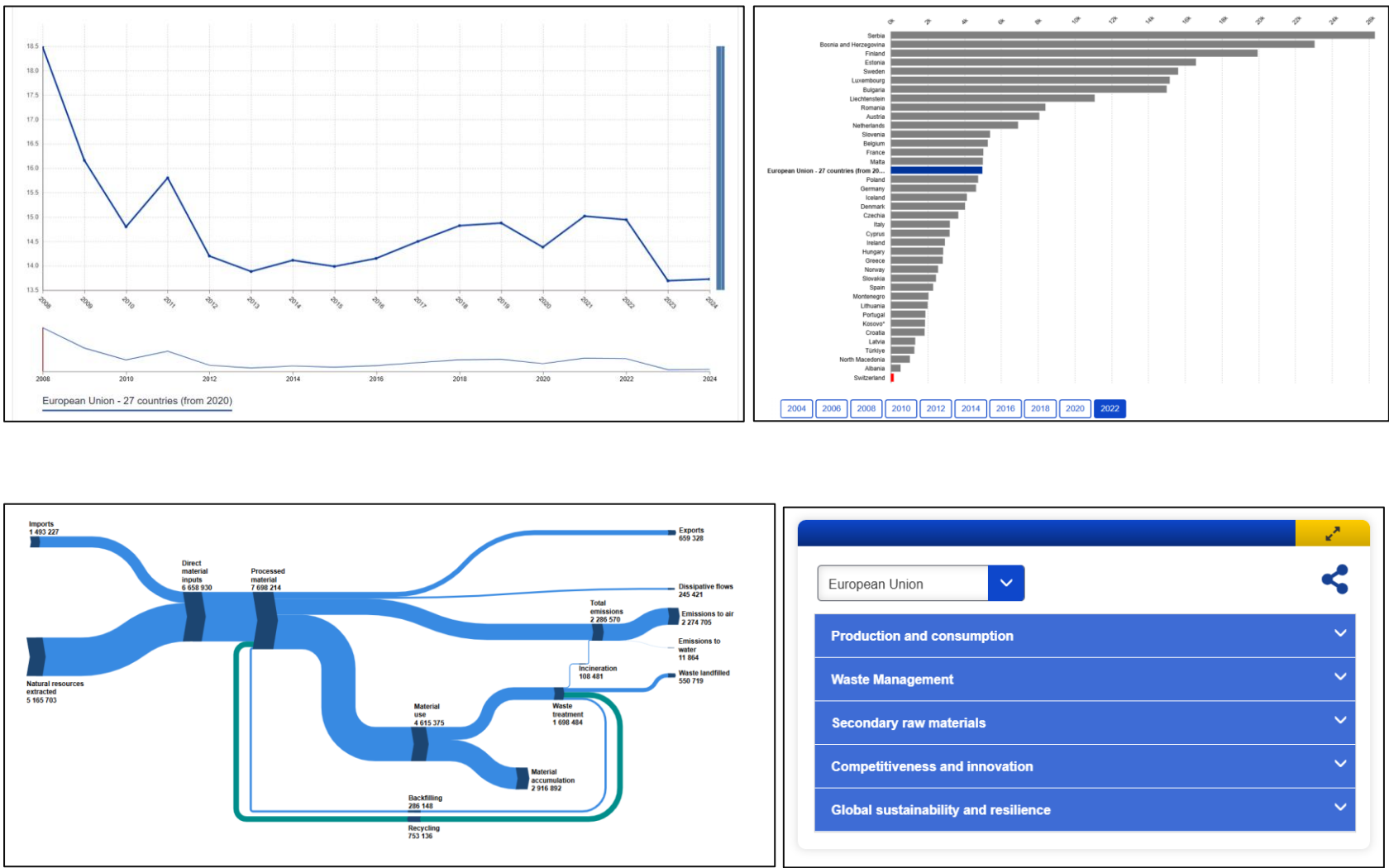
the EU”.²⁵ It is currently in its finalise stages and is anticipated to be adopted in 2026.

Key to the implementation of the EU’s Circular Economy Efforts is the **European Union Circular Economy Monitoring Framework**, which is a live monitoring platform that monitors **five (5)** thematic areas namely:

- a) Production and Consumption
- b) Waste Management
- c) Secondary Raw Materials
- d) Competitiveness and innovation
- e) Global sustainability and resilience.

²⁵ European Commission (2026) *Circular Economy*, accessed at https://environment.ec.europa.eu/strategy/circular-economy_en

Figure 9: Snapshot of the EU Circular Economy Monitoring Framework



3. Japan

Japan's robust regulatory framework on waste electrical and electronic equipment ("WEEE") management makes it a frontrunner in this emerging market. Japan itself generates a substantial amount of WEEE, where the Global E-Waste Monitor 2024 reported that Japan generated 2.6 billion metric tons of WEEE in 2022 or 21/kg per capita²⁶. Notwithstanding, Japan also imports WEEE from regions such as Europe and North America and is now looking towards ASEAN as a potential opportunity for further imports²⁷.

As a party to the Basel Convention and a member of the OECD, Japan's regulatory framework on WEEE management and the transboundary movement of hazardous waste is primarily based on its international commitments. In furtherance of this, Japan has enacted the Act for the Control of Export, Import and Others of Specified Wastes and Other Wastes ("**Law No. 108 of 1992**") which aims to regulate the export, import, transportation and disposal of specified hazardous wastes, including e-waste. The Ministry of Environment and the Ministry of Economy, Trade and Industry serve as the primary regulators and oversee all activities related to the transboundary movement and disposal of e-waste.

²⁶ United Nations Institute for Training and Research, UNITAR (2024) *The Global E-Waste Monitor 2024*, accessed at https://ewastemonitor.info/wp-content/uploads/2024/12/GEM_2024_EN_11_NOV-web.pdf

²⁷ Siampani, Anna (2024). *Japan expands urban mining efforts with e-waste imports from ASEAN*. Accessed at: https://ceoworld.biz/2024/12/30/japan-expands-urban-mining-efforts-with-e-waste-imports-from-asean/#google_vignette

Under Law No. 108 of 1992, a person is permitted to import specified hazardous wastes, including e-waste, insofar as:

- He has obtained import approval from the Minister of Economy, Trade and Industry²⁸; or
- He has been duly certified by the Minister of Economy, Trade and Industry as an import operator for the purpose of recycling, by persons who have been duly certified by the Minister of Economy, Trade and Industry as recycling operators²⁹.

To be certified by the Minister of Economy, Trade and Industry, prospective importers and/or recycling operators must comply with strict requirements as set out jointly by the Minister of Economy, Trade and Industry and the Minister of Environment. Notwithstanding, successful certification shall remain valid for five years and accords procedural advantages such as simplified import processes.

Once approval or certification has been obtained, such person must then procure a movement document consistent with the details of the notification outlined by the Basel Convention. Upon issuance of the movement document by the Minister of Economy, Trade and Industry, all transport and disposal activities must be carried out in accordance with the contents of said document³⁰.

Next, the importer must notify the competent authority of the State of import upon receipt of delivery of the imported specified hazardous wastes³¹. Similarly, the importer must also notify the Minister of Economy, Trade and Industry and the Minister of Environment upon the disposal of the imported specified hazardous wastes³².

²⁸ Article 8, Law No. 108 of 1992

²⁹ Article 16, Law No. 108 of 1992

³⁰ Article 9, Law No. 108 of 1992

³¹ Article 13, Law No. 108 of 1992

³² Article 12, Law No. 108 of 1992

The importation of specified hazardous wastes is also governed by a Ministerial Order Specifying the Scope of Specified Hazardous Wastes & Other Wastes issued by the Ministry of Environment. This Order specifies necessary measures for the safe disposal of such waste – for example, ensuring that necessary measures are taken to prevent any hindrance to the living environment due to odor, noise and vibration associated with such disposal activities³³.

Additionally, Law No.108 of 1992 and its related Orders must be read together with other statutes governing resource management and recycling, namely the Act for Promotion of Effective Utilization of Resources (“**Law No. 48 of 1991**”), the Act for Recycling of Specified Home Appliances (“**Law No. 137 of 1970**”) and the Act on Promotion of Recycling Small Waste Electrical & Electronic Equipment (“**Law No. 47 of 2012**”). For clarity, the scope of each instrument is summarized as follows:

Table 16: Summary of legal instruments related to e-waste management in Japan

No.	Instrument	Summary
1.	Act for the Control of Export, Import and Others of Specified Wastes and Other Wastes	Regulates the export, import, transportation and disposal of specified hazardous wastes in line with the implementation of the Basel Convention.
2.	Ministerial Order Specifying the Scope of Specified Hazardous Wastes & Other Wastes	Further specifies matters related to the export, import, transportation and disposal of specified wastes including but not limited to, the scope of “specified hazardous wastes” and necessary measures to prevent environmental pollution.

³³ Article 6, Ministerial Order Specifying the Scope of Specified Hazardous Wastes & Other Wastes issued by the Ministry of Environment.

3.	Act for Promotion of Effective Utilization of Resources	Introduces necessary measures to reduce generation of waste and promotes the utilization of recyclable resources and reusable parts.
4.	Act for Recycling of Specified Home Appliances	Regulates the treatment and recycling of four (4) specified post-consumer home appliances namely: air conditioners, televisions, fridges & freezers, and washing machines & clothes dryers.
5.	Act on Promotion of Recycling Small Waste Electrical & Electronic Equipment	Regulates the treatment and recycling of electronic equipment and other electrical equipment other than those prescribed by Law No. 97 of 1998.

Additionally, Japan employs advanced automated technologies in its recycling industry to sort and disassemble electronic waste. These include magnetic and automated processes designed to improve material recovery efficiency. The country also emphasizes the development of lighter and more environmentally compatible electrical and electronic equipment to support long-term resource use efficiencies.

With the support of its comprehensive regulatory framework, Japan has developed significant recycling capacity. As of 2016, there were 47 e-waste recycling plants of which the notable certified facilities include Nippon Recycle Center Corporation, Mitsui Mining & Smelting Co. Ltd., and Nomura Kohsan Co. Ltd. In 2024, the domestic e-waste recycling industry was valued at **USD 2.8 billion** with projections suggesting further growth³⁴.

³⁴ IMARC Group (2025). *Japan e-waste recycling market size, share, trends, source and region 2025-2033*. Accessed at: <https://www.imarcgroup.com/japan-e-waste-recycling-market>

4. South Korea

With an economy mainly focused on technology and electronic manufacturing, South Korea recognizes the need for a thorough e-waste management framework. In 2022, South Korea is said to have generated 930 million kilograms of e-waste amounting to 17.9 kilograms per capita³⁵. Notwithstanding, South Korea also maintains a consistent stream of imported e-waste from countries such as the United States, Hungary and New Zealand³⁶.

Following its obligations under the Basel Convention and as a member of OECD, South Korea has enacted the Act on Transboundary Movement of Hazardous Wastes and their Disposal ("**Act No. 4534, 1992**") for the purpose of, inter alia, preventing environmental pollution caused by the transboundary movement of wastes and restricting the export or import of wastes across South Korea. This is further cemented in the overarching obligation placed on exporters/importers of e-waste to undertake positive efforts to develop waste management technologies and mutual exchange of information to prevent undue harm from their activities.

On the transboundary movement of e-waste, Act No. 4534 requires a prospective importer to obtain the permission of the Minister of Environment³⁷. In line with principles under the Basel Convention, such permission may only be granted where³⁸:

- i. The technology and facilities necessary for the sound and proper disposal of the proposed imported wastes is available in South Korea;
- ii. The proposed wastes are to be used as raw materials in South Korea's recycling industries; and

³⁵ United Nations Institute for Training and Research, UNITAR (2024) *The Global E-Waste Monitor 2024*, accessed at https://ewastemonitor.info/wp-content/uploads/2024/12/GEM_2024_EN_11_NOV-web.pdf

³⁶ Observatory of Economic Complexity (OEC) (2025) *E-waste and scrap in South Korea*, accessed at <https://oec.world/en/profile/bilateral-product/e-waste-and-scrap/reporter/kor>

³⁷ Article 10, Act No. 4534

³⁸ Ibid

- iii. A request for South Korea's consent has been made from the proposed State of export.

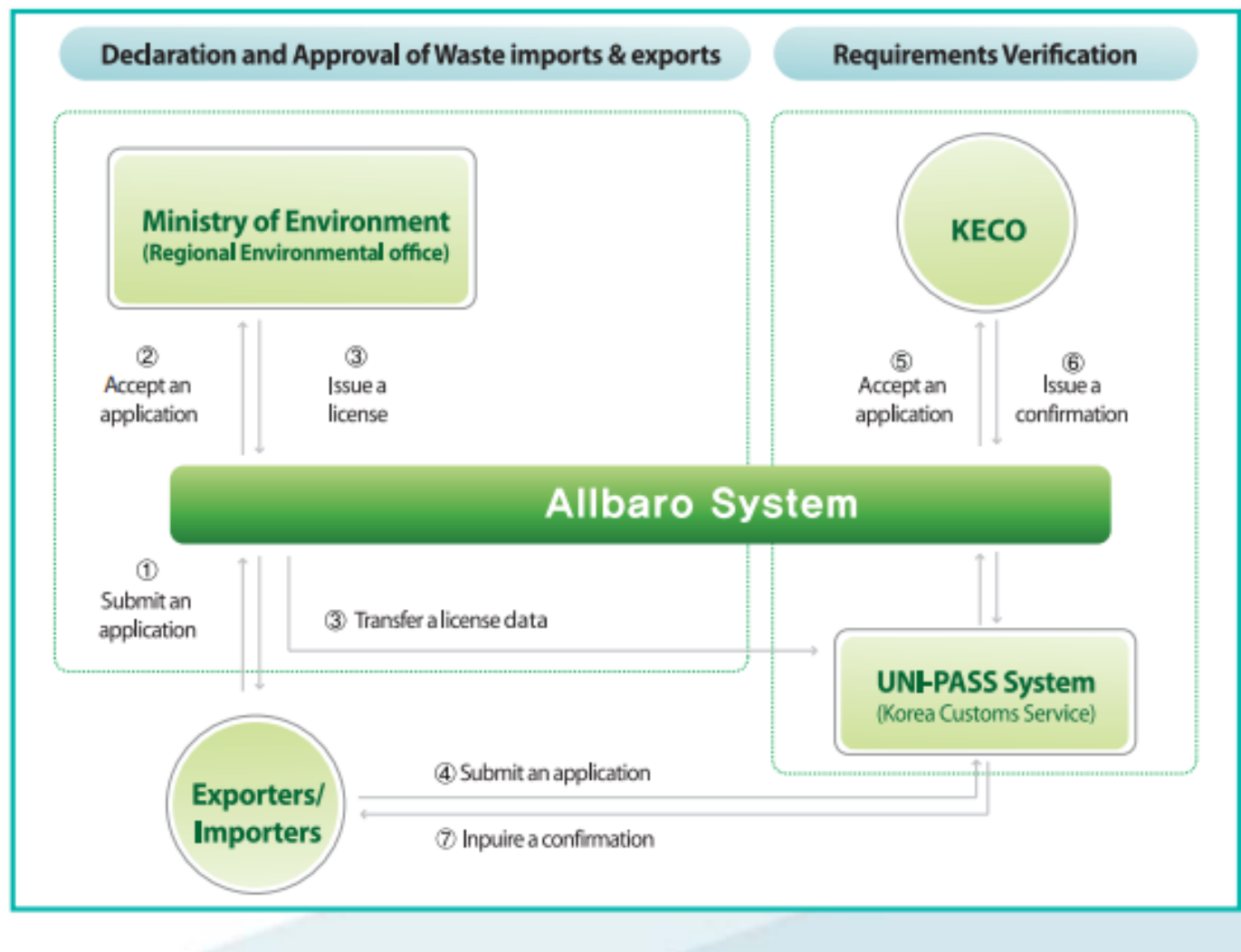
Once the permission has been obtained, the prospective importer must then procure and abide by the details of the import movement document and fulfil notification obligations upon the receipt and successful disposal of the imported e-waste to both the state of Export and the Minister of Environment.

Additionally, the prospective importer must also comply with other regulatory and environmental safeguards such as:

- Depositing a prescribed sum of security to the Minister of Environment and obtaining adequate insurance for proposed activities;
- Ensuring the import and transportation of e-waste is done in accordance with prescribed packaging and labelling requirements;
- Restricting entry and unloading of e-waste at the designated shipment ports; and
- Disposing of the imported e-waste in accordance with standards and methods prescribed under the Wastes Control Act.

Act No. 4534 also prescribes ESM techniques, notably the establishment of a comprehensive electronic information processing program known as the Allbaro system. The primary purpose of this system is to efficiently manage all processes related to the discharge, transport and ultimate treatment of waste (including e-waste) – through concurrent and real-time contributions from the Ministry of Environment, Local administration agencies/governments, the Korea Environment Corporation (“**KECO**”) and system users.

Figure 10: Sample process flow under the Allbaro system



Source: Korea Environment Corporation (2023). *Understanding the Allbaro system properly.*

As seen in Figure 2, the Allbaro system enables prospective importers to input administrative details and request regulatory approval on a single platform where all information is accessible to all concerned regulatory authorities. For example, through integration with the Korea Customs Service (“**KCS**”) UNI-PASS System, custom clearance for the proposed import of e-waste into South Korea is accelerated through consolidation of authorization and instant confirmation of applicant’s information.

The Allbaro system also incorporates the use of Radio Frequency Identification (“**RFID**”) technology for real-time tracking and management of e-waste disposal³⁹. This eliminates the need for traditional paper transfer, recording and takeover of movement documents.

ESM principles are also outlined under the Act on Resource Circulation of Electrical and Electronic Equipment and Vehicles (“**Act No. 8405, April 2007**”), which was enacted to, inter alia, facilitate the optimum recycling of waste. The Act establishes the responsibilities of the State, local Governments, business operators, citizens and the significance of international cooperation.

In addition to setting an annual recycling target, Act 8405 requires the Ministry of Environment to determine and publicly notify a long-term target every five years⁴⁰. Such target shall have regard to factors such as:

- The quantity of electrical and electronic equipment manufactured by or imported into South Korea;
- The projected quantity of waste electrical and electronic equipment generated in or imported to South Korea; and
- The results of recycling of waste electrical and electronic equipment and the size of existing recycling facilities.

³⁹ Korea Environment Corporation (2023). *Understanding the Allbaro system properly*. Accessed at: https://www.allbaro.or.kr/hom/hom001.filedn.do?seq=13448&file_seq=1

⁴⁰ Article 16, Act 8405

Regulatory clarity and ESM mechanisms have created a strong E-Waste management market in South Korea where the e-waste recycling industry was valued at USD 1.6 billion and is projected to reach **USD 5.5 billion** by 2033⁴¹.

⁴¹ Market Research Future (2025). *South Korea E-Waste Management Market*. Accessed at: <https://www.marketresearchfuture.com/reports/south-korea-e-waste-management-market-59666>

5. Singapore

Comparatively, Singapore does not accumulate a substantial amount of e-waste. In 2022, Singapore is reported to have generated about 121 million kilograms of e-waste or 20 kilograms per capita⁴². Notwithstanding, Singapore has begun to zero in on e-waste recycling and reuse as part of the nation's new zero-waste mandate under the Singapore Zero Waste Masterplan.

Meanwhile, the transboundary movement of e-waste in Singapore is said to be limited⁴³. Similar to Malaysia, Singapore adopts a general prohibition on the import of hazardous waste under its Hazardous Waste (Control of Export, Import and Transit) Act 1997. The Act provides that hazardous waste (including e-waste) may only be imported subject to authorization via import permit or as ordered under the Act⁴⁴.

In obtaining an import permit, the Hazardous Waste (Control of Export, Import and Transit) Regulations 1998 and the Technical Guidelines for the Import and Export of Waste Electrical and Electronic Equipment (WEEE) and Used Electrical and Electronic Equipment (UEEE) ("**Singapore's Technical Guidelines**") issued by the National Environment Agency ("**NEA**") – the primary regulatory authority, provides some guidance.

The prospective importer will be required to submit an import proposal to the Director General⁴⁵, specifying inter alia the physical and chemical characteristics of the waste, the proposed route of transport and details regarding its origin. An import permit may only be issued if the Director General is satisfied that:

⁴² United Nations Institute for Training and Research, UNITAR (2024) *The Global E-Waste Monitor 2024*, accessed at https://ewastemonitor.info/wp-content/uploads/2024/12/GEM_2024_EN_11_NOV-web.pdf

⁴³ Khalid Mehmood Shad, Sarah Tan Yen Ling & Mohammad Ershadul Karim (2020). *Comparative study on e-waste management and the role of the basel convention in Malaysia, Singapore, and Indonesia: A way forward*. Accessed at: <https://scholarhub.ui.ac.id/cgi/viewcontent.cgi?article=1024&context=ilrev>

⁴⁴ Section 25, Hazardous Waste (Control of Export, Import and Transit) Act 1997

⁴⁵ Regulation 3, Hazardous Waste (Control of Export, Import and Transit) Regulations 1998

- The proposed imported waste will be dealt in a manner that is consistent with the environmentally sound management of waste;
- The applicant is a suitable person, in terms of financial viability and track record in environmental matters;
- The applicant has the appropriate insurance;
- Where necessary, the applicant is able to provide the relevant guarantee or security deposit; and
- Where necessary, the applicant has developed an emergency action plan that is adequate to deal with any accidental discharge or spillage of waste.

Should the proposed importer fulfil the criteria above, the Director General may issue an import permit that will specify⁴⁶:

- The kind and quantity of waste to be imported;
- The method of transport
- The time and place from which the waste is to be imported;
- The way the waste is to be dealt with after import; and
- Particulars of the facility that will be used for the disposal of such waste.

Regulatory authorization is also facilitated through the use of Singapore's national single window for trade declaration, TradeNet. In addition to the import permit, prospective importers must submit the relevant documents (such as bill of lading, contractual agreements with the exporter, and approval from the State of export) and a declaration under the appropriate Harmonised System ("HS") code in order to obtain Singapore Customs approval.

In terms of ESM practices, Singapore focuses on addressing the domestic production and collection of e-waste through establishing a strong EPR model. For example, Singapore's Resource Sustainability Act 2019 was enacted to establish a

⁴⁶ Regulation 13, Hazardous Waste (Control of Export, Import and Transit) Regulations 1998

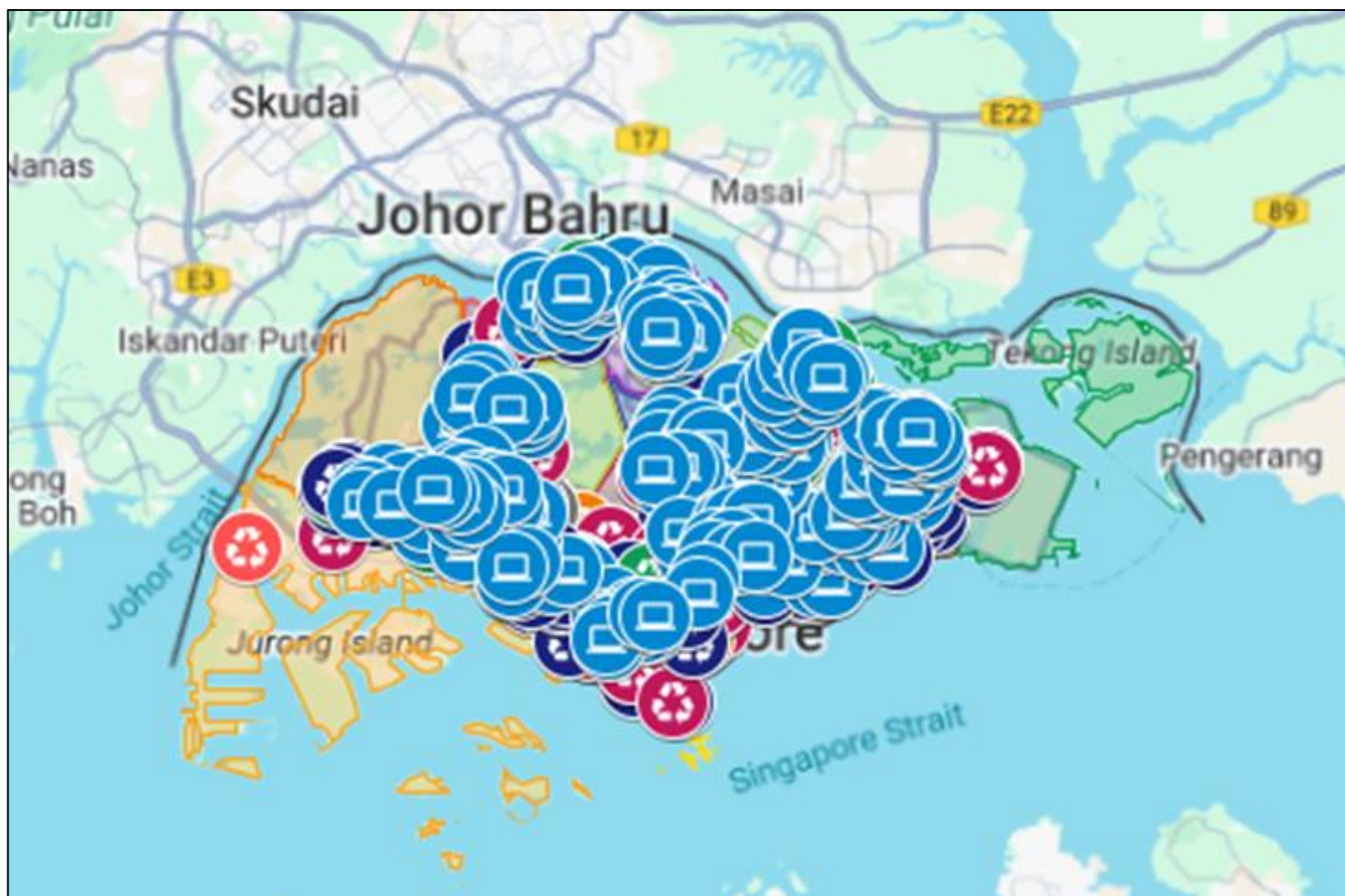
framework where persons who profit from the supply of products bear the cost of collection and treatment.

In operationalizing its EPR model, the NEA appointed ALBA E-waste Smart Recycling Pte Ltd (“**ALBA**”) to act on behalf of all e-waste producers in Singapore⁴⁷, mainly by setting up accessible channels for the collection and sorting of e-waste.

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⁴⁷ NEA (2025) *Extended producer responsibility (EPR) system for e-waste management system*. Accessed at: [https://www.nea.gov.sg/our-services/waste-management/3r-programmes-and-resources/e-waste-management/extended-producer-responsibility-\(epr\)-system-for-e-waste-management-system](https://www.nea.gov.sg/our-services/waste-management/3r-programmes-and-resources/e-waste-management/extended-producer-responsibility-(epr)-system-for-e-waste-management-system)

Figure 11: Distribution of ALBA collection points as of October 2024



Source: NEA (2025) *Extended producer responsibility (EPR) system for e-waste management system*. Accessed at: [https://www.nea.gov.sg/our-services/waste-management/3r-programmes-and-resources/e-waste-management/extended-producer-responsibility-\(epr\)-system-for-e-waste-management-system](https://www.nea.gov.sg/our-services/waste-management/3r-programmes-and-resources/e-waste-management/extended-producer-responsibility-(epr)-system-for-e-waste-management-system)

As of October 2024, ALBA has set up **eight hundred seventy (870)** collection points across electronic stores, shopping malls and community spaces – ranging from collection bins & counters for the collection of small electrical and electronic waste, to depot drop offs for the collection of large household appliances such as refrigerators and washing machines.

Hence, despite the limited transboundary movement of e-waste across Singapore, the domestic e-waste recycling industry has benefitted from the national momentum on e-waste management and focus on EPR. This is evident by the growth of local recycling operators such as Metalo International Pte Ltd, KGS Pte Ltd and Virogreen (Singapore) Pte Ltd. Estimates indicate the overall market value of the e-waste industry is projected to reach 1.4 billion USD by 2026.⁴⁸

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⁴⁸ Mordor Intelligence (2026) Singapore Waste Management Market Size & Share Analysis - Growth Trends and Forecast (2026 - 2031), accessed at <https://www.mordorintelligence.com/industry-reports/singapore-waste-management-market>

6. Germany

In 2018, *Umweltbundesamt* (“**UMB**”) or Germany Environment Agency, the main regulator on waste management, reported a collection of 853 million kilograms of WEEE⁴⁹. In 2022, this number is said to have increased to 1.7 billion kilograms or 21 kilograms per capita⁵⁰. Notwithstanding, Germany is also one of the largest importers of e-waste and scrap from countries such as the United States, the Netherlands, Switzerland and France⁵¹.

The primary instrument governing the transboundary movement of e-waste in Germany is the *Abfallverbringungsgesetz* (“**AbfVerbrG**”) or the Waste Shipment Act. The AbfVerbrG incorporates Germany’s commitments as a party to the Basel Convention and a member of the OECD, but mainly reiterates obligations laid down by Regulation (EC) No. 1013/2006.

For example, AbfVerbrG provides that shipments must be in accordance with Regulation No. 1013/2006⁵². In this regard, Regulation No. 1013/2006 prohibits the import of hazardous waste for purposes of recovery unless⁵³:

- The State of export is a member of the OECD;
- The State of export is a party to the Basel Convention; or
- The European Community or its Member States have concluded bilateral or multilateral agreements with the State of export in accordance with the local legislation and the Basel Convention.

Further, Regulation No. 1013/2006 provides that the import of hazardous waste (including e-waste) into the EC is subject to the PIC principle and obligations of

⁴⁹ Umweltbundesamt (2020). *Electrical and electronic waste*. Accessed at: <https://www.umweltbundesamt.de/en/topics/waste-resources/product-stewardship-waste-management/electrical-electronic-waste#electrical-and-electronic-waste-in-germany>

⁵⁰ United Nations Institute for Training and Research, UNITAR (2024) *The Global E-Waste Monitor 2024*, accessed at https://ewastemonitor.info/wp-content/uploads/2024/12/GEM_2024_EN_11_NOV-web.pdf

⁵¹ Observatory of Economic Complexity (OEC) (2025) *E-waste and scrap in Germany*, accessed at <https://oec.world/en/profile/bilateral-product/e-waste-and-scrap/reporter/deu>

⁵² S.4, AbfVerbrG

⁵³ Article 43 & 44, Regulation (EC) No. 1013/2006

written notification. Therefore, approval from the UMB is subject to the receipt of the completed notification and movement documents as prescribed under the annexes of the Basel Convention.

The prospective importer must also ensure that a contract has been concluded with the consignee from the State of export⁵⁴, which incorporates safeguards such as ‘take back’ obligations in the event that the recovery of the imported waste cannot be completed as intended or in accordance with the law. The prospective importer must ensure that the consignee has provided a financial guarantee in lieu of costs incurred in such event⁵⁵, such as the costs related to transport, storage and recovery.

Regulation No. 1013/2006 also underscores the significance of ESM by obligating prospective importers to take the necessary steps to ensure that any imported waste is managed without endangering human health and in an environmentally sound manner throughout the shipment, transport and recovery process.

ESM best practices are also entrenched in Germany’s *Elektrogesetz* (“**ElektroG**”) or Electrical & Electronic Equipment Act. The ElektroG was enacted to uphold Germany’s approach to EPR by placing obligations on manufacturers of electrical and electronic equipment, end users and local governments. This includes provisions on collection, sorting & take back of WEEE, and dissemination of information.

Relevant measures outlined by the ElektroG include:

⁵⁴ Article 4 & 5, Regulation (EC) No. 1013/2006

⁵⁵ Article 4 & 6, Regulation (EC) No. 1013/2006

- Recycling facilities must meet technical requirements such as ensuring suitable storage space for disassembled components and proper equipment for the treatment of water.
- Operators of recycling facilities must submit a treatment concept to UMB that includes aspects such as description of work, recycling capabilities and personnel resources.
- Operators of recycling facilities must maintain an operating log that contains all information essential to demonstrate the proper management of WEEE.

Germany's comprehensive regulatory framework has allowed for e-waste management to develop into a sustainable and productive market. The industry is valued **at USD 3.5 billion** in 2025 and is expected to reach USD 17.5 billion by 2035⁵⁶. As of 2020, there were approximately 2,400 municipal recycling centres.

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⁵⁶ Market Research Future (2025). *Germany e-waste management market*. Accessed at: <https://www.marketresearchfuture.com/reports/germany-e-waste-management-market-59667>

7. Finland

In 2022, Finland is reported to have generated about 118 million kilograms of e-waste or 21 kilograms per capita⁵⁷. In addition to its domestic sourcing, Finland also imports E-Waste from countries such as the Netherlands, Austria, Sweden, Norway and Italy⁵⁸.

The Finnish Environment Institute (“**FI-SYKE**”) is the competent authority responsible for supervising compliance, conducting audits, and enforcing environmental regulations. Finland has enacted the Waste Act (646/2011) for the purposes of, inter alia, promoting the nation’s circular economy and effective management of waste. Additionally, Finland issued the Government Decree on Waste Electrical and Electronic Equipment (519/2014) to provide for the reuse, recycling and recovery of WEEE and to improve the quality of treatment of such waste. These instruments incorporate Finland’s international commitments as a party to the Basel Convention and as an OECD member state.

Similar to Germany and other EU members, the above instruments mainly reiterate the obligations and regulatory requirements outlined under Regulation (EC) No. 1013/2006⁵⁹. In the interest of conciseness, such requirements will not be restated. Notwithstanding, Government Decree (519/2014) additionally provides that the transboundary movement of hazardous waste across Finland must comply with minimum requirements that include⁶⁰:

- Providing evidence of evaluation or testing on every item within the consignment;
- Obtaining a declaration that there is no other waste other than WEEE within the consignment; and

⁵⁷ United Nations Institute for Training and Research, UNITAR (2024) *The Global E-Waste Monitor 2024*, accessed at https://ewastemonitor.info/wp-content/uploads/2024/12/GEM_2024_EN_11_NOV-web.pdf

⁵⁸ Observatory of Economic Complexity (OEC) (2025) *E-waste and scrap in Finland*, accessed at <https://oec.world/en/profile/bilateral-product/e-waste-and-scrap/reporter/fin>

⁵⁹ Section 10, Government Decree on Waste Electrical and Electronic Equipment (519/2014)

⁶⁰ Annex 6, Government Decree on Waste Electrical and Electronic Equipment (519/2014)

- Ensuring appropriate protection against damage during shipment, loading/unloading, and transportation through sufficient packaging and labelling.

In terms of ESM, Finland implements a robust network of data collection systems to support the efficient and transparent management of e-waste⁶¹. This includes Finland's Central Waste Reporting ("YLVA") – which collects real-time data on the generation, transport, processing, recovery and disposal of waste, and Finland's Environmental Register Search Platform or *Kompassi* – which integrates several of the country's environmental registers for instant verification on private compliance with local environmental regulations.

Other than data infrastructure, Finland via Government Decree (519/2014) also encourages recycling operators to develop new and robust treatment methods to ensure that all components can be wholly recycled. Similarly, EPR practices are further entrenched in which manufacturers are required to ensure that the design and manufacture of any prospective equipment to be placed in the market does not involve methods that render it intentionally difficult to dismantle or recycle⁶².

Finland's e-waste recycling industry was valued at USD 10.61 billion in 2023 and is forecasted to reach **USD 14.74 billion** by 2030⁶³. This is supported by the operations of national logistic operators such as SER-tuottajayhteisö Oy (SERTY) and Elker Oy, and certified recycling facilities such as Kuusakoski Oy and Stena Recycling Oy.

⁶¹ Amavat (2025). EPR system in Finland. Accessed at: <https://amavat.eu/epr-system-in-finland/>

⁶² Section 3, Government Decree on Waste Electrical and Electronic Equipment (519/2014)

⁶³ Next Move Strategy Consulting (NMSC) (2025). *Finland waste management market*. Accessed at: <https://www.nextmsc.com/report/finland-waste-management-market>

8. Summary of benchmarking

As a summary, the key points from the benchmarking above is found in the table below:

Table 17: Summary of benchmarking

No	Key comparison	European Union	Japan	South Korea	Singapore	Germany	Finland
Country overview							
1.	Location	Europe	Asia	Asia	Asia	Europe	Europe
2.	Population size	746,000,000	124,336,900	51,667,029	6.11 million	84,746,132 (2024)	5,623,806
3.	Is the country a member of the Basel Convention	No	Yes	Yes	Yes	Yes	No
4.	Is the country a member of OECD, EC, or Liechtenstein	Yes	Yes (OECD)	Yes (OECD)	No	Yes (OECD, EC)	Yes (OECD)
Legal Framework							
	Permits exportation of e-waste.	Yes	Yes	Yes	Yes	Yes	Yes

No	Key comparison	European Union	Japan	South Korea	Singapore	Germany	Finland
	Permits importation of e-waste.	Yes	Yes	Yes	Yes	Yes	Yes
	Governing legal instrument	Most EU countries are bound by the Amber Control Procedure	Act for the Control of Export, Import & Others of Specified Hazardous Wastes & Other Wastes (Law No. 108, December 16, 1992). Ministerial Order Specifying the Scope of Specified Hazardous Wastes & Other Wastes based on the Act for the Control of Export, Import & Others of Specified	Transboundary Movement Act (Act No. 4534, 1992) Act on Resource Circulation of Electrical and Electronic Equipment and Vehicles Act no. 19556, 2023	Hazardous Waste (Control of Export, Import and Transit) Act Technical Guidelines for the Import and Export of Electrical and Electronic Equipment (WEEE) and Used Electrical and Electronic Equipment (UEEE)	Abfallverbringungs gesetz (AbfVerbrG) (Waste Shipment Act) – in relation to import/export of e-waste. Incorporates Basel Convention & Regulation (EC) No. 1013/2006 Elektrogesetz (ElektroG) (Electrical & Electronic Equipment Act) – in relation to e-waste management.	Waste Act (Finland) 646/2011 Government Decree on Waste Electrical and Electronic Equipment 2021/1026 EU Waste Shipment Regulation (EC No 1013/2006) Directive 2012/19/EU on waste electrical and electronic equipment

No	Key comparison	European Union	Japan	South Korea	Singapore	Germany	Finland
			Hazardous Wastes & Other Wastes.			Incorporates the WEEE Directive.	
5.	Regulator	European Parliament and individual states	Ministry of Environment, Ministry of Economy, Trade & Industry	Ministry of Environment	National Environmental Agency	Umweltbundesamt (UMB) (German Environment Agency)	Ministry of the Environment Finnish Environment Institute (SYKE)
Recycling capabilities							
6.	Average annual local e-waste production locally	4.9 million tonnes	In 2022, Japan generated 2.6 Million metric tons of WEEE; which accounted for 21kg/capita	930 million kgs	121 million kg	11.7 kg/capita.	118,000 metric tonnes (118 kt) of WEEE.
7.	Rate of e-waste recycling	42.8% for the entirety of Europe	80%	49%	59%	43.01%	49.5%

No	Key comparison	European Union	Japan	South Korea	Singapore	Germany	Finland
8.	Size of recycling industry	Roughly 32% of the global Electronic Waste Recycling Market	USD 2.8 Billion in 2024. Expected to reach USD 5.1 Billion by 2033.	USD 2.6 billion in 2024 with a CAGR of 10%, expected to reach USD 5.5 billion by 2033	Projected to be USD 185.3 million in 2024	USD 3.5 Billion in 2025 with a CAGR of 15.76%. Expected to reach USD 17.5 Billion by 2035.	USD 10.61 billion in 2023, and is predicted to reach USD 14.74 billion by 2030, at a CAGR of 3.80% from 2024 to 2030.
9.	Number of permitted e-waste recycling facilities	No specific data of the entirety of EU, with Germany being the highest with 2,400 recycling centres.	As of 2016, the total number of e-waste recycling plants is 47. Certified facilities as of October 2023 include: 1. Nippon Recycle Center Corporation 2. Mitsui Mining & Smelting Co. Ltd.	9 regional recycling centers	204	Around 2,400 municipal recycling centres. Among the largest operators include: 1. ALBA Management GmbH 2. EGN Entsorgungsgesellschaft Niederrhein 3. B2X Care Solutions 4. Nehlsen	Known companies or operators which are permitted as a recycling or treatment facility includes; 1. Kuusakoski Oy 2. Stena Recycling Oy 3. SERTY ry (SERTY) 4. Elker Oy

No	Key comparison	European Union	Japan	South Korea	Singapore	Germany	Finland
			3. Nomura Kohsan Co. Ltd 4. Matsuda Sangyo Co. Ltd 5. Tanaka Kikinzoku Kogyo K.K 6. JX Metals Smelting Co. Ltd.			5. Fes Frankfurt Disposal & Service GmbH	
Environmental safeguards							
10.	Are traceability requirements under the law?	Yes, under the EU Circular Economy Action Plan	Under Law 108, persons involved in the importing of hazardous waste must notify the Ministry of Environment & the Ministry of Economy, Trade & Industry	Yes, via the Allbaro system	Yes, via the TradeNet requirement	Manufacturers are required to register with the Elektro-Altgerate Register (EAR), that among others include a financial guarantee & take-back concept/plan by the manufacturer (S.6 ElektroG)	The Waste Act (646/2011) and the Government Decree on WEEE (2021/1026) require producer responsibility organisations, collection points, transporters, and treatment facilities

No	Key comparison	European Union	Japan	South Korea	Singapore	Germany	Finland
						Recycling operators are also required to maintain a detailed operational log of the storage, movement, processing and disposal of waste.	to maintain detailed records of e-waste flows, including quantities, types, origins, and destinations.
11.	The use of technology in managing e-waste	EU maintains an EU Circular Economy Monitoring Framework which monitors the implementation of key Circular Economy initiatives.	Japan utilizes advanced automated technologies (e.g. magnetic) to improve disassembly.	Allbaro system which is an IT based e-information system to track all processes for importation including discharge, transport, and	Utilisation of the TradeNet system which tracks shipping documents, declaration letter by the importer, and surveyor report	Utilizes automated systems to sort plastics, metals and other recyclable materials to maximize extraction. Utilizes chemical and hydrometallurgical	The SIIRTO register has been implemented since 2022. The law requires a transfer document for the transport of e-waste (Waste Act (646/2011)). This digital system allows for the

No	Key comparison	European Union	Japan	South Korea	Singapore	Germany	Finland
				ultimate treatment of e-waste		methods for extraction.	details of the transfer documents to be recorded electronically.

CHAPTER 5:

RECOMMENDATIONS

In this Chapter, **eight (8)** recommendations are formulated consisting of “quick wins” (short term options), medium term options, and long-term options. These recommendations ultimately aim to address some of the key challenges faced in ensuring Malaysia meets its Circular Economy goals.

1. Overview of the recommendations

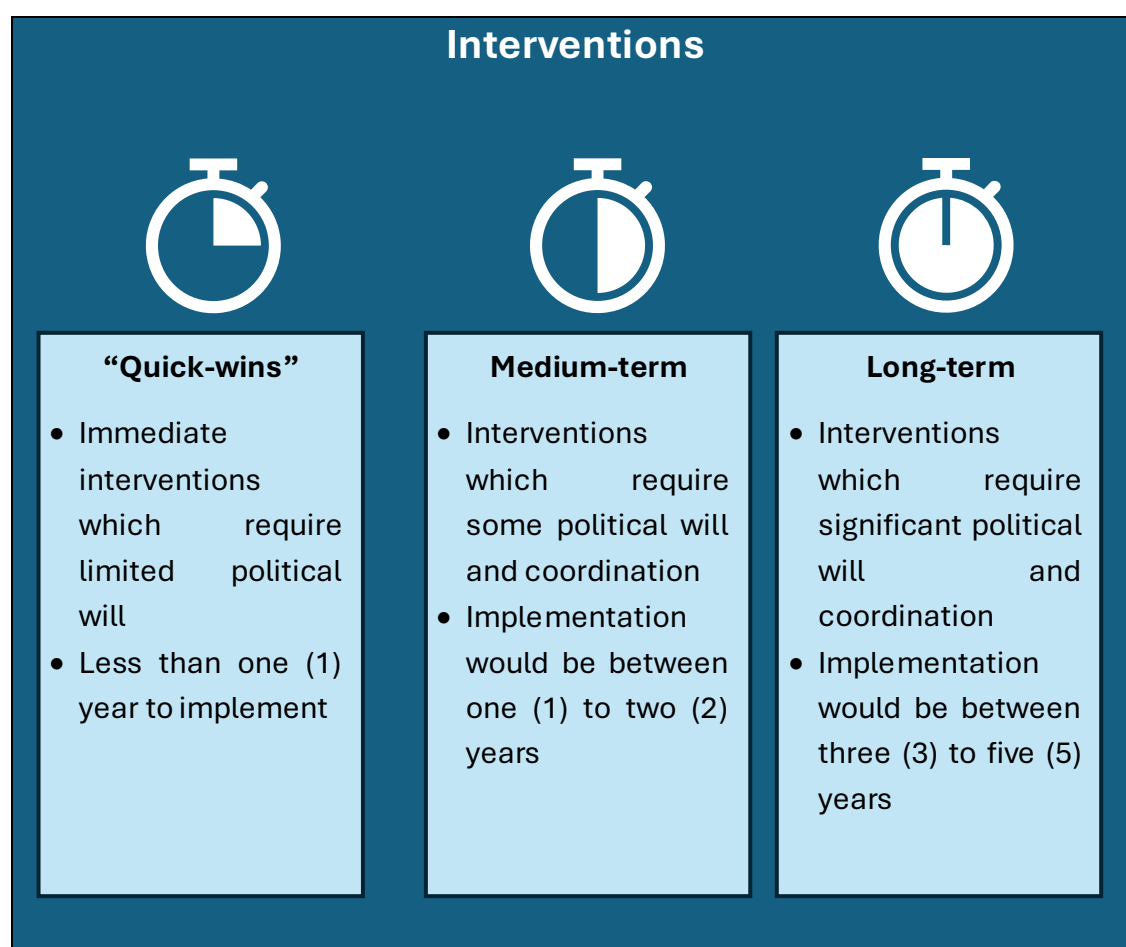
Drawing from the need for Malaysia to achieve its CE goals under various policy documents outlined in Chapter 2, it is crucial a sustainable strategy encompassing various tools and interventions are considered to ensure the viability of existing CE developments.

The recommendations are formulated by taking into consideration the following:

- a) Key policy documents and their goals;
- b) Issues identified with Malaysia's recycling; and
- c) Best practice from selected countries.

Ultimately, **eight (8)** interventions are outlined, and categorised according to “quick wins” (short term options), medium term, and long-term interventions.

Figure 12: Types of interventions



“Quick wins”

Intervention 1: Expand household e-waste collection points and public awareness

The first step is to make e-waste disposal easy and visible in everyday life. This can be done by expanding the number of places where households can drop off old electronic items, such as mobile phones, laptops, small appliances and televisions.

Local authorities, with guidance from KPKT, SWCorp, and DOE would work with major retailers, shopping centres and community facilities to place clearly marked e-waste collection bins in locations that people already visit regularly. At the same time, a simple national standard would be issued on how these items are stored and collected safely. This builds on the already existing number of E-waste Collection Centers and Collection points, at **one hundred forty-seven (147)** and **one hundred thirty-one (131)** respectively.

To support this physical roll-out, mobile collection days can be organised a few times a year to help residents dispose of bulky items such as refrigerators and televisions that are difficult to transport. All collected e-waste would then be transferred to licensed recovery facilities approved by the DOE, ensuring that items do not leak into informal or unsafe handling channels.

Case Study: Singapore’s National E-Waste Take-Back System

Since July 2021 under the Producer Responsibility Scheme, ALBA E-Waste Smart Recycling manages the national e-waste take-back system. Under this system, 600 public collection bins, in-store bins, and free 1-for-1 take-back services are managed to provide easy access to proper disposal of e-waste

Key stakeholders : DOE, KPKT, SWCorp, Local Authorities, Retailers

Related Regulations : Environmental Quality Act 1974; Environmental Quality (Scheduled Wastes) Regulations 2005 (SW110); Solid Waste and Public Cleansing Management Act 2007.

Intervention 2: Mandate take-back and recycling requirements in Government

Green Procurement

Government procurement can be used as a lever to improve circularity goals. This recommendation focuses on requiring all government E&E vendors to take responsibility for what happens to equipment when it reaches the end of its useful life. To implement this, the *Garis Panduan Pelaksanaan Peolehan Hijau Kerajaan (Government Green Procurement – GPP)* would need to be updated to include the responsibilities of suppliers to collect old devices, securely erase any data, and ensure that the equipment is either refurbished or recycled by licensed facilities. These obligations would be built directly into contracts, rather than treated as optional add-ons.

In practice, this means that when a ministry replaces computers or servers, the supplier is already contractually required to manage the old equipment. Clear service standards would apply, including timelines for collection, documentation showing where the equipment goes, and proof of proper treatment. For suitable equipment, refurbished options could also be prioritised, helping to extend product life and reduce unnecessary new purchases.

To ensure a smooth implementation, a small number of pilot projects in ministries could be used to refine the clauses before they are rolled out across government. Over time, supplier performance data can be used to reward companies that consistently deliver high

Case Study: EU Green Public Procurement

The EU Green Public Procurement (GPP) is a voluntary instrument where countries within the European Union purchase goods, services, and works with reduced environmental impacts throughout their life cycle, including products which fulfil sustainability, energy-efficiency, and circularity principles.

Key stakeholders : Ministry of Finance, government agencies, vendors

Related Regulations : Treasury Circulars, Environmental Quality Act 1974

Intervention 3: National Device Trade-in Program with Mandatory Data Security

A nationwide device trade-in program can encourage people to return old phones and laptops instead of keeping them at home or disposing of them improperly. Under this approach, telecommunications companies and electronics retailers would offer simple trade-in options, supported by a common set of rules issued by MCMC and the Department of Environment. Participating outlets would accept devices, arrange logistics, and ensure items are routed to approved recyclers.

Data security is a central concern for users. The program would therefore require secure data erasure or certified destruction for all data-bearing devices. Clear documentation and certificates would give consumers confidence that their personal information is protected, while also supporting regulatory oversight.

Where devices are still usable, refurbishment and reuse should be prioritised. Refurbished devices could be channelled into digital inclusion programs for schools or low-income households. Only devices that cannot be repaired would be sent for material recovery. Simple incentives, such as small discounts or vouchers, can help boost participation and normalise responsible return behaviour.

Case Study : Chua Chu Kang Town Council

The Chua Chu Kang Town Council of Singapore uses rewards such as vouchers for shopping, ride-hailing services, food deliveries, and beauty products to encourage residents to discard their e-waste into designated e-waste collection points.

Key stakeholders	: MCMC, DOE, KPKT, telcos, retailers, refurbishes, recovery facilities
Related Regulations	: Environmental Quality Act 1974, Personal Data Protection Act 2010

2. Medium-Term Recommendations

Intervention 4 : Incentive and Funding for EPR Initiatives by companies

Strengthening incentives and funding mechanisms for Extended Producer Responsibility (EPR) initiatives is a critical lever to accelerate Malaysia's transition to a circular economy. While Malaysia has made important progress through voluntary EPR schemes, financial and economic support for companies to invest in collection, recycling, and eco-design is critical. Increasing incentives assist companies to shift the narrative related to EPR from a perceived compliance cost into a strategic investment that supports long-term business competitiveness, innovation, and environmental performance.

The intervention would involve a mix of fiscal incentives, and performance-based rewards linked directly to EPR outcomes. These could include tax deductions or accelerated capital allowances for investments in recycling infrastructure, and incentives for the utilization of recycled materials to produce new products.

Case Study: EU Eco-Modulated Fees

Under EU's EPR regulations, producers follow an eco-modulated fee system where producers of consumer-packaged goods which produces packaging, which is recyclable, renewably sourced, refillable, reusable, returnable, compostable or with reduced environmental footprint would carry lower fees or discounts.

Key stakeholders : MOF, MITI, MIDA, DOE, Manufacturing industry

Related Regulations : Environmental Quality Act 1974

Intervention 5: Increase expansion of licensed Collection Points and Recovery Facilities in Sabah and Sarawak

This intervention focuses on scaling up licensed waste collection points and recovery facilities in Sabah and Sarawak to address persistent geographic and infrastructure gaps in Malaysia's circular economy. Based on publicly available data from the DOE, there are no available E-waste Collection Points and only **two (2)** recovery facilities in the entirety of East Malaysia. With a population of around 7 million people, the limited access to collection points and recovery facilities would not suffice in servicing Malaysia's two largest states.

Implementation would involve a phased, region-specific rollout of licensed collection points and recovery facilities. Federal and state governments could jointly identify priority districts based on waste generation data, transport access, and proximity to ports or industrial zones.

Case Study: Japans "Eco-Towns"

Created in 1997, Japan promotes the development of resources-recycling socio-economic systems which promotes waste reduction and recycling in local areas to stimulate local waste recycling businesses. To date, there are **twenty-six (26)** approved Eco-Towns in Japan.

Key stakeholders : KPKT, DOE, State Government

Related Regulations : Environmental Quality Act 1974

Intervention 6: Mandatory data reporting and digital traceability for manufacturers.

Reliable data is essential for effective circular economy governance. Under this intervention, manufacturers would be required to submit standardised digital reports on production outcomes, material use, collection rates, and recycling outcomes. Over the medium term, Malaysia could move towards **digital traceability systems** for key waste streams, enabling better enforcement, performance monitoring, and policy evaluation.

Phased implementation may be undertaken beginning with crucial sectors such as the Electrical and Electronic Industry, and progress into other industries as may be determined.

Further, effective implementation of this intervention depends on the types of data requested. Aside from the ones mentioned above, consideration may also be given to the following:

- a) Quantity of products placed in the market
- b) Risk assessment if the materials are not disposed properly
- c) The companies recovery capacity and any partner recovery facility.

**Case Study:
EU Digital Product
Passport**

Under EU's EPR Scheme, the Digital Product Passport is a mandatory digital record under the Ecodesign for Sustainable Products Regulation which obligated a detailed, traceable data on a products lifecycle.

Key stakeholders : KPKT, DOE, State Government, DOSM, KPDK

Related Regulations : Environmental Quality Act 1974, Solid Waste and Public Cleansing Management Act 2007, Industrial Co-ordination act 1975

3. Long-term interventions

Intervention 7: Implementation of an Extended Producer Responsibility (EPR) legislation

A comprehensive Extended Producer Responsibility (EPR) legislation would establish a **clear, legally binding framework** that makes producers responsible for the full lifecycle of e-waste they place on the Malaysian market, particularly at the end-of-life stage. Unlike voluntary schemes, a dedicated EPR law would provide **long-term regulatory certainty**, enabling planning, investment, and enforcement across sectors and product streams.

The legislation would implement key EPR design features, including mandatory collection and recycling targets, eco-modulated fee structures that reward sustainable product design, and transparent data reporting requirements. Crucially, the legislation would shift waste management financing away from general public expenditure towards **producer-funded systems**, embedding the polluter-pays principle into Malaysia’s circular economy transition.

Case Study:
EU’s Waste Framework Directive (2008/98/EC)

The EU’s Extended Producer Responsibility (EPR) framework, anchored in the **Waste Framework Directive (2008/98/EC)** embeds the **polluter-pays principle** by mandating that producers bear financial and operational responsibility for the entire life cycle of their products, particularly end-of-life management.

Key stakeholders	: KPKT
Related Regulations	: New legislation

Intervention 8: Developing a publicly available repository of compliant industries

Utilising behavioural insights to nudge industries to undertake best practice, this intervention looks at the creation of a centralised, digital register that lists companies meeting defined regulatory obligations under related laws including any mandatory EPR laws, waste reporting, product design standards, or recycling targets.

To maximise policy impact, the repository should be publicly accessible and searchable, allowing consumers, investors, and businesses, to verify a company's compliance status. Over time, the repository could be integrated into other policy tools—for example, as a prerequisite for eligibility in green public procurement, incentives, or participation in voluntary sustainability programmes.

In the long term, such a repository strengthens governance by normalising compliance as the baseline, rather than the exception.

**Case Study:
Indonesia's PROPER
Ranking**

Indonesia implements the Public Disclosure Program for Environmental Compliance (PROPER) where companies are assessed for among others, their processes in lifecycle assessment, energy efficiency, emission reduction, water efficiency.

The companies will then be given one of five (5) colour-coded assessment rating which are in descending order being Gold, Green, Blue, Red, and Black

Key stakeholders : MITI, MIDA, DOE

Related Regulations : New legislation

Figure 13: Summary of interventions

No.	Intervention	Type of Intervention	Implementation Period				
			2027	2028	2029	2030	2031
1.	Intervention 1: Expand household e-waste collection points and public awareness	Quick Win					
2.	Intervention 2: Mandate take back and recycling requirements in Government Green Procurement	Quick Win					
3.	Intervention 3: National Device Trade-in Program with Mandatory Data Security	Quick Win					
4.	Intervention 4: Incentive and Funding for EPR initiatives by companies	Medium-Term					
5.	Intervention 5: Increase expansion of licensed Collection Points and Recovery Facilities in Sabah and Sarawak	Medium-Term					
6.	Intervention 6: Mandatory data reporting and digital traceability for manufacturers	Medium-Term					
7.	Intervention 7: Implementation of an Extended Producer Responsibility (EPR) legislation	Long-Term					
8.	Intervention 8: Developing a publicly available repository of compliant industries	Long-Term					

CHAPTER 6:

IMPLEMENTATION

In this last chapter, **one (1)** pilot project is recommended in order to facilitate the implementation of the recommendations outlined in Chapter 5. Aligning with principles under the National Policy on Good Regulatory Practice (NPGRP), the utilization of Regulatory Experimentation to identify the most fit-for-purpose interventions based on real world application.

1. Introduction

In the interests of ‘evidence-based’ policymaking, the undertaking of a Pilot Project is recommended to facilitate the implementation of the recommendations outlined in Chapter 5. This Pilot Project will enable regulators to review the effectiveness of EPR & CE measures in a controlled and monitored environment, without increasing the risk towards Malaysia’s environmental commitments.

2. Pilot Project: Kuala Lumpur Circular Economy Living Lab

A Circular Economy Living Lab is a designated geographical area where circular economy policies, practices, and business models are evaluated under real operating conditions. Living Labs adopt a systems approach, engaging multiple stakeholders across value chains and sectors. They function simultaneously as policy testing grounds, innovation platforms, and learning environments.

The Kuala Lumpur Circular Economy Living Lab proposed in this pilot project provides a structured yet flexible framework to evaluate selected circular economy policy measures, generate real-world data, and refine approaches before scaling up through among others, the implementation of Circular Economy legislation.

Instances of the use of living labs can be seen in the European Union with initiatives such as the Living Labs for Soil Remediation and Green Redevelopment of Brownfields.

2.1. Why Kuala Lumpur?

Kuala Lumpur is Malaysia’s most economically vibrant and dynamic cities. With a total population of roughly 2 million people and is the second highest contributor to Malaysia’s Gross Domestic Product (GDP) behind Selangor with a GDP value of RM265.8 billion in 2024.

Economically, the main industries which dominate Kuala Lumpur’s economy is the service sector, which is supported by the wholesale & retail subsector.⁶⁴ This

⁶⁴ Department of Statistics (2025) Gross Domestic Product (GDP) by State, 2024

essentially makes Kuala Lumpur the perfect testing ground for the implementation of Circular Economy Principles for e-waste management.

2.2. Scope of the Living Lab

The Living Lab would operate within selected locations and businesses including retailers, shopping malls, and residential areas in Kuala Lumpur.

2.3. Key Circular Economy efforts tested

Under the Living Labs, **three (3)** circular economy efforts could be tested out throughout businesses and residents of Kuala Lumpur.

a) **Green Procurement for Businesses**

As one of the major economic hubs in Malaysia, businesses procure large amounts of electrical and electronic equipment and products throughout the operations. The Green Procurement for Businesses in Kuala Lumpur could implement requirements for vendors to prove circularity efforts such as mandatory clauses for take-back and recycling.

This may initially be limited to large businesses such as office spaces, shopping malls, and large warehouses, and eventually scaled to small and medium businesses.

b) **Segregate-at-source in major retail outlets**

Key outlets such as Kuala Lumpur Convention Center, Midvalley Megamall, Quill City, and Pavilion Mall could be the start of implementing a clear segregate at-source program. Under this principle, before waste is sent to landfills, outlets are required to segregate the waste into clear and usable categories including food waste, non-recyclable and recyclable waste, and e-waste specifically.

c) **E-waste segregation in residential areas**

Under this effort, collaboration with bodies such as Management Corporations of stratified buildings will be undertaken where e-waste is segregated in the waste collection points and sent to licensed recovery facilities.

d) Ranking and Awards for compliance

Under this effort, a public ranking and award system could be in place to appreciate businesses and residential areas with high compliance to the Living Labs project. This could include awards for retail outlets and condominiums with the highest rate of e-waste recycling.

2.4. Key stakeholders involved

To achieve circularity requires a concerted effort by all stakeholders. In the implementation of this Pilot Project, the following stakeholders may be involved with different roles depending on the initiative.

Table 18: Pilot Project key stakeholders

No.	Stakeholder	Role in the Living Labs
1.	KPKT	Act as the oversight body for the implementation of the Living Labs
2.	DOE	Provide technical input and support for e-waste collection and recovery efforts
3.	Kuala Lumpur City Hall (“DBKL”)	Assist in monitoring on the ground implementation of the Living Labs
4.	Management Corporation and Joint Management Bodies	Assist in the implementation of the segregate-at-source efforts
5.	Businesses	Involved in implementing the Green Procurement for Business effort

2.5. What is monitored and how to define success

Under each of the efforts, different metrics will be measured to determine its success. The table below provides a breakdown of the potential metrics.

Table 19: Pilot Project metrics

No.	Effort	What is measured
1.	Green Procurement for Businesses	• Number of businesses which adopt Green Procurement • Number of contracts which includes circularity requirements • Rate of compliance to the circularity requirements • Estimated reduction of e-waste generated from procured goods.
2.	Segregate-at-source in major retail outlets	• Percentage of retail outlets implementing segregation-at-source • Percentage of e-waste segregated from the Municipal Solid Waste • Volume of e-waste collected and recycled
3.	E-Waste segregation in residential areas	• Percentage of retail outlets implementing segregation-at-source • Percentage of e-waste segregated from the Municipal Solid Waste • Volume of e-waste collected and recycled
4.	Ranking and Awards for compliance	• Number of businesses or organisations participating in the ranking system • Volume of data submitted or reported by participating businesses and organisations

3. Potential impacts

3.1. There are **two (2)** potential impacts anticipated from the Pilot Project.

Driving the growth of Malaysia's e-waste recycling industry

3.2. **Firstly, it is anticipated that Malaysia would see a growth in the recycling industry through the uptake of e-waste collection.** Key to this growth is the rate of available local e-waste feedstock, which makes recycling it a commercially viable and attractive industry, boosting overall investments.

3.3. This impact is seen with the growth of the recycling industries in other countries. The table below summarizes the recycling industries market size in Japan, South Korea, Singapore, Germany and Finland as a comparison.

Table 20: Comparison of recycling industry market size

No.	Country	Market Size
1.	Japan	USD 2.8 billion
2.	South Korea	USD 1.6 billion
3.	Singapore	USD 1.4 billion
4.	Germany	USD 3.5 billion
5.	Finland	USD 10.61 billion

3.4. When compared to Malaysia, there are very limited publicly available resources which analyses the current market size of its e-waste recycling industry. This is indicative of the nascent stage of Malaysia's e-waste recycling industry.

3.5. Therefore, an increase in the available e-waste feedstock would be a tremendous catalyst to replicate the economic benefits seen in other countries such as Japan and South Korea.

Improving local CE and EPR efforts

- 3.6. Currently, Malaysia's CE EPR efforts are limited in implementation, with frameworks and schemes still in development albeit mulled over since RMK12 back in 2021. The CEPF rightly identifies that the challenge is cost. Investments for CE and EPR efforts are seen as costly to investors and industries, who are not aware of the benefits of Circularity, resulting in both knowledge and technological gaps in the industry.
- 3.7. To assist this, driving the development and growth of the recycling industry is key to promote local CE and EPR efforts. Through efforts such as increasing collection efforts for e-waste, the cost of implementing CE efforts significantly lowers through the economies of scale, where manufacturers are able to utilize Malaysia as the central recovery hub for their own brands. MNC's may increase investments into local recovery facilities, either their own or via third-party, when the activity becomes profitable.
- 3.8. Therefore, this creates a spill-over effect where industry players may be persuaded of the economic benefits of CE efforts, thus improving Malaysia's CE efforts overall.

4. Takeaway

- 4.1. Noting that as at the date of this report, the Government of Malaysia has adopted an absolute prohibition on importing e-waste into Malaysia, the ultimate aim of any Pilot Project is to provide an opportunity for regulatory reform in this high-potential industry. While there is a need to balance economic and environmental interests, any long-term policy decision on e-waste management should be based on empirical findings, research and regulatory experimentation. Hence, Malaysia should shift away from the 'regulate-and-forget' mindset and adopt evidence-based policy making to ensure the country is more resilient to global developments.
- 4.2. Countries such as South Korea, Japan and Germany illustrate that through the diversification of waste management and regulatory checks-and-balances, there is

an incentive to explore this expanding industry. Understanding the success of these models and replicating them within the context of Malaysia's scope and interests is key to ensuring the success of this Pilot Project.

- 4.3. Overall, this Pilot Project would be the first step in strengthening Malaysia's circular economy and equipping it with the necessary features to address both present and future concerns.

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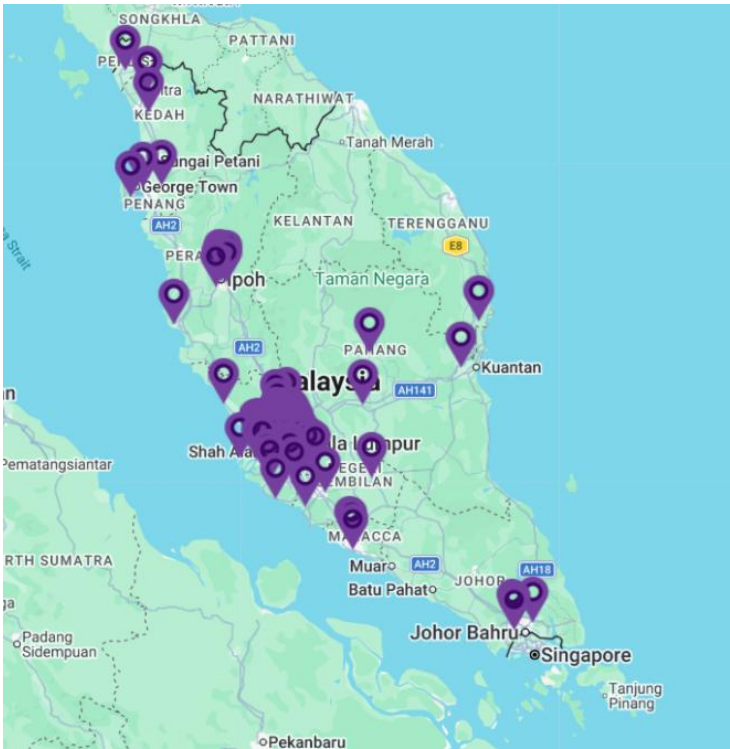
infokorporat@mpc.gov.my

+603 – 7955 7266

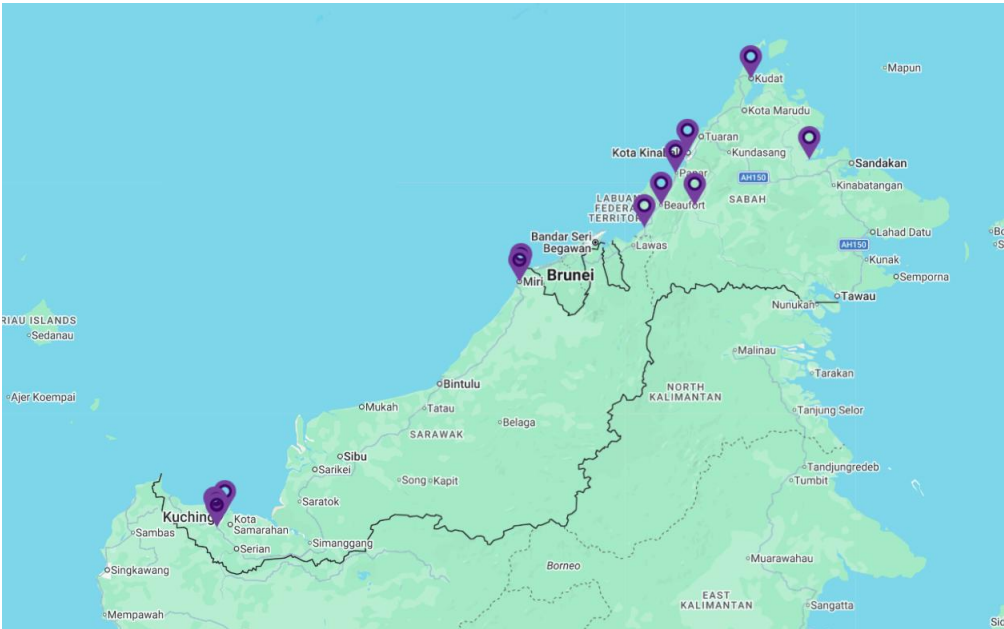
APPENDIX A

LIST OF LICENSED E-WASTE COLLECTION CENTERS, COLLECTION POINTS, AND RECOVERY FACILITIES

Licensed Collection Centers



Licensed Collection Centers in Peninsular Malaysia



Licensed Collection Centers in West Malaysia

List of Licensed Collection Centers

1.	A Five Stars Metals Sdn Bhd
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2.	AEON Bandaraya Melaka (Cawangan Meriahtek)
3.	Aesoft Technology (M) Sdn Bhd
4.	Alif Marketing
5.	Amman Fauzie Trade Sdn Bhd
6.	Apple PC Enterprise
7.	APR Electronic Services Sdn. Bhd.
8.	Asajaya Recycling Centre Kajang (Tzu Chi)
9.	Aspen Recycle Sdn. Bhd.
10.	Banting Recycling Centre (Tzu Chi)
11.	Bayu Tinggi Recycling Centre (Tzu Chi)
12.	Best IT Service
13.	Broga Recycling Centre (Tzu Chi)
14.	Bukit Anggerik Recycling Centre (Tzu Chi)
15.	Bukit Beruntung Recycling Centre (Tzu Chi)
16.	Bukit Jelutong Recycling Centre (Tzu Chi)
17.	Bukit Kuchai Recycling Centre (Tzu Chi)
18.	Bukit Sentosa Recycling Centre (Tzu Chi)
19.	CB Amman Trading
20.	CBG Infotech Sdn Bhd
21.	CBH Recycle (M) Sdn Bhd
22.	CCI Enterprise
23.	Cempaka Recycling Centre (Tzu Chi)
24.	Cheras Batu 9 Recycling Centre (Tzu Chi)
25.	Cheras Utama Recycling Centre (Tzu Chi)
26.	Chew Ying Meng Trading
27.	Chok Yon Min Trading Sdn Bhd
28.	CKL Veritas Sdn Bhd
29.	Complete Human Network Sdn Bhd

30.	Daikin Malaysia Sdn. Bhd.
31.	Damansara 5 Recycling Centre (Tzu Chi)
32.	Data Xpert Sdn Bhd
33.	Desa Aman Recycling Centre (Tzu Chi)
34.	Desa Park City Recycling Centre (Tzu Chi)
35.	Dewan Bandaraya Kota Kinabalu
36.	DNS WASTE MANAGEMENT SDN BHD
37.	E Plus Resources
38.	E-Cycle Tech Solution Sdn Bhd
39.	Ecocyton (M) Sdn Bhd
40.	ERTH
41.	Ewaste Solutions
42.	Eye 1 Recycle (Miri) Sdn Bhd
43.	Far Spectrum Development Sdn Bhd
44.	Fasiliti Inovasi Kitar Semula - FIKS (Cawangan AFES)
45.	FIG Metal Industries Sdn. Bhd.
46.	Fo Guang Foundation
47.	Foo Sun Trading Sdn Bhd
48.	Golden Jumbo Sdn Bhd
49.	Green Earth Metal Industrial Sdn Bhd
50.	Green Resource Recovery Sdn Bhd
51.	Happy Garden Recycling Centre (Tzu Chi)
52.	iCYCLE Malaysia Sdn Bhd
53.	Iyan Trading Sdn Bhd
54.	Jack Meng Enterprise
55.	Jenjarom Recycling Centre (Tzu Chi)
56.	Jinjang Recycling Centre (Tzu Chi)
57.	Kampung Baru Ampang Recycling Centre (Tzu Chi)

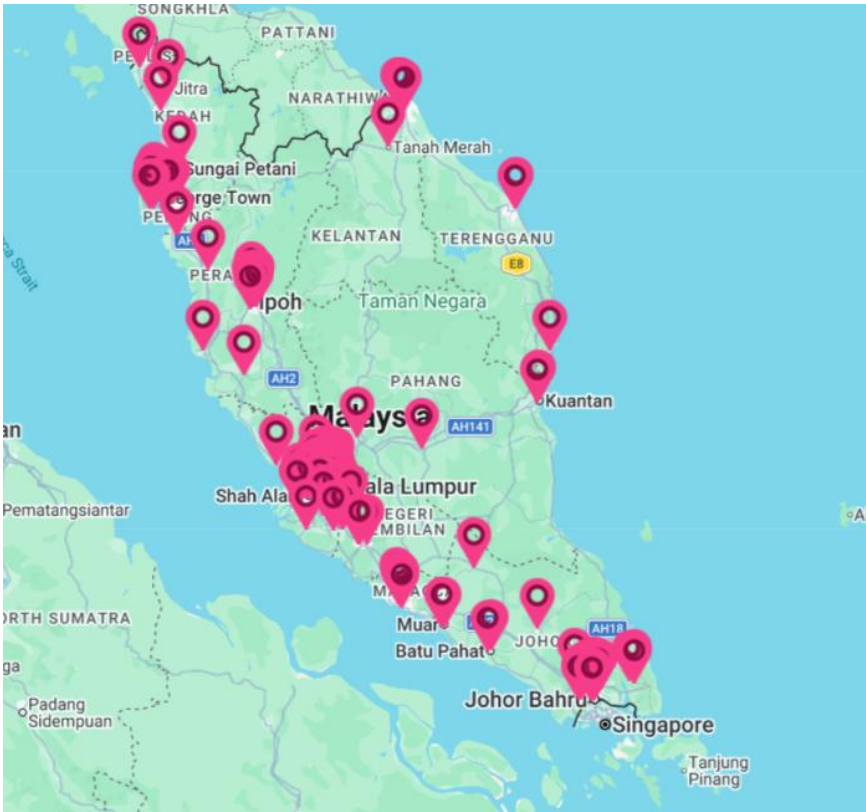
58.	Kampung Baru Serdang Recycling Centre (Tzu Chi)
59.	Kampung Semenyih Recycling Centre (Tzu Chi)
60.	Kapar Recycling Centre (Tzu Chi)
61.	Kayu Ara Recycling Centre (Tzu Chi)
62.	Kota Kemuning Recycling Centre (Tzu Chi)
63.	Lembaga Perbandaran Kudat
64.	Lotus's Cheng (Cawangan Meriahtek)
65.	Majlis Bandaraya Ipoh (Parlimen Batu Gajah)
66.	Majlis Bandaraya Ipoh (Parlimen Gopeng)
67.	Majlis Bandaraya Ipoh (Parlimen Ipoh Barat)
68.	Majlis Bandaraya Ipoh (Parlimen Ipoh Timur)
69.	Majlis Bandaraya Ipoh (Parlimen Tambun)
70.	Majlis Daerah Beaufort
71.	Majlis Daerah Beluran
72.	Majlis Daerah Keningau
73.	Majlis Daerah Papar
74.	Majlis Daerah Sipitang
75.	Majlis Perbandaran Manjung
76.	Maju E-waste Sdn Bhd
77.	Maluri Recycling Centre (Tzu Chi)
78.	Mayang Jaya Recycling Centre (Tzu Chi)
79.	MD Scrap Sdn Bhd
80.	MetaOne Sdn Bhd
81.	Metro Perdana Recycling Centre (Tzu Chi)
82.	Miharja Recycling Centre (Tzu Chi)
83.	MK Sustainable Scrap Sdn Bhd
84.	NCR Resources Sdn. Bhd.
85.	Pandan Indah KL Recycling Centre (Tzu Chi)

86.	Puchong Hartamas Recycling Centre (Tzu Chi)
87.	Puchong Puteri Recycling Centre (Tzu Chi)
88.	Pulau Ketam Recycling Centre (Tzu Chi)
89.	Pusat Kitar Semula Jalan Bonus, KL (Cawangan Alam Flora Environmental Solution)
90.	Pusat Kitar Semula Presint 18 (Cawangan AFES)
91.	Pusat Kitar Semula Presint 9 (Cawangan AFES)
92.	Pusat Pengumpulan E-waste Kemaman
93.	Putra Heights Recycling Centre (Tzu Chi)
94.	RA Maju Enterprise
95.	Recircle Sdn Bhd
96.	Recovery Initiative Sustainable Eco-Facility (Cawangan AFES)
97.	Residensi Teratai Recycling Centre (Tzu Chi)
98.	Rezki IT Solutions
99.	Saujana Damansara Recycling Centre (Tzu Chi)
100.	SEH HING RECYCLE SDN. BHD.
101.	Sekinchan Recycling Centre (Tzu Chi)
102.	Senheng Warehouse LO-Centre Wing
103.	Senheng Warehouse North Distribution Center
104.	Sentul Recycling Centre (Tzu Chi)
105.	Shan Poornam Metals Sdn Bhd (Selangor)
106.	Sinar YSM Enterprise
107.	Smart Sustainable Solutions Sdn Bhd
108.	Sri Damansara Recycling Centre (Tzu Chi)
109.	Sri Gombak Recycling Centre (Tzu Chi)
110.	Sri Melati Recycling Centre (Tzu Chi)
111.	Sri Muda Recycling Centre (Tzu Chi)
112.	Sri Putra Recycling Centre Sungai Buloh (Tzu Chi)

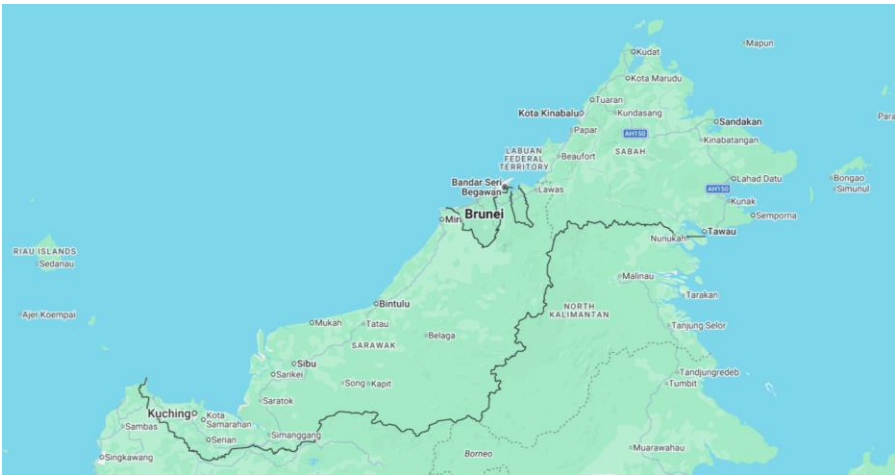
113.	SS3 Recycling Centre (Tzu Chi)
114.	Sungai Buloh BRP Recycling Centre (Tzu Chi)
115.	Sungai Chua Recycling Centre (Tzu Chi)
116.	Sungai Long Sek 7 Recycling Centre (Tzu Chi)
117.	SWM Environment Sdn Bhd (Negeri Sembilan)
118.	SWM ENVIRONMENT SDN. BHD. (MELAKA)
119.	Taman Berkeley Recycling Centre (Tzu Chi)
120.	Taman Chi Liung Recycling Centre (Tzu Chi)
121.	Taman Ehsan Recycling Centre (Tzu Chi)
122.	Taman Kinrara Recycling Centre (Tzu Chi)
123.	Taman Mastiara Recycling Centre (Tzu Chi)
124.	Taman Megah Recycling Centre (Tzu Chi)
125.	Taman Meru Recycling Centre (Tzu Chi)
126.	Taman Mewah Jaya 2, Recycling Centre (Tzu Chi)
127.	Taman Sri Endah KL Recycling Centre (Tzu Chi)
128.	Taman Sri Petaling Recycling Centre (Tzu Chi)
129.	Taman Sungai Besi Indah KL (Tzu Chi)
130.	Taman University Recycling Centre (Tzu Chi)
131.	Tan Boon Ming Sdn Bhd
132.	Tanjong Sepat Recycling Centre (Tzu Chi)
133.	TCS Global Resources
134.	TechWaste Recycling
135.	TNB E-WASTE COLLECTION CENTER
136.	Town Park Recycling Centre (Tzu Chi)
137.	Trash4cash (M) Sdn Bhd
138.	Trash4cash Selangor & KL - Bumi Waste (M) Sdn Bhd
139.	Triple-C Recycle Sdn Bhd
140.	Trishul Kingdom

141.	Tyfon Tech Sdn Bhd
142.	Tyfon Tech Sdn Bhd
143.	Ulu Yam Bahru Recycling Centre (Tzu Chi)
144.	Unbox Asia Sdn Bhd
145.	USJ 8 Recycling Centre (Tzu Chi)
146.	Wangsa Maju Recycling Centre (Tzu Chi)
147.	Yit Fong Technology Sdn. Bhd.

Licensed Collection Points



Collection Points in Semenanjung Malaysia



No collection points are available in Sabah and Sarawak

List of Licensed Collection Points

1.	Acson Malaysia Sales & Service Sdn. Bhd.
2.	Acson Malaysia Sales & Service Sdn., Bhd. Johor Branch
3.	Acson Malaysia Sales & Service Sdn., Bhd. Kelantan Branch
4.	Acson Malaysia Sales & Service Sdn., Bhd. Melaka Branch
5.	Acson Malaysia Sales & Service Sdn., Bhd. Pahang Branch
6.	Acson Malaysia Sales & Service Sdn., Bhd. Perak Branch
7.	Acson Malaysia Sales & Service Sdn., Bhd. Penang Branch
8.	Apex Computer Store (ERTH Box)
9.	Artisan Eco Hotel (ERTH Box)
10.	Daikin Malaysia Sales & Service Sdn. Bhd., Customer Care Centre
11.	Grand Senheng 1 Lagenda
12.	Grand Senheng Balakong
13.	Grand Senheng Bandar Baru Medan Ipoh
14.	Grand Senheng Bandar Baru Nilai
15.	Grand Senheng Bandar Prima Senawang
16.	Grand Senheng Bandar Utama, Segamat
17.	Grand Senheng Bangi
18.	Grand Senheng Banting
19.	Grand Senheng Batu Pahat
20.	Grand Senheng Bentong
21.	Grand Senheng Bukit Mertajam
22.	Grand Senheng Elite Putrajaya
23.	Grand Senheng Elite SS2
24.	Grand Senheng Jalan Bukit Ubi
25.	Grand Senheng Kajang
26.	Grand Senheng Kangar
27.	Grand Senheng Kemaman

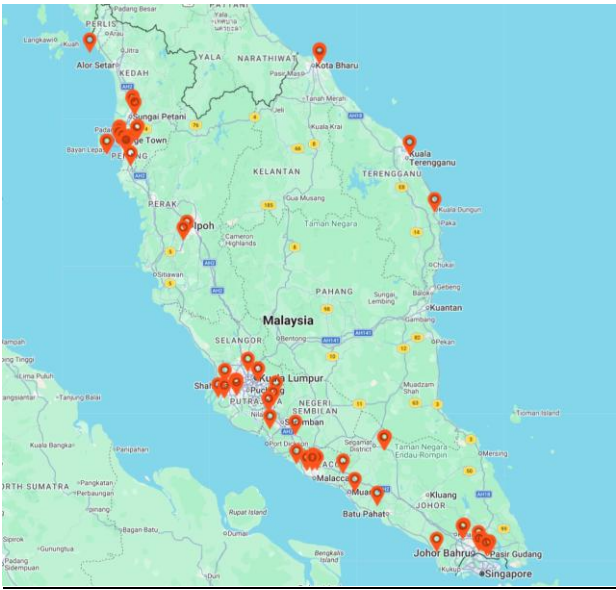
28.	Grand Senheng Klang Bukit Tinggi
29.	Grand Senheng Kluang
30.	Grand Senheng Kuala Selangor
31.	Grand Senheng Kuchai Lama
32.	Grand Senheng Kulai Jaya
33.	Grand Senheng Medan Taiping
34.	Grand Senheng Melaka Baru
35.	Grand Senheng Muar Jalan Ali
36.	Grand Senheng Pandan Jaya 42-44
37.	Grand Senheng Pasir Puteh
38.	Grand Senheng Pendamaran 89-91-93
39.	Grand Senheng Rawang
40.	Grand Senheng Selayang Utama
41.	Grand Senheng Semenyih
42.	Grand Senheng Setia Alam
43.	Grand Senheng Shah Alam 105
44.	Grand Senheng Sitiawan
45.	Grand Senheng Sri Gombak
46.	Grand Senheng Sungai Petani
47.	Grand Senheng Taman Setia Indah
48.	Grand Senheng Temerloh
49.	Grand Senheng The Golden Triangle
50.	Grand Senheng Tun Aminah, Skudai
51.	ME.REKA Makerspace (ERTH Box)
52.	Pusat Jagaan Harian OKU Tunku To' Puan Nor Mazini (ERTH Box)
53.	Senheng Alor Setar
54.	Senheng Bakri Muar
55.	Senheng Bandar Puteri Puchong

56.	Senheng Bandar Utama Cheng M
57.	Senheng Farlim
58.	Senheng Gombak
59.	Senheng Ipoh Station 18
60.	Senheng Jalan Sultan Sulaiman
61.	Senheng Jitra
62.	Senheng Kelana Jaya
63.	Senheng Kepong 40-42
64.	Senheng Kompleks PKNS
65.	Senheng Kota Bharu
66.	Senheng Kubang Kerian
67.	Senheng Lotus's Tanjung Pinang
68.	Senheng Melaka 16-18
69.	Senheng Meru Bestari
70.	Senheng Parit Buntar
71.	Senheng Permaisuri
72.	Senheng Pusat Bandar Baru Bangi
73.	Senheng Raja Uda
74.	Senheng Silibin Ipoh
75.	Senheng Sri Petaling 95-97-99
76.	Senheng Sri Rampai
77.	Senheng Sungai Buloh
78.	Senheng Taman Connaught 171/3
79.	Senheng Tanah Merah
80.	Senheng Teluk Intan
81.	Senheng USJ Taipan
82.	SenQ 1 Utama
83.	SenQ AEON Bukit Indah

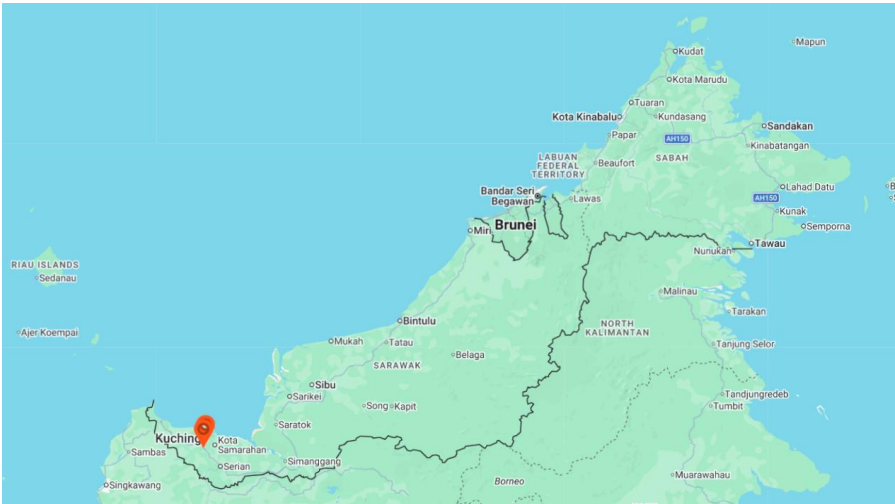
84.	SenQ AEON Kempas
85.	SenQ AEON Mall Kota Bharu
86.	SenQ AEON Seremban 2
87.	SenQ AEON Tebrau City
88.	SenQ Batu Pahat Mall
89.	SenQ Elite Pavilion 2 Bukit Jalil
90.	SenQ Gurney Plaza
91.	SenQ IOI Mall
92.	SenQ Ipoh Parade
93.	SenQ KB Mall
94.	SenQ KTCC Mall
95.	SenQ Leisure Mall
96.	SenQ Melawati Mall
97.	SenQ Nilai
98.	SenQ Paradigm Mall JB
99.	SenQ Queensbay Mall
100.	SenQ Sunway Carnival Mall
101.	SenQ Sutera Mall
102.	SenQ The Mines
103.	SK (P) Jalan Yahya Awal (Cawangan CBH Recycle)
104.	SK Felda Air Tawar 1 (Cawangan CBH Recycle)
105.	SK Felda Air Tawar 4 (Cawangan CBH Recycle)
106.	SK Felda Air Tawar 5 (Cawangan CBH Recycle)
107.	SK IJ Convent (Cawangan CBH Recycle)
108.	SK Taman Tun Aminah (Cawangan CBH Recycle)
109.	SMK Desa Cemerlang (Cawangan CBH Recycle)
110.	SMK IJ Convent (Cawangan CBH Recycle)
111.	SMK St. Joseph (Cawangan CBH Recycle)

112.	SMK Taman Bukit Indah (Cawangan CBH Recycle)
113.	SWM Seremban (Drop-Off Center)
114.	Tamarind Square (Village Grocer next to Mobile Booth) (ERTH Box)
115.	Tan Boon Ming 3 Damansara
116.	Tan Boon Ming Bandar Puteri Puchong
117.	Tan Boon Ming Bangsar Village II
118.	Tan Boon Ming Central i-City Shopping Centre
119.	Tan Boon Ming Great Eastern Mall
120.	Tan Boon Ming Sdn Bhd
121.	Tan Boon Ming Sdn Bhd Bangsar Village
122.	Tan Boon Ming Sdn Bhd Cheras Sentral
123.	Tan Boon Ming Sdn Bhd Dpulze Shopping Centre
124.	Tan Boon Ming Setapak Central
125.	Tan Boon Ming Tropicana Gardens Mall
126.	Tedboy Express HQ (ERTH Box)
127.	Volvo Ara Damansara (Sime Darby Swedish Auto Sdn Bhd) (ERTH Box)
128.	Volvo Cars Manufacturing Malaysia Sdn Bhd (ERTH Box)
129.	Volvo Glenmarie by Federal Auto Cars (ERTH Box)
130.	Volvo Malaysia Sdn Bhd (ERTH Box)
131.	Volvo Melaka by Seong Hoe Motors (ERTH Box)

Licensed Recovery Facilities



Licensed recovery facilities in Peninsular Malaysia



Licensed recovery facilities in West Malaysia

List of licensed recovery facilities

1.	3R Quest Sdn Bhd
2.	AB Green Solutions Sdn Bhd
3.	Aer Worldwide Sdn. Bhd
4.	Akshani Sdn. Bhd
5.	AM Metal Industries
6.	Awie Metal Sdn Bhd
7.	Bayu Quantum Sdn Bhd
8.	CBH Recycle (M) Sdn Bhd
9.	Cenviro Recycling & Recovery Sdn Bhd
10.	Comet Recycle Sdn Bhd
11.	Cycle Trend Industries Sdn Bhd
12.	Dragon Alliance Sdn Bhd
13.	Edsha Solutions Sdn Bhd
14.	Ega Recycling Sdn Bhd
15.	Embatech Sdn Bhd
16.	Esram Metals (M) Sdn Bhd
17.	Estalco Sdn Bhd
18.	Frescode Industries Sdn Bhd
19.	Gabungan Penaga (M) Sdn Bhd
20.	Gantang Tinggi Sdn Bhd PLO 15
21.	Gantang Tinggi Sdn Bhd PLO 44
22.	Golden Star Industries Sdn Bhd
23.	Green Point World
24.	Hom Kim Recycling Co. Sdn. Bhd
25.	Hong Wei Carry Services Sdn Bhd
26.	Infinity Recovery Sdn Bhd
27.	Innovasi Laman Sdn Bhd

28.	Jaring Metal Industries Sdn Bhd
29.	Jie Sing Plastic Industries Sdn Bhd
30.	Key Master Enterprise
31.	KHK Recycle Sdn Bhd
32.	Kitar Teliti Sdn Bhd
33.	Krubong Recovery Sdn Bhd
34.	Kt Wan Recycle
35.	Laksana Cergas Sdn Bhd
36.	Lam Chong Trading Sdn Bhd
37.	LSPCM (Melaka) Sdn Bhd
38.	MC Asset Malaysia Sdn Bhd
39.	MEP Enviro Technology
40.	MEP Enviro Technology Penang
41.	MEP Enviro Technology Sdn Bhd
42.	Meriahtek (M) Sdn Bhd
43.	MM Century Sdn Bhd
44.	MMP Resources Sdn Bhd
45.	Paka Recycle Sdn Bhd
46.	Prestasi Mewah Sdn Bhd
47.	S.I.S.J Usahaniaga Sdn Bhd
48.	Seng & Kian Enterprise Sdn Bhd
49.	Shan Poornam Green Tech Sdn Bhd
50.	Shan Poornam Metals (Johor) Sdn Bhd
51.	SMC Technology Sdn. Bhd.
52.	Sun Soon Yik Sdn Bhd
53.	T-Pot Electrical & Electronics Sdn Bhd
54.	Taiko Metals Recycle Sdn Bhd
55.	Tan Wee Choon Sdn Bhd

56.	Telcov Sdn. Bhd.
57.	Teratai Gateway Enterprise Sdn. Bhd
58.	TES-AMM (Malaysia) Sdn Bhd
59.	TES-AMM (Malaysia) Sdn Bhd (Pulau Pinang)
60.	Thitec Technology (M) Sdn Bhd
61.	Tierra Resources Sdn Bhd
62.	TM Enviro Industries Sdn Bhd
63.	Trienekens (Sarawak) Sdn Bhd Recovery
64.	Victory Recovery Resources Sdn Bhd
65.	Warmtech Sdn Bhd
66.	WNN Technology Centre Sdn Bhd