THE CENTER TO COMBAT
CORRUPTION AND CRONYISM

Ending Waste Colonialism, Governing Plastic Pollution

Japan's Opportunity to Lead Asia out of the Plastic Crisis

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Ending Waste Colonialism, Governing Plastic Pollution: Japan's Opportunity to Lead Asia out of the Plastic Crisis
The Center to Combat Corruption and Cronyism (C4 Center)

Authors
Wong Pui Yi, Wong Si Peng, Nabila Zulkeflee

Editor
Arief Hamizan

Reviewers
Jim Puckett (Basel Action Network)
Dr Shiori Shakuto (University of Sydney)
Pinky Chandran, Devayani Khare, and Coleen Salamat (Break Free From Plastic)

Cover and Layout
Asyraf Abdul Samad

Graphics
Benjamin Tiong

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C Four Consultancies Sdn Bhd
Unit A707, Pusat Dagangan Phileo Damansara 1,
No. 9, Jalan 16/11, Off Jalan Damansara,
46350 Petaling Jaya, Selangor, Malaysia.
www.c4center.org
Email: contact@c4center.org
Telephone: +603-7660 5140

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Table of Contents

Executive Summary

Since the late 1980s, over a quarter of a billion tonnes of plastic waste has been traded globally, often to regions with little capacity to manage the waste properly. While marketed as an economic opportunity for importing countries, this global exchange enables developed countries to continue the high consumption of plastics while developing countries bear the burden of increasing waste imports. The imported plastic waste overburdens domestic waste management infrastructure and exacerbates domestic waste problems. This form of "waste colonialism" has caused irreversible damage to environmental and human health in importing countries.

After China banned the import of plastic waste in 2018, Malaysia became the top destination in the world for HS Code 3915 plastic waste. In 2021, C4 Center released a report titled "*Malaysia is not a garbage dump: Citizens against corruption, complacency, and climate crisis*", highlighting challenges and loopholes in the institutional framework governing the import of plastic waste to the country. The plastic waste crisis showed how corruption enables environmental crimes such as waste trafficking, and how the prevalence of trade crimes exacerbate corruption in already vulnerable countries.

In 2022, Malaysia was the top importer of plastic waste from Japan. Out of a total of 563 million kg of plastic waste exported by Japan to other countries, 179 million kg was sent to Malaysia. While Japan has pledged to help emerging economies with waste management infrastructure, the sheer scale of Japanese plastic waste exports calls into question the effectiveness of Japanese efforts in supporting programmes to tackle waste management and marine debris in Southeast Asian countries like Malaysia. Malaysia already has limited capacity to recycle domestic waste, with only 24% of key plastic resins recycled in 2019.

This report examines the governance of the plastic waste trade by considering the case study of Japan as an exporting country and Malaysia as an importing country. This report discusses trade and pollution through the lens of waste colonialism, and raises questions about the transparency, traceability, and accountability of the governance frame-

works. Finally, the opportunities for a global agreement on plastic pollution in addressing waste colonialism are explored.

Section 1 outlines the key issues, objectives, and methodology of the research, while Section 2 explores the concepts that guide the analysis in this report. Section 3 examines the export of plastic waste from Japan to Malaysia, and how Japan and Malaysia transposed the Basel Convention Plastic Waste Amendments into domestic law and regulations to govern the waste trade. This is followed by Section 4 which presents snapshots of plastic waste management in Japan and Malaysia, and a concluding Section 5.

This report highlights the major challenge of ensuring that plastic waste, domestic or imported, is managed in an environmentally sound manner, exemplified by the lack of transparency around supply chains, the secrecy of plastic recycling facilities, and the difficulty in accessing data from governments. Information about the types of plastic waste being traded, where they are being sent to in destination countries, and how they are being processed is largely unknown. This renders downstream measures to end plastic pollution highly inadequate.

Key report findings

1. **Plastic is the problem.**

   The harm caused by plastic pollution across its lifespan is indisputable. Downcycling plastics only delays its final disposal and produces hazardous by-products. It is imperative for the global community to acknowledge the pollution caused by plastic (not only plastic waste) across its lifespan and the urgent need to take precautions to limit its harm. While there are currently no better alternatives for certain applications of plastic, research and development to redesign products must be prioritised.

2. **There is a lack of transparency in global and local plastic waste recycling supply chains.**

   There is currently no public accountability on whether the Basel Convention PIC procedure is being used and whether it is adequate in controlling the trade of regulated wastes such as Y48 mixed plastic wastes. From January to October 2023, Malaysia only received and approved 10 PIC applications to

import Y48 plastic waste. Difficulties in accessing information concerning globally traded plastic waste means that local communities are unable to address illegal waste recycling in their neighbourhoods.

3. **Plastic recycling in Malaysia may not be carried out in an environmentally sound manner.**

   There is a lack of monitoring, reporting, and transparency from the recycling industry. The preliminary findings of this research point to potential illegalities surrounding the plastic waste trade, and a high prevalence of industrial operations flouting environmental laws.

4. **Focusing on downstream measures to end plastic pollution is inadequate, especially when domestically generated plastic waste continues to increase and is exported.**

   Downstream measures have been unable to cope with the exponential increase in plastic waste generation since the late 1990s and are unlikely to be able to do so if drastic measures are not taken to curb the problem, namely, plastic production.

5. **Governing the plastic waste trade is not just a matter of economics and the environment.**

   When exporting plastic waste, governments should consider the politics, culture, and governance of the destination countries, as well as their capacity to tackle domestic waste management issues and their capabilities in monitoring the environmentally sound management of waste.

6. **Existing loopholes in Malaysia's governance of the plastic waste trade, processing, and disposal increase the risk of waste trafficking crimes and petty corruption.**

   Corruption risks may involve bribery, collusion to avoid inspection, abuse of power, money laundering, and others. Environmental crimes will exacerbate plastic waste mismanagement, which will end up as marine debris, adding to a global problem that will also affect Japan.

Ways forward

Japan and Malaysia – the former with 1,028 waste incinerators, and the latter embarking on a journey to expand the number of incinerators – would do well to learn from China's experience of ending the trade of plastic waste and instead, focus on domestic waste reduction, segregation, recycling, and other zero waste measures.

Japan has had decades of experience in waste minimisation. Waste generation and plastic waste exports have admittedly been reducing over time. It is imperative to take further measures in leading Asia out of this plastic crisis by:

- Phasing out plastic waste exports to Malaysia and other non-OECD countries.
- Reducing dependency on exporting plastic waste as a method of managing domestic waste and focusing on upstream measures such as reducing plastic production.
- Continuing cooperation with destination countries even after plastic waste is exported to assist their management in an environmentally sound manner.

Malaysia should learn from neighbouring Thailand which has decided to phase out plastic waste imports and focus resources on building capacity in domestic waste sorting and collection to feed the existing infrastructure in waste processing. Malaysia can draw lessons from Japan's management of their waste industry in terms of data collection, regulation, compliance, and more. But crucially, the triple planetary crisis demands upstream measures to end plastic pollution, as well as stringent law enforcement:

- Prioritise reducing plastic production, use, and waste generation, and overall plastic dependency.
- Transpose the Basel Convention Plastic Waste Amendments into local laws with strict penalties for violations.
- Ensure transparency and public access to data to support local community efforts to address pollution from imported plastic waste.
- Incorporate measurable, inclusive, and sustainable targets into the National Blueprint on Solid Waste Management and Circularity.

- Strengthen enforcement in monitoring waste shipments at ports and waste treatment at plastic recycling facilities to prevent illegal waste trafficking, dumping, burning, and other illicit activities.
- Phase out plastic waste imports and focus on expanding the capacity and infrastructure in domestic waste collection and sorting.

List of Figures

List of Tables

List of Abbreviations

AJCEP	ASEAN-Japan Comprehensive Economic Partnership
ABS	Acrylonitrile butadiene styrene
AP	Approved Permit
CAR	Environmental Quality (Clean Air) Regulations 2014 (Malaysia)
CFC	Chlorofluorocarbon
CLOMA	Japan Clean Ocean Material
COP	Conference of the Parties
CPI	Corruption Perceptions Index
CPTPP	Comprehensive and Progressive Agreement for Trans-Pacific Partnership
DOE	Department of Environment, Malaysia
DOSM	Department of Statistics, Malaysia
EIA	Environmental Investigation Agency
EQA	Environmental Quality Act 1974 (Malaysia)
ESM	Environmentally sound management
EU	European Union
FTA	Free trade agreement
G20	Group of 20
GPS	Global Positioning System
GPT	Global Plastic Treaty
HS	Harmonized System
INC	Intergovernmental Negotiation Committee
INTERPOL	International Criminal Police Organization
IPEN	International Pollutants Elimination Network

JETRO	Japan External Trade Organization
JICA	Japan International Cooperation Agency
JPSPN	National Solid Waste Management Department (*Jabatan Pengurusan Sisa Pepejal Negara*), Malaysia
KASA	Ministry of Environment and Water (*Kementerian Alam Sekitar dan Air)*, Malaysia
KPKT	Ministry of Housing and Local Government (*Kementerian Perumahan dan Kerajaan Tempatan*), Malaysia
MACC	Malaysian Anti-Corruption Commission
METI	Ministry of Economy, Trade and Industry, Japan
MIDA	Malaysian Investment Development Authority
MITI	Ministry of International Trade and Industry, Malaysia
MJEPA	Malaysia-Japan Economic Partnership Agreement
MOEJ	Ministry of the Environment, Japan
MPMA	Malaysian Plastics Manufacturers Association
NGO	Non-governmental organisation
NRES	Ministry of Natural Resources and Environmental Sustainability (*Kementerian Sumber Asli dan Kelestarian Alam*), Malaysia
OECD	Organisation for Economic Co-operation and Development
OGF	Operation Green Fence
OLAF	European Anti-Fraud Office
PC	Polycarbonate
PCB	Printed circuit board
PE	Polyethylene
PET	Polyethylene terephthalate
PIC	Prior informed consent
PP	Polypropylene
PS	Polystyrene
PVC	Polyvinyl chloride

RCEP	Regional Comprehensive Economic Partnership
SATREPS	Science and Technology Research Partnership for Sustainable Development
SWCorp	Solid Waste and Public Cleansing Management Corporation Sdn Bhd, Malaysia
TEU	20-foot equivalent unit
UEEE	Used electrical and electronic equipment
UN Comtrade	United Nations Commodity Trade Statistics Database
UNCTAD	United Nations Conference on Trade and Development
UNEP	United Nations Environment Programme
UNESCAP	UN Economic and Social Commission for Asia and the Pacific
UNODC	United Nations Office on Drugs and Crime
WEEE	Waste electrical and electronic equipment
WTO	World Trade Organization

CHAPTER ONE

Introduction: Plastic Waste Exports and the Global Plastic Treaty

A large truck backed out of the gate of a warehouse in Klang, the district where the largest port in Malaysia is located. The warehouse had no signboards, was boarded up with high fences, and had bales of plastic waste stacked up within its compound. When the driver noticed people outside the warehouse, he quickly drove back into the premises. When questioned about the waste, the migrant workers said the plastics came from abroad, including from Japan and the United States (US). They were unable to identify which material came from which country. The man explained, "Boss will call us and tell us to load up the truck. We just follow instructions. We do not know where the truck is going."[1]

At another recycling facility, also laden with bales of plastic waste, but this time with signage, the South Asian workers said, "The plastics come from everywhere – Europe, US, Japan. Containers come by to drop off the plastic waste all the time. We have plastic film, plastic flakes, white, black, multi-coloured. We're not sure which types came from which country. The recycling machines run 24 hours a day. We live upstairs."[2]

[1] This exchange took place on 2 October 2023 at a warehouse with no signages in Klang, close to the ports in the state of Selangor, Malaysia's most industrialised region [paraphrased and translated from Malay].

[2] This exchange took place on 26 January 2024 at a recycling facility to the north of Selangor [paraphrased and translated from Malay].

The interactions above offer a snapshot of plastic recycling activities in Malaysia, often carried out behind high fences, some in unidentified premises, others with piles of plastic waste stored in open areas, exposed to natural elements.[3] Concerns about microplastic pollution simply do not exist in these situations, regardless of whether the operations are legal or illegal.

Plastic recycling has thus far completely failed to manage plastic pollution. Yet, at the on-going Intergovernmental Negotiating Committee (INC) meetings to develop an international legally binding instrument on plastic pollution, including in the marine environment (informally known as the Global Plastic Treaty or GPT),[4] plastic recycling is being promoted as a key solution among other downstream waste management measures.

When China effectively banned plastic waste imports in 2018 and stopped absorbing the world's wastes, it brought to light the fact that much of the plastic waste from high-income countries, previously thought to be sorted and recycled, were in reality sent to China for processing or disposal. After the ban, supply chains were sent scrambling, looking for new destinations for their plastic waste. Most of it arrived in Southeast Asia, including Malaysia. Alongside recyclable plastic waste came non-recyclable plastic waste that ended up being dumped or burned throughout the region, causing irreparable damage to people's health and the environment.

1.1 Objectives of this report

After China banned the import of plastic waste in 2018, Malaysia became the top destination in the world for HS Code 3915 plastic waste or plastic scrap. In 2021, C4 Center released a report titled "*Malaysia is not a garbage dump: Citizens against corruption, complacency, and climate crisis*", highlighting challenges and loopholes in the institutional framework governing the import of plastic waste to the country.[5] The experiences of the local communities pointed to weak enforcement and alleged abuses of power and corruption, which enabled illegal and criminal activity to

[3] Refer to Section 4 and Appendix 1 of this report for images captured of these recycling facilities.

[4] UN Environment Programme (n.d.) Intergovernmental Negotiating Committee on Plastic Pollution. Available here

[5] Wong, P. Y. (2021). Malaysia is not a "Garbage Dump": Citizens against corruption, complacency, crime, and climate crisis. Center to Combat Corruption and Cronyism (C4 Center). Available here

take place within the plastic recycling industry. The plastic waste crisis showed how corruption enables environmental crimes such as waste trafficking, and how the prevalence of trade crimes exacerbate corruption in already vulnerable countries.

The Malaysian authorities have done well in responding to the problem, with the United Nations Environment Programme (UNEP) awarding the Department of Environment (DOE), currently under the Ministry of Natural Resources and Environmental Sustainability (NRES), for their success in curbing the illegal trade of plastic waste at the 5th Asia Environmental Enforcement Awards in 2021.[6] However, gaps in enforcement do still exist, which have created a trust deficit between various segments of Malaysian society and have left behind vast areas polluted by plastic waste that were never rehabilitated.

This research examines the governance of the plastic waste trade by considering the case study of Japan as an exporting country and Malaysia as an importing country. This report discusses trade and pollution through the lens of waste colonialism, and raises questions about the transparency, traceability, and accountability of the governance frameworks. Finally, the opportunities for a global agreement on plastic pollution in addressing waste colonialism are explored.

Malaysia's plastic industry recorded an increase in sales of 2.3% from 2019 to 2020, equivalent to RM48.46 billion[7] to the Malaysian economy (3.49% of Gross National Income, according to DOSM), with an export value of RM10.43 billion. In 2022, 33 new projects in the plastic manufacturing sector were approved bringing a total foreign investment value of RM503.5 million[8] to the country. The unity government under the 10th Prime Minister of Malaysia is under immense pressure to revive the country's economy and attract new foreign direct investments. As Malaysia continues to import plastic waste, ostensibly to meet the demands of the domestic plastic manufacturing industry, enforcement agencies and local communities must remain vigilant amidst the illegality and pollution surrounding the waste trade.

[6] UN Environment Programme (2021) Press release on Environmental Enforcement Awards recognize 8 winners on the frontline of protecting our planet. Available here

[7] MPMA (2021, March 15). Industry Outlook and the New Norm for 2021. Available here

[8] Malaysian Plastics Industry Remains Resilient with Steady Growth -- MIDA. (2023, November 24). *BERNAMA*. Available here

1.2 Plastic waste exported for "recycling" enables ever more plastic production

A report by the Environmental Investigation Agency (EIA), *"The Truth Behind Trash: The Scale and Impact of the International Trade in Plastic Waste"*,[9] found that over a quarter billion tonnes of plastic waste have been traded globally since the late 1980s, mirroring the growth in global plastic production. Critically, formal recycling targets in Europe and increasing interest in resource circularity did not translate into actual measures that could stem plastic pollution – namely, reducing the production of virgin plastic, incentivising product redesign and efficient consumption, and enforcing ethical waste treatment practices. Instead, plastic production – especially single-use "disposable" packaging – has increased exponentially, fuelled by the demand for a convenient lifestyle within affluent societies resulting in the production of massive quantities of waste.

Exporting plastic waste and accounting for it as "recycling" is often claimed to promote circularity and supposedly strengthens markets for recycled plastics through economies of scale. However, this practice only serves to perpetuate the exponential growth of plastic production and use in high income countries, while causing plastic pollution in recipient countries. In actuality, plastic recycling currently only serves to delay the final (potentially improper) disposal of a small proportion of plastics. Mechanical plastic recycling – the predominant method of processing plastic waste – has never had a meaningful recycling rate. In this method, plastic materials are processed without changing the chemical structure of the polymers. The materials are sorted, shredded, washed, melted, filtered, and put through an extruder, to create granules or pellets therefrom.[10] Plastic recycling at large is inherently a process of "downcycling". There are always residuals that are subsequently disposed of, and polymer breakdown means that virgin plastic is still required in manufacturing using recycled plastic.

[9] Environmental Investigation Agency (2021). The Truth Behind Trash: The scale and impact of the international trade in plastic waste. Available here

[10] Nageler-Petritz, H., & Nageler-Petritz, H. (2023, November 2). Mechanical Recycling vs. Chemical Recycling: Rivals or Partners? Waste Management World. Available here

More problems with recycling

A recent report by the Center for Climate Integrity revealed damning evidence that for the petrochemical and plastic industry, recycling has never been seen as a viable solution to deal with all the plastic that is being produced and consumed. Back in the 1970s, the petrochemical industries in the US had already acknowledged the impossibility of recycling as a solution.[11] Aside from that, plastics are made using toxic chemicals and numerous studies have demonstrated that these chemicals make plastics a material that is incompatible with circular economy principles.[12]

Toxic chemicals in the plastics transfer to new products made with the recycled material. A new study looking at effects from children's toys made from recycled electronic plastics found that children can be exposed to highly toxic chemicals from recycled plastic products. The findings showed that typical mouthing behaviours of young children who play with recycled plastic toys could significantly contribute to their daily intake of highly toxic dioxin-like compounds and other endocrine disrupting chemicals, which can hamper neurological development and thyroid hormone function.[13]

[11] Dhama, N. (2024, February 15). 'They lied': Plastics producers deceived public about recycling, report reveals. *The Guardian*. Available here; Allen, D., Spoelman, N., Linsley, C., & Johl, A. (2024). The Fraud of Plastic Recycling. Center for Climate Integrity. Available here

[12] International Pollutants Elimination Network (2024, February 20). Latest Science Shows Endocrine Disrupting Chemicals in Plastics, Pesticides, and Other Sources Pose Health Threats Globally. Available here

[13] Behnisch, P., Petrlik, J., Budin, C., Besselink, H., Felzel, E., Strakova, J., Bell, L., Kuepouo, G., Gharbi, S., Bejarano, F., Jensen, G. K., DiGangi, J., Ismawati, Y., Speranskaya, O., Da, M., Pulkrabová, J., Gramblička, T., Brabcova, K., & Brouwer, A. (2023). Global survey of dioxin- and thyroid hormone-like activities in consumer products and toys. *Environment International, 178, 108079*. Available here

Waste trade woes

In 2018, when China banned the import of wastes, plastic waste was diverted to Southeast Asia. The pollution caused by plastic waste imports in Malaysia, Thailand, Indonesia, and the Philippines has been well documented.[14] In 2019, the Basel Convention COP14 passed the Plastic Waste Amendments, which came into effect in 2021.[15] However, increased crackdowns from law enforcement and stronger international law have not reduced waste trafficking. From 2022 to 2023, stories continuously emerged about how plastic waste and its ensuing pollution ended up in Mexico,[16] Türkiye,[17] and two Southeast Asian countries which had previously avoided much scrutiny – Myanmar[18] and Vietnam.[19]

Furthermore, the problems inherent in cross-border plastic waste supply chains – illicit waste trafficking, illegal dumping and burning – and the resulting harm on environmental and human health have become evident since the China ban. In addition, other issues that have received less attention include lax enforcement, poor governance, corruption, weak environmental laws, and a lack of capacity and resources

[14] Environmental Investigation Agency (2021). The Truth Behind Trash: The scale and impact of the international trade in plastic waste. Available here; Global Alliance for Incinerator Alternatives (2022, April) Discarded: Communities on the frontlines of the Global Plastic Crisis. Available here ; Wong, P. Y. (2021). Malaysia is not a "Garbage Dump": Citizens against corruption, complacency, crime, and climate crisis. Center to Combat Corruption and Cronyism (C4 Center). Available here; Lasse, K. (2022). EU cracks down on dumping plastic waste abroad. Nordea Funds. Available here

[15] The US is not a Basel Party and cannot export Annex II wastes to Basel Parties outside of the OECD group for any reason. The EU will not be able to export Annex II wastes to developing countries because by their own legislation, any wastes appearing on either Annex II or Annex VIII cannot be exported to developing countries.

[16] Toloken, S. (2024, February 14). Report: California ships contaminated plastics to recycles in Mexico. *Plastics News*. Available here

[17] Gündoğdu, S. (2022). Game of Waste. *Greenpeace Mediterranean*. Available here; Human Rights Watch (2022, September 21). "It's As If They're Poisoning Us" The Health Impacts of Plastic Recycling in Turkey. Available here

[18] Lighthouse Reports. (2024, January 26). The West's next plastics dump - Lighthouse reports. Available here; Mendelson, A., Moon, R. (2023, October 19). 'Hard to breathe': Myanmar communities forced to live among world's trash. Frontier Myanmar. Available here; Mendelson, A. (2023, October 24). Skirting the law: Global companies exploit loopholes to dump waste in Myanmar. Frontier Myanmar. Available here

[19] Thapa, K., Vermeulen, W. J., De Waal, M. M., Deutz, P., & Nguyễn, H. Q. (2024). Towards a Just Circular Economy Transition: The Case of European Plastic Waste Trade to Vietnam for Recycling. *Circular Economy and Sustainability*. Available here; John, K. (2024, January 27). Exported European plastic waste sent to Vietnam can harm environment, new report warns. *Nature World News*. Available here; Santos, B. (2024, January 29). New study reveals severe faults with plastic waste exports to Vietnam. *Sustainable Plastics*. Available here

in recipient countries to adequately monitor waste imports and processing.

Even clean and sorted plastic waste from abroad can negatively impact domestic waste segregation and collection in receiving countries. The waste exports often overwhelm receiving countries' waste management infrastructure, rendering plastic waste vulnerable to mismanagement. Figure 1.1 shows how plastic waste, packed in bales and jumbo bags destined for further processing, inevitably leach microplastics into the environment. This practice of exporting waste from the Global North to countries ill-equipped to handle the waste is a form of environmental racism and waste colonialism, placing the burden of waste disposal on the environments, communities, and informal waste sectors of the Global South.[20]

Waste trade issues such as smuggling, illegal trading, improper handling of trash, and serious pollution were major reasons why the Chinese government banned the import of waste.[21] In a formal notification to the World Trade Organization (WTO) Committee on Technical Barriers to Trade regarding the ban of 24 types of waste materials, dated 18 July 2017, the Chinese government provided the following objective and rationale for the urgent measures:

> *"...we found that large amounts of dirty wastes or even hazardous wastes are mixed in the solid waste that can be used as raw materials. This polluted China's environment seriously [emphasis added]. To protect China's environmental interests and people's health, we urgently adjust the imported solid wastes list, and forbid the import of solid wastes that are highly polluted."*[22]

[20] Global Alliance for Incinerator Alternatives (n.d.). Waste Colonialism and the Global Waste Trade. Available here

[21] Lee, Y. N. (2018, April 16). The world is scrambling now that China is refusing to be a trash dumping ground. *CNBC*. Available here

[22] World Trade Organization. Catalogue of Solid Wastes Forbidden to Import into China by the End of 2017 (4 Classes, 24 Kinds). Notification No. G/TBT/N/CHN/1211. 2017. Retrieved from here, archived available here. The 24 types of materials were listed available here, archived available here

Figure 1.1: Stockpiles of plastic waste in public areas destined for further processing, Klang (Selangor), 7 February 2024
Source: C4 Center

Developing economies, like China in the past, are hungry for economic opportunities – including plastic recycling, despite the externalities that come with them.[23] Scientific evidence describing harm from plastics to humans and the environment is growing.[24] Plastic recycling workers face increased rates of cardiovascular disease, toxic metal poisoning, neuropathy, and lung cancer. Resident communities adjacent to plastic production and waste disposal sites experience increased risks of premature birth, low birth weight, asthma, childhood leukaemia, cardiovascular disease, chronic obstructive pulmonary disease,

[23] It is not only the trade of plastic waste that is considered as waste colonialism. Fuller, Ngata, Borrelle and Farrelly (2022) have argued that the plastic pollution problem is one form of waste colonialism and ecological imperialism rooted in capitalist modes of production and consumption.

[24] Almroth, B. C., & Martinez, E. C. (2024, January 16). Dangerous chemicals found in recycled plastics, making them unsafe for use – experts explain the hazards. *The Conversation*. Available here

and lung cancer.[25]

In March 2024, the European Union (EU) concluded its review of its control regime for the shipment of waste and consequently decided to phase out plastic waste exports from members of the Organisation for Economic Co-operation and Development (OECD) to non-OECD countries within two and a half years.[26] This is a positive development that other OECD countries outside the EU, such as Japan and the US, should emulate.[27]

1.3 Negotiating the governance of plastic pollution

The impact that plastic waste exports have on plastic pollution has hardly been discussed at the INC meetings, with several countries opting to completely leave the waste trade out of the final treaty text. According to them, the Basel Convention on the Control of Transboundary Movements of Hazardous Waste and Their Disposal (Basel Convention) already contains the Plastic Waste Amendments introduced in 2019, and the waste trade should fall under that Convention.

However, the Plastic Waste Amendments only introduced trade regulations for two categories of plastic waste – mixed and halogenated plastics, and plastics contaminated with hazardous materials.[28] Other types of sorted plastic wastes remain unregulated and freely traded, even with non-Parties to the Basel Convention. Furthermore, the Basel Convention does not address pollution that stems from the transboundary movement of unregulated plastic waste, as well as plastic hidden in other waste streams.[29]

Researchers from the International Pollutants Elimination

[25] Landrigan, P. J., Raps, H., Cropper, M., Bald, C., Brunner, M., Canonizado, E. M., Charles, D., Chiles, T. C., Donohue, M. J., Enck, J., Fénichel, P., Fleming, L. E., Ferrier-Pagès, C., Fordham, R., Gozt, A., Griffin, C., Hahn, M. E., Haryanto, B., Hixson, R., . . . Dunlop, S. (2023). The Minderoo-Monaco Commission on Plastics and Human Health. *Annals of Global Health*, *89*(1). Available here

[26] Rethink Plastic. (2024, March 25). Council unanimously endorses revised Waste Shipment regulation – including full non-OECD plastic waste ban. Available here

[27] Global Alliance for Incinerator Alternatives (2023, October 18). *Going zero waste*. Available here

[28] Basel Action Network. (2019, May 12) The Norwegian Amendments: Implications for Recyclers. Available here

[29] Basel Action Network, Environmental Investigation Agency, Global Alliance for Incinerator Alternatives (2023, October 18). Bridging the Basel Convention Gaps with the Future Plastics Treaty. Available here

Network (IPEN) found that current reporting systems underestimate the volume of plastic waste being traded globally. Overall plastic waste trade was estimated to be more than 40% higher than previously reported. Up to 30% of waste paper bales may comprise of plastic scraps, but these are not accounted for under the current international coding system that tracks the trade of plastic waste. As much as 20% of waste electrical and electronic equipment (WEEE or e-waste) are exported, and e-waste is about 20% plastic, which is likely not recycled.

Rubber wastes, including the large category of used automobile tyres, and plastic waste repackaged as refuse-derived fuels are also not included under the plastic waste trade code. The current system indicates that Japan is the largest exporter of plastic waste, but if adjustments are made to include hidden plastic wastes, the EU or the US could emerge as the largest exporter. Importantly, the IPEN report demonstrates that we do not know enough about the actual quantity of plastic waste being exported, and what harms are caused by the toxic chemicals present in the plastics.[30]

Shipments of mixed plastics also contain unknown additive content with up to 13,000 types of plastic-related chemicals,[31] but these chemicals and plastics are currently classified as non-hazardous. In light of these varied issues with the plastic waste trade, solutions to plastic pollution at the INC meetings cannot be focused on increasing recycling capacity in plastic waste recipient countries and the continued export of plastic waste.

The need to restrict plastic waste exports from high-income countries to countries that are less able to manage the waste properly has been well documented. However, a plastic waste export ban should not lead to the promotion of false waste management solutions that will only lead to other problems.[32] Other forms of recovery further down the waste hierarchy are problematic, including chemical recycling, waste incineration, or energy recovery such as co-incineration in cement kilns

[30] International Pollutants Elimination Network. (2023c). New study exposes hidden toxic plastic waste trade. Available here

[31] UNEP and Secretariat of the Basel, Rotterdam and Stockholm Conventions (2023). Chemicals in plastics: a technical report. *Geneva*. Available here

[32] Changing Markets Foundation. (2020). *Talking Trash: the corporate playbook of false solutions to the plastic crisis*. Available here; Global Alliance for Incinerator Alternatives (n.d.). *False Solutions to the Plastic Pollution Crisis*. Available here

or industrial boilers.[33]

Governments must recognise that this is an opportune moment for countries to capitalise on the shift away from plastic waste exports and focus on domestic measures to reduce the production, consumption, and disposal of plastics. This effort must prioritise the elimination of problematic, hard-to-recycle plastics and non-essential single-use plastics, in addition to the promotion of product eco-design as well as reuse and refill systems.

1.4 Methodology and limitations of this study

This research aimed to examine Japan and Malaysia's obligations under the Basel Convention by tracing the movement of Japan's plastic waste to Malaysia, investigating the types being traded, and how they are being processed in Malaysia. Initially, primary data was to be collected through in-depth interviews with plastic recycling businesses and government officials. Secondary data was to be compiled through a review of available reports and literature would be used to corroborate the findings. The review of Japan's governance and practices in managing plastic waste would rely upon desk-based research of existing literature.

However, there was a significant challenge in trying to secure interviews. The exchanges with workers at recycling facilities at the beginning of this section were our closest attempts at visiting plastic waste processing facilities. We contacted all 39 Approved Permit (import permit for HS Code 3915 plastic waste, AP) holders in 2022 located in Selangor, the most industrialised state in Malaysia, to request for approval to visit and learn from their operations. Out of 39, only three companies responded and engaged in further discussion via email regarding potential site visits. One of the businesses declined our request after further engagement, while two other businesses responded that they were occupied with their scheduled audits in the upcoming months. They did not respond to follow-up calls and emails after their audit period.

A total of 25 companies explicitly declined our requests, while the

[33] Margulis, C. (2023, October 31). New Report Debunks Chemical Recycling's False Promises to Manage Plastic Waste, Investigates All 11 U.S. Facilities. Environmental Investigation Agency. Available here; Waldeck, S. (2022, September 14). Waste incineration significantly contributes to landfilling, shows Zero Waste Europe report. *Packaging Insights*. Available here; Love, E. (2022, January 28). ZWE finds surroundings of waste incinerators are 'highly' contaminated. *Resource Media Limited*. Available here

remaining 11 were unresponsive, and not contactable via the telephone. Following that, we attempted to contact recycling companies with APs located outside of Selangor. Out of the four companies contacted, two companies declined our request. The other two requested for further information and did not respond after that.

Finally, we managed to secure discussions with eight private actors to gain better insight into plastic waste management in Malaysia: a recycling company that holds an import permit for plastic waste; a recycling company processing only domestic plastic waste; two waste collecting companies that sort household plastic waste for further processing or recycling; one domestic waste collecting company that focuses on industrial, commercial, and institutional waste; one waste management company that handles domestic scheduled (hazardous) waste; and two domestic electronic waste collectors. Only one of these companies imported plastic waste.[34]

None of the companies allowed us to view the processing of plastic waste into recycled pellets, even if they carried out such processing. Interestingly, a major waste collecting company has set up plastic waste collection and sorting centres in efforts to increase recycling rates in Selangor, but it keeps no further records nor conducts any audits of where the plastic waste gets sent to for further processing. A "recycling centre" often only refers to the place where waste is sorted, with no accountability on where the recyclables actually end up.

We also managed to secure meetings with the National Solid Waste Management Department (JPSPN) in Malaysia; and the Recycling Promotion Office of the Environment Regeneration and Resource Circulation Bureau, from the Ministry of the Environment, Japan (MOEJ). Japan External Trade Organization (JETRO), the Embassy of Japan in Malaysia, the Department of Environment (DOE) Malaysia, Dagang Net Technologies, and the Malaysian Plastic Manufacturers Association (MPMA) responded to our queries with written responses.

[34] The authors would like to acknowledge the generosity and willingness of Mr. Johnson Yoon of MPMA, Mr Thanasekaran Kumaraguru of Thanam Industry, Mr Tan Teong Guan of Klang Wastecare, Dr Shanmuga Kittapa of Cenviro, KDEB Waste Management, KDEB ICI, and other actors in sharing their knowledge.

CHAPTER TWO

Waste Colonialism and Governance

Japan is well known for its orderliness and efficiency in managing waste, from the government to the individual consumer. The actions of Japanese football fans cleaning up after World Cup matches made news headlines across the world,[35] while the zero-waste Japanese town of Kamikatsu in Tokushima Prefecture is famed for sorting their waste into 45 categories.[36]

Meanwhile, Malaysia consistently appears on lists of countries with a high leakage of plastic waste into the ocean due to plastic waste mismanagement.[37] Based on a study by Meijer et al. in 2021, Malaysia ranks third among the top ten countries that contributes to ocean plastic pollution, generating an estimated 73,098,000 kg of plastic waste in the ocean.[38] The studies summarised in Table 2.1 show that Malaysians generate more plastic waste per capita than Japanese, yet struggle to manage it.

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[35] Keh, A. (2022, December 18) At the World Cup, Japan Takes Out the Trash, and Others Get the Hint. *The New York Times* Available here

[36] Buzzola, A. (2010, September 10) Tzu Chi Culture & Communication Foundation. Kamikatsu: Japan's Zero-Waste Town - *Tzu Chi Culture & Communication Foundation*. Available here ; Cairns, R., Ogura, J., & Maruyama, M. (2022, January 25). This 'zero waste' Japanese building is made from 700 donated windows. *CNN*. Available here

[37] This perspective is contested. See Section 2.3 of this report on waste colonialism for an overview.

[38] Meijer, L. J. J., Van Emmerik, T., Van Der Ent, R., Schmidt, C., & Lebreton, L. (2021, April 30). More than 1000 rivers account for 80% of global riverine plastic emissions into the ocean. *Science Advances*, *7*(18). Available here

Table 2.1: Basic characteristics about Japan and Malaysia

Characteristics	Japan	Malaysia	Source
Population	125,124,989	33,938,221	World Bank
GDP per capita (2022)	USD 34,017.30	USD 11,993.20	World Bank
Land size (2021)	364,500 sq. km	328,550 sq. km	World Bank
Plastic waste generated per year (2016)	4.88 billion kg	2.06 billion kg	Law et al.
Plastic waste generation per capita (2016)	38.44 kg	67.09 kg	Law et al.
Mismanaged plastic waste per year	-	0.8 billion kg	Meijer et al.
Mismanaged waste index status	Very low	High	World Population Review
Plastic waste emitted to the ocean per capita (2019)	0.01 kg	2.29 kg	Our World in Data Meijer et al.

Source: Law et al.,[39] Meijer et al.,[40] Our World in Data,[41] World Bank,[42] World Population Review[43]

Figure 2.1: Plastic waste among mangrove trees, Tanjung Harapan (Selangor), 2022; plastic waste in a flood water retention pond, Sungai Petani (Kedah), 20 February 2024
Source: Shiori Shakuto, Wong Pui Yi

[39] Law, K. L., Starr, N., Siegler, T. R., Jambeck, J., Mallos, N. J., & Leonard, G. H. (2020, October 30). The United States' contribution of plastic waste to land and ocean. *Science Advances*, *6*(44). Available here

[40] Meijer, L. J. J., Van Emmerik, T., Van Der Ent, R., Schmidt, C., & Lebreton, L. (2021, April 30). More than 1000 rivers account for 80% of global riverine plastic emissions into the ocean. *Science Advances*, *7*(18). Available here

[41] Ritchie, H., Samborska, V., & Roser, M. (2023, December 28). *Plastic pollution*. Our World in Data. Available here

[42] World Bank Group. (n.d.). Data for Malaysia, Japan. Available here

[43] Plastic Pollution by Country 2024. (2024). World Population Review. Available here

Figures 2.1 and 2.2 offer glimpses of mismanaged plastic waste around Malaysia. Figure 2.1 shows a mangrove area with waste mostly brought in by ocean currents, and waste in a pond which likely washed in through drains and floodwaters. Figure 2.2 shows images of illegal dumpsites created by unscrupulous businesses. The images on the right show abandoned factory lots on an island close to the largest port in Malaysia, Port Klang. The island is named Pulau Indah, which means "beautiful island", but it suffers from illegal dumping and neglect.

Figure 2.2: Illegal dumpsites in Selangor and Perak between 2023 and 2024
Source: C4 Center

Despite Japan's reputation for good waste management practices, the country is a top exporter of plastic waste to non-OECD countries with less capacity to deal with waste and weaker waste management systems. Figure 2.3 shows Japan's plastic waste exports to non-OECD countries in Asia, with a majority of the waste going to Malaysia and Vietnam. Figure 2.4 shows exports to OECD countries such as South Korea. In 2022, Malaysia was the top importer of plastic waste from Japan. Out of a total of 563 million kg of plastic waste exported by Japan to other countries, 179 million kg (31.8%) was sent to Malaysia.[44]

[44] Basel Action Network. (n.d.) Japan Export Data. Available here.

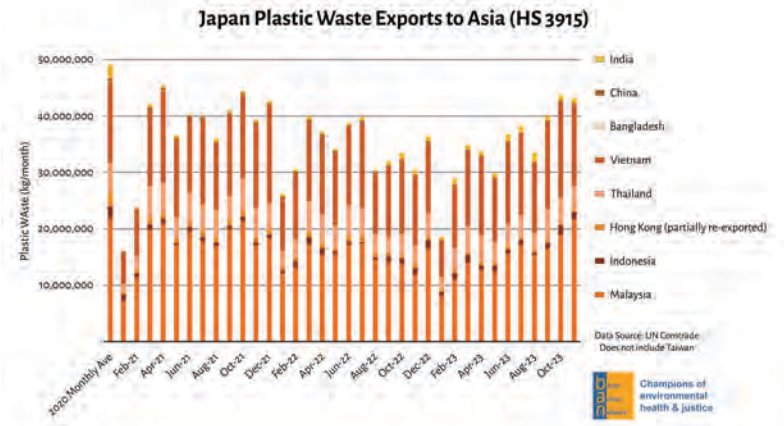

Figure 2.3: Plastic waste exports from Japan to non-OECD Asian countries
Source: Basel Action Network via UN Comtrade data

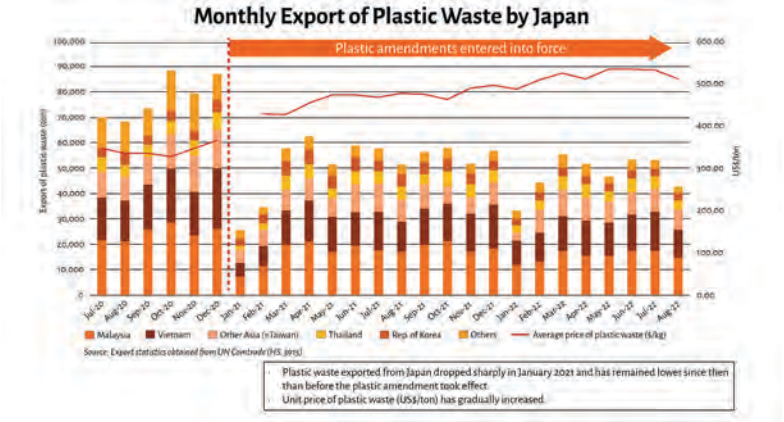

Figure 2.4: Plastic waste exports from Japan to selected Asian countries
Source: Asian Network for Prevention of Illegal Transboundary Movement of Hazardous Wastes (2023) via UN Comtrade data

To put Japan's plastic waste exports into context, Figure 2.5 compares the export volumes with other top exporters – EU, US, United Kingdom (UK), and Australia. On average, Japan exports half of the total exports by the other countries, aside from the EU which is a regional bloc. However, despite Japan's population (125,124,989 persons) being around a third of the EU's population (447,370,510 in 2022[45]), the amount of waste export is still comparable.

In 2021, Malaysia imported the highest amount of plastic waste from the US, at 33% of total imports, followed by the Netherlands and Japan, at 16% and 8%, respectively, as shown in Figure 2.6. However, by 2023, Japan had become Malaysia's top plastic waste exporter, shown in Figure 2.7.

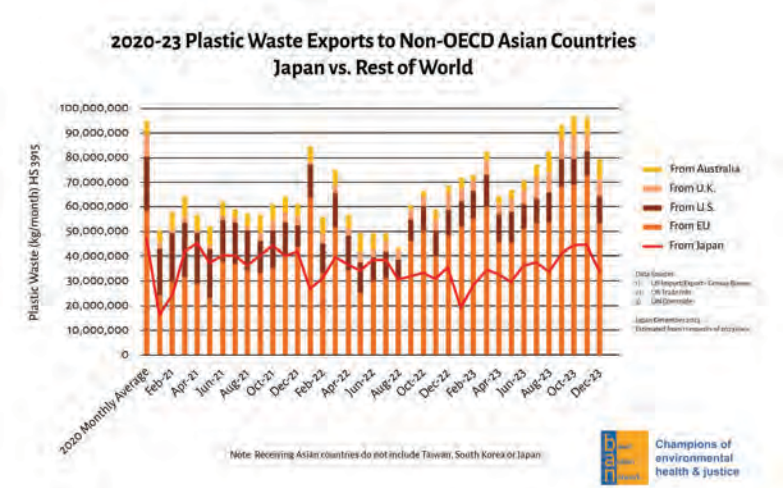

Figure 2.5: Japan's plastic waste exports compared to other top exporters
Source: Basel Action Network via UN Comtrade data[46]

[45] World Bank Group. (n.d.) Population, total – European Union. Available here

[46] Data for Japan for December 2023 was extrapolated from the first 11 months of the year as UN Comtrade's database has not been updated with the latest figures.

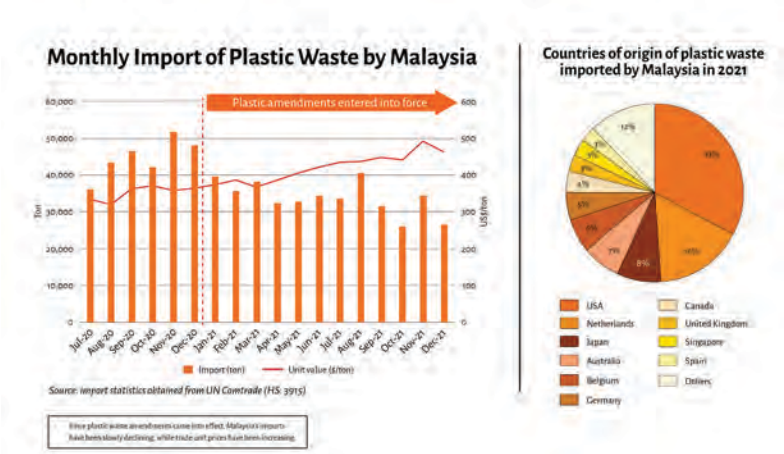

Figure 2.6: Monthly plastic waste imports by Malaysia and countries of origin in 2021
Source: Asian Network for Prevention of Illegal Transboundary Movement of Hazardous Wastes (2023) via UN Comtrade data

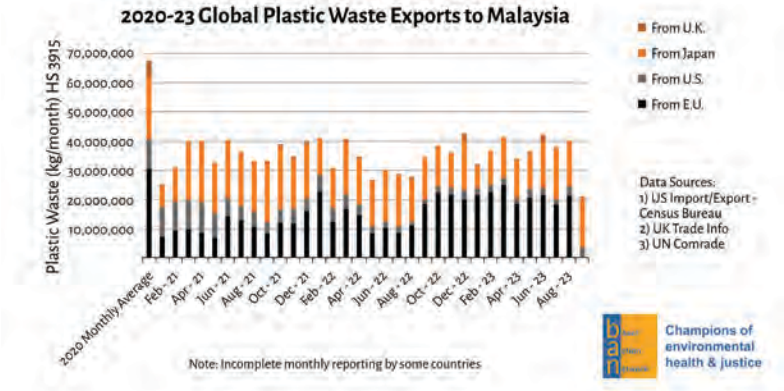

Figure 2.7: Global plastic waste exports to Malaysia from 2020 to 2023
Source: Basel Action Network via UN Comtrade data[47]

[47] Incomplete monthly reporting by some countries.

The staggering amount of plastic waste exported by Japan can be further contextualised by examining the figures for the month of November 2023.[48] The total plastic waste exported by Japan that month, according to the UN Comtrade database, was 60.9 million kg (382 20-foot equivalent units or TEU shipping containers per day).[49] 91%, or 55.5 million kg of plastic waste (347 TEU shipping containers per day) was shipped to non-OECD countries (see Figure 2.3. The export of PVC, considered toxic and regulated under the Basel Convention, amounted to 6.4 million kg (40 TEU shipping containers per day).

In that same month, Japan exported 21.7 million kg to Malaysia alone, or 136 TEU shipping containers per day. For context, total exports by other OECD countries to non-OECD countries were:[50]

- Netherlands: 19.2 million kg/month (October 2023)
- Germany: 17 million kg/month (October 2023)
- Spain: 13.8 million kg/month (September 2023)
- Belgium: 8.3 million kg/month (August 2023)
- Italy: 4.8 million kg/month (September 2023)
- Australia: 7.9 million kg/month (October 2023)
- US: 12.7 million kg/month (October 2023)

Figure 2.8 shows exports from Japan to Malaysia from 2004 to November 2023. The sudden spikes in export volumes in 2013 and 2018 reflect China's waste import policy shifts, when Japan had to look for new markets for its plastic waste. China started regulating solid waste imports through Operation Green Fence (OGF) in 2013, increasing strict inspections to stop the illegal trade of hazardous waste and improve the quality of imported waste. In July 2017, China announced the National Sword Policy which banned 24 types of solid waste imports including plastic waste, unsorted waste paper, waste textiles and waste from the manufacture of iron or steel, effective January 2018.

The country also implemented a 0.5% contamination limit (down from 1.5% for OGF) for all solid waste imports in attempts to halt the

[48] December 2023 data has not been released on UN Comtrade database. See Basel Action Network. (n.d.). Japan Export Data. Available here

[49] Based on calculations by Basel Action Network, one TEU shipping container is estimated to carry 5,316kg of plastic waste.

[50] Plastic Waste Trade Watch December 2023. (n.d.). Available here

continued contamination of the country by soiled imported waste, which were overwhelming its facilities. This was continued with Blue Sky 2018, and in April 2020, China approved a revision to its policies, aiming to realise zero imports of solid waste.

In December 2023, there was a worrying increase in plastic waste exports from Japan to Malaysia (Figure 2.9). Of note are the high volumes of PVC and styrene waste exports, two types of plastics that are notoriously difficult to recycle due to their nature and toxicity.[51] PVC waste exports to Malaysia throughout 2023 amounted to about 15 million kg.

Finally, in Figure 2.10, data taken from DOSM on Malaysia's external trade shows that Malaysia's HS 3915 import value (in MYR) from Japan from 2016 to 2024 fluctuated greatly. The volume imported from 2019 to 2020 was extremely high, but the value was low. Import values were also low in 2023 when the import volumes were high. Market volatility for plastic waste and recycled polymers is common, and is often affected by oil prices.[52]

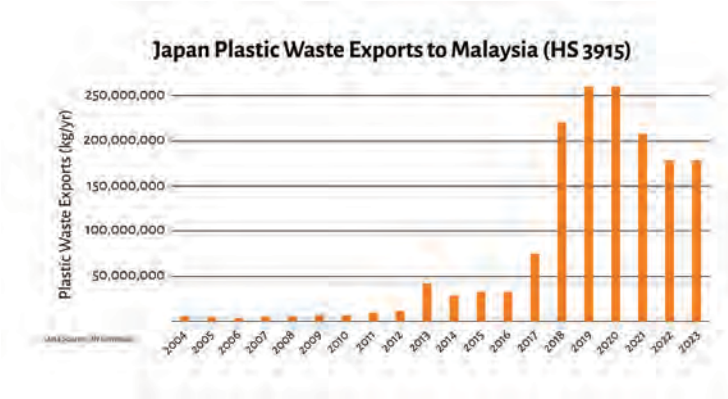

Figure 2.8: Japan's plastic waste exports to Malaysia from 2004 to November 2023
Source: Basel Action Network via data from UN Comtrade (up until November 2023)[53]

[51] See more about PS and PVC in section 3.1.

[52] Hicks, R. (2024, February 9). Recycled plastic at virgin prices? Asian recyclers say market volatility making it hard to meet brands' demands. *Eco-Business*. Available here

[53] Data for Japan for December 2023 was extrapolated from the first 11 months of the year as UN Comtrade's database has not been updated with the latest figures.

Figure 2.9: Japan's plastic waste exports by type to Malaysia from 2020 to 2023
Source: Basel Action Network via data from UN Comtrade (until November 2023) and Materials Research LC4 (for December 2023)

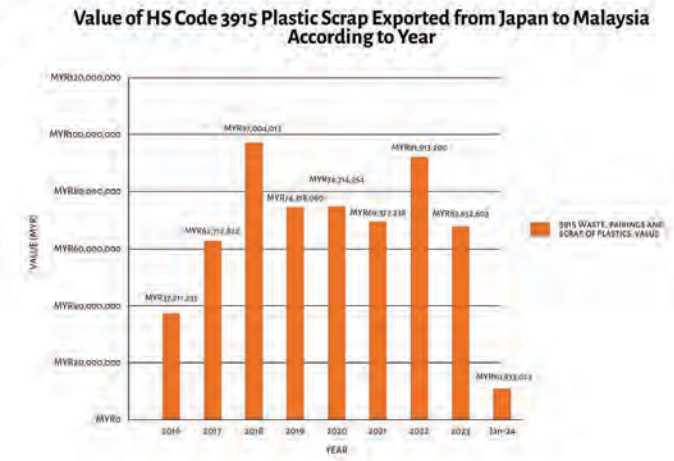

Figure 2.10: Value of Japan's plastic waste exports to Malaysia from 2016 to January 2024
Source: DOSM[54]

[54] Malaysia External Trade Statistics (n.d.). METS Online. Available here

2.1 Why Japan?

Japan was the leading economy in Asia in the late 20th century, bursting into the export market for manufactured goods in the 1970s, followed closely by South Korea and Taiwan. Scholars of East Asian economies attributed Japan's success to the implementation of industrial policy by a "developmental state", based on effective bureaucratic economic planning by the Ministry of International Trade and Industry.

Despite developing along different trajectories compared to East Asia, the fast growth of Indonesia, Malaysia, Thailand, and Singapore in Southeast Asia also attracted substantial global attention. The World Bank categorised these countries together with Hong Kong, Japan, South Korea and Taiwan as high-performing Asian economies, part of the "East Asian Miracle" of phenomenal economic growth from 1965 to 1990.

Malaysia shaped its developmental aspirations after Japan, with former Prime Minister Mahathir Mohamad developing a "Look East Policy" which among other initiatives, sent Malaysian students to Japan for training.[55] Although Japan's economy has slowed since the 1990s, it remains a regional leader, a source of developmental aid, technology, and foreign direct investment for many developing Asian economies. Japan has been Malaysia's fourth-largest trading partner since 2015. In 2023, trade with Japan was valued at RM181.51 billion, comprising 6.4% of Malaysia's total trade. A total of 2,778 projects by Japanese companies have been implemented in Malaysia so far, with investments amounting to RM91.89 billion.[56]

Japan is a regional leader in waste management, pledging to support the improvement of waste management infrastructure in developing economies.[57] Japan funds and leads the Asian Network for Prevention of Illegal Transboundary Movement of Hazardous Wastes,[58]

[55] Pandian, S., Hamid, A. F. A., Singh, P. S. J., & Sopi, S. R. S. (2021). 'Look East Policy' after 35 years from social sciences perspectives: A new paradigm for Japan-Malaysia relations 1982-2017. *Cogent Social Sciences*, *7*(1). Available here

[56] Bernama. (2023, December 16). Stable Malaysia has clear policies for growth, Japanese investors told. *Free Malaysia Today*. Available here

[57] Japan International Cooperation Agency. (2020, March 17). Tackling the issues of marine plastic waste: Collaborating with developing countries to implement various initiatives. Available here

[58] Ministry of Finance, the Japanese Government (n.d.). The Asian Network for Prevention of Illegal Transboundary Movement of Hazardous Wastes. Available here

and the Regional 3R Forum in Asia, established as a platform for broad cooperation on the promotion of the 3Rs – reduce, reuse and recycle – in Asia.[59] The UN Economic and Social Commission for Asia and the Pacific (UNESCAP) announced a four-city pilot of a "Closing the Loop" project to make plastic waste management more "circular" and to reduce plastic pollution in the marine environment. The project supported the local implementation of two intergovernmental frameworks: the ASEAN Framework of Action on Marine Debris, and the G20 Osaka Blue Ocean Vision introduced during Japan's Group of 20 (G20) presidency in 2019.

In addition, the Osaka Vision is a commitment by G20 leaders to reduce additional pollution by marine plastic litter to zero by 2050.[60] The Institute for Global Environmental Strategies (IGES), a think tank set up under the initiative of the Japanese government, and other partners are collaborating with UNESCAP and Japan to implement the project with local and national governments in Southeast Asia.[61] A Center of Excellence for Marine Plastic Pollution Studies in the Southeast Asian Seas, a new project of the Science and Technology Research Partnership for Sustainable Development (SATREPS) was also set up in 2020, as an international joint research initiative to reduce marine plastic waste in the ASEAN region.[62]

In Malaysia, the Japan International Cooperation Agency (JICA) has provided technical assistance on waste management, conducting training with the DOE on measures to deal with marine plastic waste, implementing an electronic waste recycling management system,[63] as

[59] Ministry of the Environment Government of Japan. (n.d.) Regional 3R Forum in Asia and the Pacific. Available here

[60] Ministry of Foreign Affairs of Japan. (n.d.). Japan's "Marine Initiative" Toward Realization Of The Osaka Blue Ocean Vision. Available here

[61] Hub, I. S. K. (2020, May 2020). Four Asian cities adopt circular approach to close plastic loop. SDG Knowledge Hub. Available here; Institute for Global Environmental Strategies. (2020, May 13). Contribution to an innovative marine plastic pollution management project in ASEAN. Available here

[62] Japan International Cooperation Agency. (2020, March 17). Tackling the issues of marine plastic waste: Collaborating with developing countries to implement various initiatives. Available here; Science and Technology Research Partnership for Sustainable Development). (n.d.). Formation of a Center of Excellence for Marine Plastic Pollution studies in the Southeast Asian Seas. Available here

[63] Japan International Cooperation Agency. (2019, September 27). JICA and DOE agreed on Technical Cooperation on the Implementation of Scheduled E-Waste Recycling Management System in Malaysia. Available here

well as conducting a study on national waste minimisation.[64] However, at the same time, without stopping the export of its plastic waste, Japan is also overburdening those systems while allowing the externalisation of current production patterns. Despite being the hub of recycling for the world's plastic waste, thereby indicating possession of the infrastructure to recycle plastics, the World Bank found that Malaysia only recycled about 24% of key plastic resins consumed in Malaysia in 2019. 1.07 million tonnes of plastics are disposed annually and 81% of the material value, estimated to be around USD 1 to 1.1 billion per year, is lost.[65]

EIA offered a snapshot of Malaysian plastic waste generation and recycling in 2021, showing that Malaysia is doing poorly in recycling its domestic waste, as shown in Figure 2.11. In 2021, Malaysia generated 2,312,012 tonnes of plastic waste domestically, imported 510,897 tonnes, and exported 11,128 tonnes. With net imports at 499,769 tonnes, and total plastic waste then came up to 2,811,780 tonnes, EIA calculated that net imports accounted for 17.8% of total Malaysia recycling output volume of 270,634 tonnes. This means total recycling capacity, including net imports, was 9.63%.

Malaysia was a net importer of plastic waste, importing the equivalent of 21.6% of plastic waste it generated domestically in 2021. Worryingly, EIA highlighted that the recycling output volume of 270,634 tonnes in 2021 accounts for only 54.2% of its net imports that year in terms of tonnage, thus indicating a high level of dumping or disposal of imported plastic waste, or a very high recycling residual rate. If Malaysia did not import any plastic waste, EIA estimated its domestic recycling capacity to be 11.7%. According to the report, plastic waste exports have been taking up limited plastic waste recycling capacity in recipient countries.

[64] Japan International Cooperation Agency and *Yachiyo Engineering Co., Ltd.* (2006). The Study of National Waste Minimisation in Malaysia. Available here

[65] World Bank (2021). Market Study for Malaysia: Plastics Circularity Opportunities and Barriers. Available here

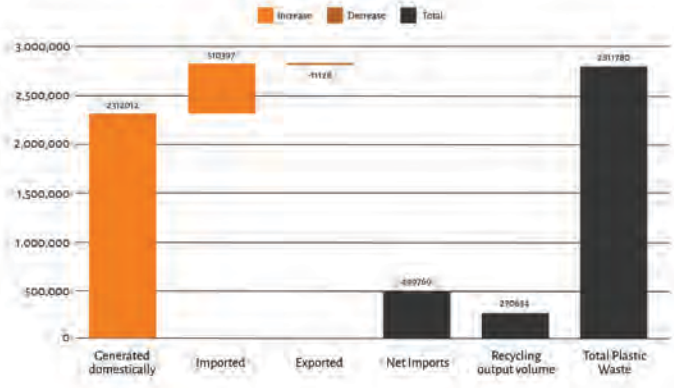

Figure 2.11: Malaysia's plastic waste and recycling in 2021
Source: EIA[66]

2.2 Waste colonialism

This report examines the transfer of plastic waste from Global North to Global South countries, where power imbalances are inherent, as constituting a form of 21st-century colonialism. Plastic waste colonialism can refer to broad concepts such as "classical waste colonialism" during the colonial empire; "waste neocolonialism" when toxic waste was sent directly to former colonial states; "indirect waste accumulation" where waste outputs of the global capitalist system of production is washed up on all shorelines; the legal trade of plastic waste; and the criminal waste trade.[67] Essentially, exporting countries "colonise" the clean air, water, land, labour, and health of recipient countries to process their waste, enabling wealthier societies to continue to enjoy certain lifestyles and living standards, while offshoring the true externalities and costs.

Waste colonialism has also been analysed in more complex sociological terms – a timely effort amidst the INC negotiations – including in the colonisation of the science of plastic pollution. When adopting anti-colonial approaches to plastic pollution science, particularly

[66] Environmental Investigation Agency (2023). Plastic Waste Power Play: The offshoring and recycling displacement involved in trying to recycle EU plastic waste. Available here

[67] Gündoğdu, S. (2024). *Plastic Waste Trade: A New Colonialist Means of Pollution Transfer*. Springer Cham. Available here

through the lens of Indigenous political ecologies, "plastic pollution" manifests in a range of historical, political, and cultural injustices generated along the full lifespan of plastics, from extraction, production, product manufacturing and consumption, to legacy pollution.

Waste colonialism is thus a manifestation of corporate imperialism, the neoliberal phenomenon of international corporate expansion, corporate manipulation of production and consumption patterns, and corporate influence over policy and society. In addition, colonial governmental, societal, and economic systems and values have enabled a widespread disconnect between plastic consumption and its socio-ecological consequences, allowing the world to turn a blind eye to plastic pollution that perpetuates significant inequities for the most disenfranchised communities and low-income households.[68]

The narrative that places the blame for ocean plastic pollution on lower income, developing countries such as Malaysia, many of which are facing population pressures and struggling to alleviate poverty, has also been decried as waste colonialism. Environmental, health, and social justice groups argue that whole countries should not be derided for causing plastic pollution. Rather, the fault lies with the multinational corporations, often head-quartered in the Global North, that profit from the production of these massive volumes of plastic, leaving others to pay for the actual costs of then managing the plastic waste.[69]

All these draw attention to the power structures and profit motives embedded within the plastic industry, as well as their associated symbolic power. Interestingly, Japan once colonised the lands that make up the federation of Malaysia. Despite their evident devastating impacts on ecosystems and human health, the use of plastic is widespread in Japanese society.[70] Waste colonialism has become a central feature of environmental injustice, but it is also a source of employment, healthcare, convenience lifestyle, and even culture for millions of people. The discourse on waste decolonisation must be expanded. It is intimately

[68] Peryman, M., Cumming, R. W., Ngata, T., Farrelly, T., Fuller, S., & Borrelle, S. B. (2024). Plastic pollution as waste colonialism in Aotearoa (New Zealand). *Marine Policy*, *163*, 106078. Available here

[69] Gore-Langton, L. (2022, September 15). Ocean Conservancy apologizes for "waste colonialism" report blaming Asia for global marine pollution. *Packaging Insights*. Available here ; McVeigh, K. (2022, September 15). NGO retracts 'waste colonialism' report blaming Asian countries for plastic pollution. *The Guardian*. Available here; Asia-Pacific organizations and networks. (2015, October 2). Open Letter to Ocean Conservancy regarding the Report "Stemming the Tide". Available here; Global Alliance for Incinerator Alternatives (n.d.). Technical Critique of "Stemming the Tide". Available here

[70] Zoom Interview with Japanese anthropologist on 9 February 2024

tied to environmental justice and will ultimately demand de-plasticisation and the acceptance of limits to industrial growth.[71]

2.3 Where does governance fit in?

Ending plastic pollution is intricately tied to the human right to a healthy environment. The UN Special Rapporteur on Human Rights and the Environment distinguished the right to a safe, clean, healthy and sustainable environment into substantive elements and procedural elements.[72] The substantive elements are clean air, safe climate, healthy and sustainably produced food, access to safe water and adequate sanitation, a non-toxic environment in which to live, work and play, and healthy ecosystems and biodiversity, all of which can easily be polluted by plastics and plastic-related chemicals.

The procedural elements are access to information, public participation in environmental decision-making, and access to justice and effective remedies. These elements also form the core of good governance, which requires that public institutions are transparent, the public sector is capable and well managed, there is democratic accountability towards citizens, there is a robust legal framework for development, information is accessible, and there is public confidence in the state. Strong, transparent, and inclusive public institutions will be crucial in implementing any international agreements to end plastic pollution.

Southeast Asia is undeniably a region plagued with governance and corruption challenges. Transparency International, a global movement working to expose systems and networks that enable corruption, releases the Corruption Perceptions Index (CPI) every year that ranks 180 countries and territories according to their perceived levels of public sector corruption, scoring on a scale of 0 (highly corrupt) to 100 (very clean).[73]

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[71] Stoett, P. (2024, March 1). Plastic Waste Colonialism: A Typology of Global Toxicity. In: Gündoğdu, S. (eds) Plastic Waste Trade. *Springer Cham*. Available here

[72] See UN General Assembly (UNGA). (2019, December 30). *Right to a healthy environment: Good practices - Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment.* A/HRC/43/53. Available here. The Special Rapporteur also outlined 16 framework principles on human rights and the environment which set out the basic obligations of the state under human rights law, which can be retrieved at UN Offfice of the High Commissioner fpr Human Rights. (2018). *Framework principles on Human Rights and the Environment*. Available here

[73] Transparency International. (n.d.). *2023 Corruption Perceptions Index: Explore the results*. Available here

The 2023 CPI reported a global trend of weakening justice systems, reducing accountability for public officials and allowing corrupt acts such as bribery and abuse of power to thrive. Malaysia scored only 50 (ranked 57th globally), but was ranked above the regional average with its robust elections and an anti-corruption commission that has pursued high-profile corruption cases. Japan was one of the top scorers in the Asia-Pacific, with a score of 73. Indonesia (34), Vietnam (41), Philippines (34) and Thailand (35) continue to struggle to stem corruption.[74]

The linkages between waste trade crimes and corruption globally have been highlighted by several important publications, including "*Plastic for Profit: Tracing Illicit Plastic Waste Flows, Supply Chains and Actors*" (2021) by the Global Initiative Against Transnational Organized Crime ,[75] "*Combating Waste Trafficking: A Guide to Good Legislative Practices*" (2022) by the United Nations Office on Drugs and Crime (UNODC),[76] and "*Dirty Deals: Case Studies on Corruption in Waste Management and Trade*" (2023) by the Basel Institute of Governance.[77] In the Malaysian context, the issue of corruption was examined in depth in C4 Center's report "*Malaysia is Not a Garbage Dump*" (2021).[78]

The International Criminal Police Organization (INTERPOL) documented an increase in illegal waste shipments from 2018 to 2020, primarily rerouted to Southeast Asia through transit countries to camouflage the origin of the waste shipment, and involving organised crime, financial fraud, and corruption.[79] Criminal groups involved in illegal plastic waste recycling in Malaysia threatened those who exposed

[74] Mohamed, I., Mathew, M., Tuiraviravi, L., Ulziikhuu, U. (2024, January 30). *CPI 2023 for Asia Pacific: Regional stagnation marked by inadequate delivery of anti-corruption commitments*. Transparency International. Available here

[75] Comolli, V. (2021, October 31). (2022, May 13). *Plastic for profit: Tracing illicit plastic waste flows, supply chains and actors*. Global Initiative Against Transnational Organized Crime. Available here; Limb, L. (2021, November 15). Slavery, human trafficking and drugs: What do they have to do with plastic waste? *Euronews*. Available here

[76] UN Office on Drugs and Crime. (2022). *Combating Waste Trafficking A Guide To Good Legislative Practices*. Available here

[77] Basel Institute on Governance. (2023, November 1). *Working Paper 49: Dirty deals—Case studies on corruption in waste management and trade*. Available here

[78] Wong, P. Y. (2021). Malaysia is not a "Garbage Dump": Citizens against corruption, complacency, crime, and climate crisis. Center to Combat Corruption and Cronyism (C4 Center). Available here

[79] Interpol. (2020, August 27). INTERPOL report alerts to sharp rise in plastic waste crime. Available here

them.[80] In addition, the Malaysian Anti-Corruption Commission's (MACC) operation in early 2024 uncovered that Customs authorities, who are the entrusted gatekeepers at the point of entry into the country, can also be compromised.[81] The European Anti-Fraud Office (OLAF) had highlighted a case of waste trafficking, when OLAF assisted the Italian authorities to block smuggled waste shipments to Malaysia and Turkey.[82] The illegal trafficking of waste involves the use of different customs codes, fake documentation, the exploitation of any loopholes in control measures, and possible bribery to enable the transportation of waste to countries with more competitive rates for treatment or disposal, and importantly, lower environmental standards and enforcement capacity.[83]

Other regions also face similar challenges. The plastics recycling industry in the UK was suspected of abuse of power and fraud[84] by organised criminals and firms within the export system, misdeclaration of waste shipments was discovered in Spain,[85] illegal shipments of Italian municipal waste were sent to Tunisia[86] and German plastic waste was almost sent to Vietnam after being blocked by Turkey.[87] In a recent operation in early 2023, judicial and law enforcement authorities in Italy and Germany dismantled an organised crime group suspected of illicit waste trafficking, false invoicing and money laundering in several European countries.[88] Annual revenues from illicit waste trafficking among 23 EU Member States ranged between 4 and 15 billion

[80] C4 Center (2021, March 17) Brief No. 1: Good Governance and the Global Plastic Waste Trade. Available here

[81] MACC chief: Leakage due to smuggling by syndicate involving Customs members at KLIA Cargo amounted to RM2b. (2024, March 29). *Malay Mail*. Available here

[82] European Anti-Fraud Office. (2021, September 2). *OLAF's work against waste trafficking helps Italian authorities stop illicit waste*. Available here

[83] Baggi, G., Carrer, L., Behi, R., Kirst, V. (2023, August 3) *Takin' out the trash: How do transnational waste traffickers operate?* Mongabay Environmental News. Available here

[84] Laville, S. (2018, November 19). UK plastics recycling industry under investigation for fraud and corruption. *The Guardian*. Available here

[85] Fundació ENT (2021, November). *Understanding illegal plastic waste shipments: a focus on Spain*. Rethink Plastic Alliance. Available here

[86] Rached, S., Gharbi, S., Favoino, E., & Puckett, J. (2021 February). *Illegal shipments of Italian municipal waste to Tunisia*. Global Alliance for Incinerator Alternatives. Available here

[87] Zero Waste Europe. (2021, December 2). Export of German plastic waste to Vietnam has been blocked. Recycling Magazine. Available here

[88] European Union Agency for Criminal Justice Cooperation (2023, February 16). *Crackdown on a criminal network dealing with waste trafficking and money laundering*. Available here

Euros and are expected to increase.[89]

The Basel Institute of Governance summarised the potential impacts of corruption as follows:[90]

- influencing policy decisions involving waste management (undue influence, state capture);
- corrupt deals involving the selection of waste management companies linked to powerful elites (bribery, nepotism, favouritism);
- schemes to gain lucrative waste management infrastructure and service contracts (systematic bribery, nepotism, favouritism);
- illegal imports of hazardous substances for profit, avoiding or suppressing formal controls (bribery, undue influence, collusion to avoid inspections).

The motives for cost reduction and profit maximisation are high and can be easily manipulated in the waste management industry as illegally dumped wastes incur no costs. Efforts to reduce costs can also take place in the violations of rules and regulations, such as inaccurate description of the processing, volume, and type of the waste, inadequate pollution controls, improper facilities to store, sort, clean, or recycle the waste, inadequate measures in place in case of incidents, and inadequate control measures for landfilling of waste. These violations may not be detected even when corruption is not involved, for example, when regulations are weak, or when there is a lack of funds or manpower for adequate monitoring.

The sector's characteristics and vulnerabilities render both domestic and transnational waste management value chains prone to illicit activities and extremely difficult to regulate, with illegal operators playing a game of cat-and-mouse with law enforcement agencies. Table 2.2 summarises the potential risks of corruption occurring. To expect downstream waste management strategies to end plastic pollution – amidst these challenges of governance, corruption, and criminality – appears highly unrealistic.

[89] European Commission, Directorate-General for Migration and Home Affairs, Disley, E., Hulme, S., Blondes, E.. (2021). Mapping the risk of serious and organised crime infiltrating legitimate businesses : final report. *Publications Office of the European Union*. Available here

[90] Basel Institute on Governance. (2023, November 1). *Working Paper 49: Dirty deals—Case studies on corruption in waste management and trade*. Available here

Table 2.2: Potential risks in the transboundary movement of waste

Public-sector actors	High-risk processes	Goals of illicit actors
National authorities. Local authorities. Ministry of environment. Ministry of local government (bribery or political pressure).	Issuing of permits for waste treatment sites. Issuing of transport registrations. Issuing of permits or consent for transboundary movement.	Obtaining permits or licences without necessary qualifications.
Environmental agencies. Customs authorities.	Monitoring and inspection. Import/export control clearances. Tax collection.	Avoiding detection for illicit transboundary movements. Avoiding taxes.
Law enforcement agencies. Police . Anti-corruption agencies. Prosecution authorities.	Independent controls. Receiving and investigating complaints. Prosecuting cases.	Avoiding inspection, investigation, prosecution, and sanctions.

Source: Basel Institute of Governance[91]

[91] Basel Institute on Governance. (2023, November 1). *Working Paper 49: Dirty deals—Case studies on corruption in waste management and trade*. Available here

CHAPTER THREE

Governing the Transboundary Movement of Plastic Waste in Japan

3.1 Basel Convention

Both Japan and Malaysia are Parties to the Basel Convention, with Japan's entry coming into force in 1993 and Malaysia's in 1994. The Basel Convention is a multilateral environmental agreement that was adopted on 22 March 1989 and entered into force on 5 May 1992. There are 191 Parties to the Convention, including 188 UN Member States, the Cook Islands, the EU, and the State of Palestine. Only five UN Member States are not parties to the Basel Convention: Timor-Leste, Fiji, Haiti, South Sudan and the US.[92]

The overall objective of the Convention is to protect human health and the environment from damage caused by the management, disposal, and transboundary movement of the estimated 400 million tonnes of hazardous waste produced worldwide every year. As more economies turned to industrialisation in the late twentieth century, the threats posed by the increasing generation of waste were evident. The wastes were also becoming more complex and increasingly offshored to less industrialised regions. Now, 35 years later, amidst the triple planetary crisis of climate change, biodiversity loss, and pollution, the need

[92] Basel Convention. (n.d.). *Parties to the Basel Convention*. Available here

for action on chemicals and waste issues has never been more pressing.

The principal aims of the Convention are outlined in Article 4(2) which include the reduction of hazardous waste generation; the promotion of environmentally sound management of hazardous wastes; the restriction of transboundary movements of hazardous wastes; and a global regulatory system to monitor permissible transboundary movements while criminalising the illegal traffic of hazardous waste.

The provisions on minimisation have thus far received less focus, including Article 4(2)(a) and (d) which states that Parties should take measures to:

> *"(a) Ensure that the generation of hazardous wastes and other wastes within it is reduced to a minimum, taking into account social, technological and economic aspects; ...*
>
> *(d) Ensure that the transboundary movement of hazardous wastes and other wastes is reduced to the minimum consistent with the environmentally sound and efficient management of such wastes, and is conducted in a manner which will protect human health and the environment against the adverse effects which may result from such movement [emphasis added]."*

Parties to the Basel Convention have obligations to take appropriate legal, administrative, and other measures to implement it and to transpose the Convention provisions into national law, regulations, and other measures.[93] Parties can make use of provisions in the Convention to consider additional wastes as hazardous under their national legislation and to prohibit or restrict transboundary movements. The transboundary movement of hazardous and other wastes is regulated by applying the prior informed consent (PIC) procedure.[94]

The PIC procedure requires that, before any transboundary movement of waste falling within the Convention's scope may occur, the competent authorities[95] of the prospective importing country and

[93] The Basel Convention has developed several tools and guidance materials to support Parties with the development and updating of national legislation implementing the Basel Convention provisions. See Basel Convention. (n.d.). *Tools for the development of legal frameworks*. Available here

[94] Basel Convention & UN Environmental Programme. (n.d.). *Controlling transboundary movements of hazardous wastes*. International Environment House. Available here; Basel Convention. (n.d.). *Guidance Manuals*. Available here

[95] Competent authority refers to the one governmental authority designated by a Party to the Basel Convention to be responsible for sending or receiving the notification of a transboundary movement of hazardous wastes or other wastes, and any information related to it, and for responding to such a notification (Article 2(6) of the Basel Convention).

transit country are notified by the exporting country about the intended movement and have provided their consent. The procedure includes tools that allow governments to share information, make informed decisions about whether to consent to the trade of certain wastes, and follow and monitor their movement until they are recovered or disposed of.

Article 6 of the Basel Convention details the requirements for the PIC procedure. There are essentially five steps:

1. Notification from exporting country in writing.
2. Consent from importing country in writing and confirmation of an existing contract between the exporter and disposer companies specifying the environmentally sound management of wastes in question.
3. Written consent by country of transit to exporting country.
4. Person in charge signing the movement document upon delivery or receipt of the wastes in question.
5. Confirmation of waste received by the disposer to the exporter and competent authority of the exporting country, and in due course, of the completion of disposal as specified in the notification. If no such information is received, the exporting country should notify the importing country.

The Convention also requires that any trade that does take place must ensure that such wastes are managed and disposed of in an environmentally sound manner. Article 2, Paragraph 8 of the Basel Convention defines "environmentally sound management of hazardous wastes or other wastes" (ESM) as "taking all practicable steps to ensure that hazardous wastes or other wastes are managed in a manner which will protect human health and the environment against the adverse effects which may result from such wastes."

Over recent years, the Basel Convention has been amended to tighten its rules and regulations governing transboundary movements of waste, and to clarify its application to specific waste streams such as plastic or electronic wastes. Amendments include:[96]

[96] Basel Convention. (n.d.). *Text of the Convention*. Available here

Ban Amendment

In 1995, Parties at the third meeting of the Conference of the Parties (COP-3) to the Basel Convention adopted the Ban Amendment, which added a paragraph in the preamble; inserted a new Article 4A; and added the Annex VII to the Convention. The Ban Amendment[97] prohibits the export of hazardous wastes covered by the Convention that are intended for final disposal, reuse, recovery and recycling (Annex IV) from the EC, OECD, and Liechtenstein (listed in Annex VII) to all other non-Annex VII countries. Essentially, with this ban, high-income countries can only transport hazardous waste to other high-income countries that have the capacity to treat the waste properly. The Amendment entered into force on 5 December 2019.

Additional Annexes and amendments

In 1998, Annexes VIII and IX were added to the Convention at COP-4 to provide further elaboration as to the wastes listed in Annexes I and III and regulated by the Convention. Since then, the COPs have adopted various changes to these Annexes VIII and IX.

Plastic Waste Amendments

In 2019, after the China ban caused the plastic waste crisis, the COP-14 adopted further amendments to Annexes II, VIII and IX to the Convention by amending and inserting new entries on plastic waste. Plastic wastes are classified into three categories: Y48 in Annex II, A3210 in Annex VIII, and B3011 in Annex IX, as summarised in Table 3.1. The amendments to the Annexes made certain types of plastic wastes, previously unregulated, now subject to the PIC procedure before being exported (Y48 mixed plastics and A3210 hazardous plastics).[98] Japan was a strong supporter of these amendments, and is one out of 189 Parties that have ratified the amendments, which came into effect on 1 January 2021.[99]

At the OECD, the OECD Decision on the Control of Transboundary Movements of Wastes Destined for Recovery Operations (OECD Wastes Trade Decision) largely replicates the Basel Convention's annex

[97] Basel Convention. (n.d.). *The Basel Convention Ban Amendment*. Available here

[98] For more details on the amendments, see Appendix 2 of this report.

[99] Basel Convention. (n.d.). Amendments to Annexes II, VIII and IX to the Basel Convention. Available here

amendments in its appendices to govern waste trade among Member States, with wastes subject to control procedures known as "amber controls", and wastes not subject to controls considered under "green controls".

However, in 2019, the OECD Members were unable to reach a consensus on the incorporation of the Plastic Waste Amendments into the OECD Wastes Trade Decision. The US, which remains the sole OECD Member that is not Party to the Basel Convention, filed an objection with the OECD Secretariat, suspending the Basel listings' automatic incorporation into the OECD Wastes Trade Decision.[100] The US proposed to maintain the status quo and allow free trade of all plastic scrap for recovery purposes within the OECD. Finally, there was no agreement among the OECD Members except to integrate the provisions of Annex VIII, A3210 plastic waste to be subject to OECD control procedures.[101]

In other developments, at the Basel COP-15 in 2022, Parties adopted amendments to Annexes II, VIII and IX to the Convention with regards to e-waste, enlarging the control of transboundary movements of e-waste and subjecting all transboundary movements of e-waste to the PIC procedure. These changes will become effective as of 1 January 2025. At COP-16 in 2023, the Parties adopted the "*Technical guidelines on the environmentally sound management of plastic wastes*" that sets out how to manage these wastes in an environmentally sound manner.[102]

If an OECD country were to ratify both the Basel Ban and Plastic Waste Amendments, this would mean that all hazardous plastic waste cannot be exported to developing countries (non-Annex VII - OECD, EC, Liechtenstein). Thus far, only 104 Parties have agreed to be bound by the Basel Ban Amendment. Only a handful of Basel Parties within Annex VII have failed to accede to the Ban Amendment, including

[100] The Basel ban on trade with non-parties has one exception, found in Article 11 of the Basel Convention, which allows parties to enter into separate agreements with Parties or non-Parties to govern transboundary shipments of wastes between themselves. The US has invoked Article 11 to trade with OECD countries. Without an Article 11 agreement, only B3011 plastic waste can be traded between Parties and non-Parties.

[101] Brown Andrew, Laubinger, F., Börkey, P., & OECD. (2023). *Monitoring trade in plastic waste and scrap*. Available here; Center for International Environmental Law. (n.d.) Legal Analysis of the Consequences of the OECD Non-Consensus Determination on the Basel Plastic Amendment. Available here

[102] Conference of the Parties to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal Sixteenth Meeting. (2023). In Basel Convention (Ed.), *Matters related to the implementation of the Convention: scientific and technical matters: technical guidelines*. Available here

Japan, Canada, Australia, New Zealand, and South Korea. All EU and European Free Trade Association (EFTA) countries have ratified the Ban Amendment, as has Mexico, Türkiye, and Malaysia.[103]

Table 3.1: The Plastic Waste Amendments to the Annexes of the Basel Convention

Annexes	Functions	Amendments
Annex I	Lists categories of hazardous constituents or wastes to be controlled. Includes specific waste streams, Y1 to Y18, and wastes having specific constituents, Y19 to Y45. All wastes on Annex I are considered hazardous unless they do not possess a hazardous characteristic listed on Annex III.	
Annex II	Lists wastes requiring special consideration, Y46 to Y48.	**Y48:** plastic waste, including mixtures of such wastes, with the exception of A3210 and B3011 plastic wastes.
Annex III	Lists hazardous characteristics, H1 to H13.	

[103] Amendment to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal. (1995). In United Nations Treaty Collection (Ed.), *Chapter XXVII 3 A. Environment*. Available here

Annexes	Functions	Amendments
Annex IV	Lists the waste management destinations, which forms the basis for determining whether a material is a waste. Includes section A titled "Operations which do not lead to the possibility of resource recovery, recycling, reclamation, direct re-use or alternative uses", D1 to D15, and section B titled "Operations which may lead to resource recovery, recycling, reclamation, direct re-use or alternative uses", R1 to R13.	
Annex V	V A lists information to be provided on a notification. V B lists information to be provided on the movement document.	
Annex VI	Sets out articles on arbitration in the event of dispute between Parties.	
Annex VII	Lists Parties and other States which are members of OECD, EC, and Liechtenstein.	
Annex VIII	Lists common wastes streams that are presumed to be hazardous, although they can still be proven not to be so using Annex III. Includes List A characterised as hazardous under Article 1(1)(a).	**A3210:** hazardous plastic wastes, including mixtures of such wastes, having as constituents or contaminated by an Annex I substance, unless it could be demonstrated not to possess a hazardous characteristic listed in Annex III.

Annexes	Functions	Amendments
Annex IX	Lists categories of wastes that are not controlled and will be presumed to be not hazardous, unless they are proven to be so containing Annex I material with Annex III characteristic. Includes List B not covered by Article 1(1)(a) unless they contain Annex 1 material and exhibit Annex III characteristic.	Removed the old listing of non-hazardous plastic waste B3010 to narrow its scope and create a new listing for plastic waste not subject to controls. **B3011:** unmixed plastic waste, provided it is destined for recycling in an environmentally sound manner, is almost free from contamination and other types of wastes, cannot include halogenated compounds, and is destined only for a recycling operations that do not include incineration, landfill, or waste-to-energy operations. Mixed plastics is only allowed for PP, PE and PET, which must be recycled separately at the destination.

Source: Basel Convention[104]

Tracking the movement of goods: Trade agreements, customs codes

Product classification for import and export is based on the Harmonized Commodity Description and Coding System (HS Codes). The HS Codes are also used to develop tariff codes in each country, which set the rates of import taxes for goods being brought into the country. Bilateral or multilateral free trade agreements lay out tariff reduction schedules for certain goods to facilitate trade amongst the Parties. The classification of goods and their tariff rates are determined by the

[104] Basel Convention. (n.d.). *Text of the Convention*. Available here

customs officials of each country, and specific codes may vary between countries.

There are four free trade agreements (FTA) between Japan and Malaysia:

- ASEAN-Japan Comprehensive Economic Partnership (AJCEP)
- Malaysia-Japan Economic Partnership Agreement (MJEPA)
- Regional Comprehensive Economic Partnership (RCEP)
- Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP).

The tariff rates for HS Code 3915 under each FTA are summarised in Table 3.2. Malaysia and Japan established the MJEPA on 13 December 2005, which came into force on 13 July 2006. The export of HS Code 3915[105] plastic waste from Malaysia to Japan is tariff-free, while the export of plastic waste from Japan to Malaysia have enjoyed preferential tariffs subject to an elimination exercise that reduces the tariffs over time under the bilateral MJEPA.[106] This means that Malaysian importers can import plastic waste from Japan at a lower cost compared to other countries that may not have a bilateral agreement with Malaysia.[107]

Of note is the tariff rate for the import of polystyrene (HS Code 3915.20) which has become zero since 2013; this explains the higher volume of PS exports to Malaysia compared to the other codes. In the MJEPA, Article 22 on non-tariff measures states that each country should not introduce or maintain any non-tariff measures on the importation or exportation of any good inconsistent with obligations

[105] Goods are classified under the following specified digit levels: first two digits refer to chapters which are organised according to materials or degree of processing; first four digits include headings for different goods; first sixth digits include the subheading; and seventh and eighth digits include further **detailed tariff nomenclature breakdown.**

[106] Preferential tariffs within trade agreements are customs duties imposed on incoming goods from a partner in the agreement which is set at a lower tariff than that imposed on other countries. FTAs often contain an elimination or reduction exercise that reduces tariffs over time for goods and services traded between countries that are party to the agreement. The elimination of tariffs does not cover internal taxes such as goods and service taxes, or excise duties. See Malaysia National Trade Repository (n.d.) Available here

[107] The Second Schedule of tariff commitments by Malaysia under the MJEPA listed that tariffs were due to become zero by 2016. See Ministry of Investment, Trade and Industry Malaysia (n.d.). *Malaysia's Free Trade Agreements, Malaysia-Japan, Export-Import Procedures*. Available here. However, this has not been reflected in the Malaysian Customs portal on tariff codes. Meanwhile, from the portal, tariff rates for HS Code 3915 imports from New Zealand and Australia are set at 0% under the Malaysia-New Zealand Free Trade Agreement and the Malaysia-Australia Free Trade Agreement respectively.

under the WTO.[108] In the event that Malaysia should wish to implement a policy to reduce plastic waste imports, or even to phase out imports like neighbouring country Thailand that will enforce a total ban by 2025 to protect the environment,[109] it is uncertain whether such import quotas would violate the MJEPA or any other FTAs.

Table 3.2: HS Code 3915 "waste, parings, and scrap, of plastics" sub-categories and tariff codes

Commodity	Description (Malaysia)	Import tariffs (Malaysia, %)[a]	MJEPA (%) [HS Code][b]	AJCEP (%)	RCEP (%)	CPTPP (%)
3915.10.0000	**Of polymers of ethylene (PE)**					
3915.10.1000	Of non-rigid cellular products	30	2.7	5	30	10.9
3915.10.9000	Other	25	2.3	5	25	9
3915.20.0000	**Of polymers of styrene (PS)**					
3915.20.1000	Of non-rigid cellular products	30	0	5	30	10.9
3915.20.9000	Other	25	0	5	25	9
3915.30.0000	**Of polymers of vinyl chloride (PVC)**					
3915.30.1000	Of non-rigid cellular products	30	2.7	5	30	10.9
3915.30.9000	Other	25	2.3	5	25	9
3915.90.0000	**Of other plastics**					
3915.90.1000	Of poly(ethylene terephthalate) (PET)	30				9
3915.90.0011	Of non-rigid cellular products		0 [3915.90.110]	5	30	
3915.90.0019	Other		2.3 [3915.90.190]	5	25	
3915.90.2000	Of polypropylene (PP)	30%				0
3915.90.0021	Of non-rigid cellular products		2.7 [3915.90.210]	5	30	

[108] Ministry of Investment, Trade and Industry Malaysia (n.d.). *Agreement between the Government of Malaysia and the Government of Japan for an economic partnership*. Available here

[109] CNS MEDIA. (2022, September 19). Thailand announces total ban on plastic waste imports by 2025 to "protect country." *Packaging Insights*. Available here

Commodity	Description (Malaysia)	Import tariffs (Malaysia, %)[a]	MJEPA (%) [HS Code][b]	AJCEP (%)	RCEP (%)	CPTPP (%)
3915.90.0022	Of phenolic resins		0 [3915.90.291]	N.O.	5	
3915.90.0023	Of amino-resins		0 [3915.90.292]	N.O.	5	
3915.90.0029	Other		2.3 [3915.90.299]	5	25	
3915.90.3000	Of polycarbonate (PC)	30%				9
3915.90.0030	Of regenerated cellulose; cellulose nitrate, cellulose acetate and other cellulose esters, cellulose ethers and other chemical derivatives of cellulose		0 [3915.90.300]	5	25	
3915.90.4000	Of polyvinyl acetals	30%	0 [3915.90.400 Of hardened proteins]	N.O. [3915.90.0040 Of hardened proteins]	5 [3915.90.0040 Of hardened proteins]	0
3915.90.5000	Of phenolic resins; of amino resins; of hardened proteins; of chemical derivatives of natural rubber	30%	0 [3915.90.500]	N.O. [3915.90.0050]	5 [3915.90.0050]	0
3915.90.9000	Other	30%	0 [3915.90.900]	0 [3915.90.0090]	0 [3915.90.0090]	0

[a] Malaysia's tariff codes are set out in the *Customs Duties Order 2022*.
[b] HS Codes are indicated under the tariff rates if the code differs slightly under that particular FTA.
Source: Royal Malaysian Customs Department,[110] Japan Customs[111]

[110] Jabatan Kastam Diraja Malaysia (n.d.) JKDM HS Explorer. Available here.

[111] Japan Customs. (n.d.) *Japan's tariff shedule: Section VII Plastics and articles thereof; Rubber and articles thereof*. Available here; Japan Tariff Association. (n.d.) Available here

The Basel Convention secretariat is in cooperation with the World Customs Organization on amendments to the HS Codes with respect to plastic waste, taking into consideration the Plastic Waste Amendments.[112] As of now, trade in plastic waste falls under HS Code 3915, which does not reflect the Y48 category requiring PIC, nor the A3210 category of restricted hazardous plastics.

In Malaysia, under the *Customs Duties Order 2022*,[113] if post-industrial or post-consumer plastics are cleaned and flaked, they do not fall under HS Code 3915. This code does not apply to waste, parings, and scrap of a single thermoplastic material once it is transformed into primary forms. It will then fall under the other codes with headings 3901 to 3914, where "primary forms" refer to:

- Liquids and pastes, including dispersions (emulsions and suspensions) and solutions;
- Blocks of irregular shape, lumps, powders (including moulding powders), granules, flakes, and similar bulk forms.

In the US, the same applies. HS Code 3915 does not apply to waste, parings, and scrap of a single thermoplastic material (like polyethylene terephthalate, PET), transformed into primary forms. It covers waste, parings, and scrap of a single thermosetting material[114] or two or more thermoplastic materials mixed together, and for these, even in primary forms. According to the Harmonised Tariff Schedule of the US, the applicable subheading for post-consumer PET bottles, such as used soda bottles, collected, cleaned, crushed and broken into flakes, and bailed for export, is not HS Code 3915, but HS Code 3907.60.0070 (Polyethyl-

[112] Basel Convention, Rotterdam Convention, Stockholm Convention, UN Environment Programme, & Food and Agriculture Organization of the UN. (2022). Submission by the Secretariat of the Basel, Rotterdam and Stockholm Conventions in preparation for the first session of the intergovernmental negotiating committee (INC) to develop an international legally binding instrument on plastic pollution, including in the marine environment. Available here

[113] Jabatan Kastam Diraja Malaysia. (n.d.) Customs Duties Order 2022, Paragraph 7 of the Chapter Notes for Chapter 39 "Plastics and articles thereof". Available here

[114] Thermoplastics and thermosetting plastics are both polymers, but they behave differently when exposed to heat. Thermoplastics can melt under low heat, eventually turning fluid and are ideal for applications that use recycled materials. Processing thermoplastics do not require chemical bonding and this material is mechanically recycled. Thermoset plastics or thermosetting polymers are liquid resins at room temperature. These polymers harden upon heating or the addition of chemicals, and stay solid under heat once cured, making them more durable. Examples of thermoplastics are acrylic, nylon, acetal copolymer polyoxymethylene, acetal homopolymer polyoxymethylene, PC, PE, PS, PP, PVC, PET, and Teflon. Some thermosets common to manufacturers are phenolics, silicone, melamine, epoxy, polyvinylidene fluoride (PVDF), polytetrafluoroethylene (PTFE), polyurethane, and polyimide. See Manufacturing Tomorrow (n.d.) Thermoset vs Thermoplastic. Available here.

ene terephthalate: Other, in primary forms).[115]

Figure 3.1 shows a compilation of Japan's exports to Malaysia based on HS Code 3915, extracted from the Japanese Ministry of Finance's trade statistics from 2003 to 2023. The data is similar to that of Figure 2.8, where data was drawn from the UN Comtrade database. There was a sudden increase in export volumes to Malaysia in 2013 and 2018, as Japan sought new markets for their plastic waste after China gradually closed its borders. The graph also illustrates that the top four categories of plastic waste exported were HS Code 3915.20.000 (PS), 3915.90.200 (PP), 3915.90.900 (Other), and 3915.10.000 (PE). This also reflects what is shown in Figure 2.9, which captured UN Comtrade data for the export of other types of plastic waste (including PET), PS, PVC, and PE, in declining order.

Figures 2.9 and 3.1 indicate that much is unknown as the category "Other" (HS Code 3915.90.900) remains at significant volumes over the years. At a side event promoting the environmentally sound management of plastic waste at the INC3 on the plastic treaty, waste management expert Koichi Yanagita from Japan Clean Ocean Material (CLOMA) explained that the high levels of Japanese exports of HS Code 3915 might be because commodity grade flakes and pellets are included in the figures for scrap.[116]

However, this claim is doubtful as the costs of recycling and producing the secondary material within Japan would be high, and that is precisely why Japan exports the waste for further processing in the first place. Also, in Malaysia and the US, pellets and flakes from thermoplastics are not declared under HS Code 3915; this likely applies to Japan as well. Greenpeace Japan sought more details about Japan's high volume of plastic waste exports from the MOEJ by sending the authorities questions, but they did not receive additional data beyond what was already disclosed on the MOEJ website.[117]

Figures 2.9 and 3.1 also show an increase in PVC exports (HS Code

[115] Customs Mobile. (n.d.). Customs Ruling NY N133479 - The tariff classification of recycled PET (polyethylene terephthalate) flakes from Taiwan, Indonesia and other countries. Available here

[116] UN Environment Programme. (n.d.). INC-3 Side event 10: Promoting Environmentally Sound Management of Plastic Waste, Including Collection, Sorting, Recycling, and Consideration of Investments- Written report back. Available here

[117] Khare, D., & Wong, P. Y. (2022, September 23). Japan's plastic waste exports - and how to slow them down. Break Free from Plastic. Break Free from Plastic. Available here; Greenpeace. (2020, May 30). Zero Wate Day, Japan sends an open questionnaire to the Minister of the Environment on the export of waste plastics. Available here

3915.30.000) in 2023. The high volume of PS exports and the increasing PVC exports are worrying as experts have labelled PS and PVC the "toxic two"[118] – so toxic to produce, use, and dispose of that they should not even be on the market. PVC has been linked to hormone-disrupting chemicals such as organotins and phthalates, while vinyl chloride is linked to an increased risk of liver, brain, and lung cancers. Caution against the use of PVC was prevalent since the 1990s,[119] and recent studies have found that PVC medical devices have leached plasticisers into blood, blood products, and medical solutions, exposing newborn babies to high levels of the chemicals.[120] Meanwhile, PS particles are extremely difficult to contain due to their porous nature, and could be toxic to human kidney and liver cells[121] and aquatic invertebrates,[122] while styrene is a probable human carcinogen.[123]

PVC is a halogenated polymer, and hence Y48 plastic waste requires PIC before being exported. UN Comtrade data reports that Japan's PVC waste exports to Malaysia from January to November 2023 amounted to 9 million kg (9,006,177kg). Based on data from Basel Action Network via Materials Research LC4, 6 million kg (6,066,159kg) was exported in December 2023, bringing 2023's total PVC exports from Japan to a massive 15 million kg (15,072,336kg). DOE revealed that they only received and approved 10 PIC applications to import Y48 plastic waste from January to October 2023, but no further details were given about the exporting country, the type of imports, the volume, or how it was monitored that the wastes were destined for environmentally sound management.[124]

[118] Wicker, A. (2024, January 2). As the world swims in plastic, some offer an answer: Ban the toxic two. Mongabay Environmental News. Available here

[119] Greenpeace. (2003, June). PVC-Free Future: A Review of Restrictions and PVC free Policies Worldwide. Available here

[120] Gould, R. M., & Levine, A. C. (1999). California Medical Association House of Delegates. Available here; Bernard, L., Masse, M., Boeuf, B., Chennell, P., Décaudin, B., Durand, N., Genay, S., Lambert, C., Basle, Y. L., Moreau, E., Pinguet, J., Ponsonnaille, V., Richard, D., Saturnin, N., Storme, L., & Sautou, V. (2023). Medical devices used in NICU: The main source of plasticisers' exposure of newborns. Science of the Total Environment, 858, 159994. Available here

[121] Goodman, K. E., Hua, T., & Sang, Q. A. (2022, September 19). Effects of polystyrene microplastics on human kidney and liver cell morphology, cellular proliferation, and metabolism. ACS Omega, 7(38), 34136–34153. Available here

[122] Thaysen, C., Stevack, K., Ruffolo, R., Poirier, D. G., De Frond, H., DeVera, J., Sheng, G., & Rochman, C. M. (2018, February 28). Leachate From Expanded Polystyrene Cups Is Toxic to Aquatic Invertebrates (Ceriodaphnia dubia). Frontiers in Marine Science, 5. Available here

[123] Huff, J., & Infante, P. F. (2011, July 1). Styrene exposure and risk of cancer. *Mutagenesis*, *26*(5), 583–584. Available here

[124] Written response from DOE to C4 Center, 11 January 2024.

For January to October, the export volume from Japan alone came up to 5 million kg (5,013,527kg) or 943 TEU shipping containers. 10 PIC notifications appear insufficient.

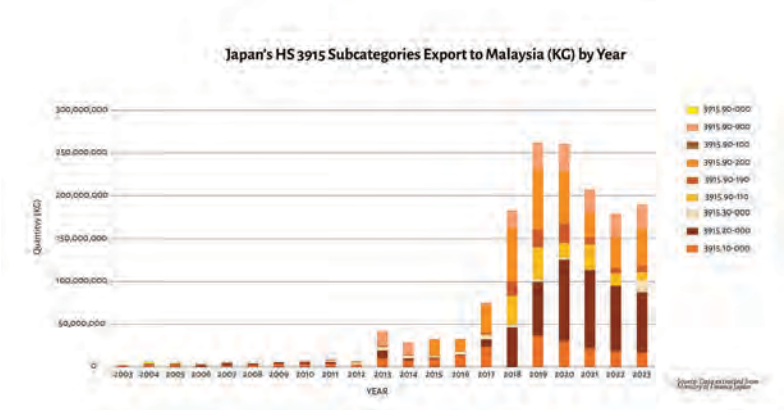

Figure 3.1: Japan's plastic waste exports by type to Malaysia from 2003 to 2023
Source: Ministry of Finance, trade statistics for Japan[125]

3.2 Japan's transposition of the Plastic Waste Amendments into local laws

After the Plastic Waste Amendments were adopted with the support of Japan in 2019, Japan amended their national law under the MOEJ, the *Law for the Control of Export, Import and Others of Specified Hazardous and Other Wastes (Japanese Basel Law)*,[126] through a Ministerial Ordinance on Specified Hazardous Wastes:

- Annex II: Addition of Y48 (Waste plastics requiring special consideration)
- Annex VIII: Addition of A3210 (Hazardous plastic wastes)

[125] Ministry of Finance, Japan. (n.d.) Trade Statistics of Japan. Available here

[126] Minister Of Environment Japan (n.d.). Law for the Control of Export, Import & Others of Specified Hazardous Wastes and Other Wastes. In Japan National Law. Available here; Ministry of the Environment, Japan. (n.d.). Legal Framework in Japan, Overview. Available here; Ministry of the Environment, Japan (n.d.). Explanation video on the Basel Act non-judgment criteria for plastic exports. Available here; Organisation for Economic Co-operation and Development (n.d.) Information about controls for transboundary movements of non-hazardous plastic waste. Available here

- Annex IX: Addition of B3011 (Non-hazardous plastic wastes) – not subject to regulation.

Another relevant law to the export of plastic waste from Japan is the *Waste Management and Public Cleansing Law*, where standards for waste disposal are laid out. Table 3.3 outlines the legislation that are relevant for export screening in Japan on companies seeking to export hazardous wastes.

MOEJ handles issues related to the segregation and collection of plastic waste, and ensures that plastic waste to be exported would have gone through the PIC process. The ministry holds data on the volumes of plastic waste exported and is tasked with verifying that the waste is handled in an environmentally sound manner in Malaysia. The Ministry of Economy, Trade and Industry Japan (METI) is in charge of trade and the FTAs.

Table 3.3 Environmental legislation in Japan that exporters must meet

Relevant Acts	Screening criterion
Air Pollution Control Act	The discharge standards for smoke, volatile organic compounds and facilities producing dust are not exceeded.
Water Quality Pollution Control Act	The effluent from specified facilities does not exceed the relevant standards.
Offensive Odor Control Act	The standard for offensive odour is not exceeded in the control area.
Noise Regulation Act	The environmental standard concerning noise is not exceeded in the designated area.
Vibration Regulation Act	The standard concerning vibration is not exceeded in the area where specified facilities are regulated.
Wastes Disposal and Public Cleansing Act	The waste treatment standards are not exceeded when the residual produced by disposal facilities is treated. In addition, the storage method of the residual is appropriate.

Source: MOEJ[127]

To assist exporters in determining what specific plastics fall under the scope of regulation in the revised Annex, the government developed the "*Criteria for Distinguishing Plastic Wastes Subject to Control Under the Japa-*

[127] Ministry of the Environment, Japan. (2011, March 31). *Study on Criteria and Requirement on Environmentally Sound Management of Hazardous Wastes and Other Wastes*. Available here.

nese Basel Law from Other Wastes"[128] and a video.[129] Under the *Japanese Basel Law*, two different criteria were developed for plastic waste exports to be exempted from control and considered as B3011.[130] For plastic wastes without a mixture of different plastic resins, they must be:

- free of contamination from food and drink, dirt, oils and other substances;
- not mixed with substances other than plastic;
- consisting of a single type of plastic resin; and
- processed or arranged for recycling.

Examples include pelletised plastics; transparent or single-coloured plastic flakes or fluff; plastic wastes in the form of sheets, rolls, or bales that were discharged as a byproduct from the manufacturing process; or polystyrene foam (PS) in the form of ingots.

For mixtures of plastic waste consisting of different resins (PE, PP, PET) to be exempt from control in Japan, it must be:

- sorted and must exclude other materials or plastic resins other than bottles, caps, and labels;
- washed and free from contamination such as drinks, dirt, and other substances; and
- shredded and in the form of flakes.

The requirement that shipments must be "free from contamination" refers to "contamination" from any material that is not the targeted recyclable material, including other types of plastics, dirt, wood, paper, etc. The allowable concentration levels for such contamination have been left up to individual countries by the Basel Convention. US-based NGO Basel Action Network has documented these national determina-

[128] Ministry of the Environment, Japan. (n.d.). Summary of the Criteria for distinguishing plastic wastes subject to control under the Japanese Basel Act from other wastes. Available here; Ministry of the Environment, Japan. (n.d.). Criteria for determining whether exports of plastics fall under the Basel Act [translation]. Available here; Kurata, D. and Ministry of the Environment, Japan. (2019, November 12). Japan's Report: Trend of global TBM of plastic wastes and domestic guideline. Available here.

[129] Explanation video on the Basel Act non-judgment criteria for plastic exports. Available here; Ministry of the Environment, Japan. (n.d.). Basel Law criteria for plastic exports [translation]. Available here; Kankyosho. (2020, November 30). Criteria for determining whether exports of plastics fall under the Basel Act [translation] [Video]. YouTube. Available here

[130] Ministry of the Environment, Japan. (n.d.). Summary of the Criteria for distinguishing plastic wastes subject to control under the Japanese Basel Act from other wastes. Available here

tions of contamination limits, but Japan has not announced any limits for their plastic waste exports. As a point of reference, the EU used 2% contamination as the threshold for exports to countries outside of the EU.[131] The Japanese government had, however, issued a warning to exporters not to export "dirty" plastic waste and to comply with the Basel Convention.[132] They also compiled a summary of import regulations for plastic waste in Asian countries with special attention on the conditions for importation to be allowed.[133]

Criteria and procedures for export

In Japan, MOEJ and METI have joint jurisdiction over the export procedure for hazardous wastes and other wastes. Both ministries jointly published an extensive 111-page (excluding Appendices) guidance document on the criteria and procedures for exporting hazardous wastes regulated under the *Japanese Basel Law*.[134] There are also Frequently Asked Questions sections on both websites.[135]

As outlined in Article 4 of the *Japanese Basel Law*, exporters must obtain approval from the METI Minister pursuant to Article 48(3) of the *Foreign Exchange and Foreign Trade Act (Foreign Exchange Act)*. They are also required to submit information about environmental pollution prevention measures to the Minister of MOEJ and obtain PIC for importation from the destination country.[136]

The METI Minister will send a copy of the application to the MOEJ Minister. The MOEJ Minister will then confirm whether necessary measures have been taken to prevent pollution as stipulated by the Ordinance of the Ministry of the Environment with respect to the disposal of specified hazardous wastes, etc. pertaining to the application.

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[131] Basel Action Network. (n.d.) Contamination Levels Allowed / To Date. Available here

[132] Ministry of the Environment, Japan. (n.d.). Export of dirty plastics that are not suitable for recycling (Alert). Available here.

[133] Ministry of the Environment, Japan. (n.d.). Summary of Import Regulation of Plastic Waste in Asian Countries (As of December 2023). Available here.

[134] Ministry of Economy, Trade and Industry. (2023, February). Specified hazardous waste, etc.' (goods regulated by the Basel Law) Guidance on exporting [translation]. Available here; Ministry of Environment, Japan. (n.d.). Procedures for the import and export of waste, etc. Available here.

[135] Ministry of the Environment, Japan. (n.d.). Summary of the Law for the Control of Export, Import and Others of Specified Hazardous Wastes and Other Wastes. Available here; Ministry of Economy, Trade and Industry. (n.d.). Export Approvals. Available here

[136] Ministry of the Environment, Japan. (2022, August 19). Enforcement Status of the Act on the Regulation of Imports and Exports of Specified Hazardous Wastes, etc. (3rd year of Reiwa). Available here

The number of repatriation of shipments from Asian countries has risen in recent years, and the Japanese government amended the *Japanese Basel Law* to include criteria to ensure that the exports would be managed in an environmentally sound manner at the destination country to the extent technically comparable with the requirement of the Japanese regulation. These criteria must be confirmed by the MOEJ Minister, including the structure of the treating facility, the status of compliance with relevant environmental regulations, and the adopted pollution control measures (e.g., emission and effluent control measures).

The exporters are required to submit a Cargo Flow Chart (with names of companies) and an outline of the treatment process and facilities at the export destination, as shown in Figure 3.2. All parties involved must be declared in the application. All carriers, transporters, or forwarding agents responsible for the transportation from customs clearance to disposal must be listed out. Only one port of export and one port of import can be specified in advance for each application (for non-OECD member countries).[137]

For the export of hazardous waste, which is what plastic waste is considered under the *Japanese Basel Law*, the method of final waste disposal must not only meet the standards stipulated by the domestic laws of the importing country, but must also not fall below the general waste treatment standards required by Japanese environmental laws and regulations.

For this reason, before applying for export approval, companies must refer to a guidance on environmental preservation at the Waste Management and Public Cleansing Division of the MOEJ prior to applying for export approval (or the specially controlled general waste treatment standards in the case of specially controlled general waste). This standard is outlined in the *Law Concerning Waste Disposal and Public Cleansing*, with provisions for collection or transportation of waste, intermediate treatment or reclamation, and landfill disposal.[138]

[137] Ministry of Economy, Trade and Industry, Japan (n.d.) Guidance on the export of "specified hazardous waste, etc." (goods subject to Basel law) [translation]. Available here. (p.33)

[138] Ministry of the Environment, Japan. (n.d.). Laws, Notices, and Circulars. Available here

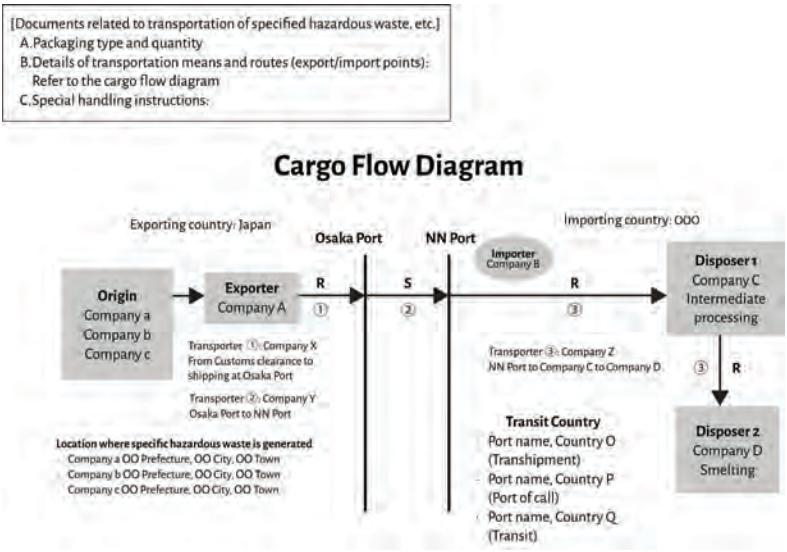

Figure 3.2: Cargo flow chart to be submitted by exporters to the MOEJ
Source: METI[139]

MOEJ will notify the competent authority of the importing country and transit country of any proposed transboundary movement of the hazardous wastes, and the counterpart countries must give their consent in writing for the import of the relevant goods to the MOEJ. Once the application to export is approved, MOEJ will notify METI of the results. The METI Minister cannot approve the export unless the notification has been received.

According to the *Japanese Basel Law*, Japan should only export hazardous wastes in the event that:

- Japan does not have the technical capacity or the necessary facilities, or the disposal capacity or suitable disposal sites to dispose, in an environmentally sound and efficient manner, of specified hazardous wastes, etc. to be exported;
- the specified hazardous wastes, etc. to be exported are required as raw materials for recycling or recovery industries in the country of import; or

[139] Ministry of Economy, Trade and Industry, Japan. (n.d.) Export Movement Documents. Available here

- the specified hazardous wastes, etc. to be exported are exported, imported, transported, and disposed of by the Parties of the Basel Convention in accordance with the criteria as provided in Article 4-9(c) of the Convention.

Other Basel Convention provisions, such as the prohibition of the export of hazardous waste to non-Parties, or the assurance of environmentally sound waste transportation and disposal, have been transposed into local law in Japan.[140] The criteria is even more stringent for exports to non-OECD countries. The applicant is required to submit "a copy of the contract between the applicant, importer, transporter and disposer that clearly states that the transportation and disposal will be carried out in an appropriate manner in terms of environmental preservation, or a document sufficient to prove such a contract." To prove this, the applicant must supply the following documents:[141]

a. Where the person who intends to dispose of the specified hazardous waste, etc. pertaining to the export has been sentenced to imprisonment or a fine under environment-related laws and regulations in the destination country, a written pledge that five years have passed since the person served out the sentence or ceased to be subject to its execution;

b. A written pledge that there are no violations of environment-related laws or serious violations of other laws and regulations in the exporting country;

c. If the person who intends to dispose of the specified hazardous waste, etc., pertaining to the export is a corporation, a balance sheet and income statement for each of the immediately preceding three fiscal years;

d. A written pledge by the individual who intends to dispose of the specified hazardous waste, etc., pertaining to the export;

e. Documents regarding the disposal capacity of the facility where the specified hazardous waste, etc. for export is to be disposed of, the actual disposal results for the immediately preceding three years, and the disposal plan for the specified hazardous waste, etc.;

[140] Ministry of the Environment, Japan. (n.d.). Export from Japan. Available here

[141] Ministry of Economy, Trade and Industry. (2023, February). Specified hazardous waste, etc.' (goods regulated by the Basel Law) Guidance on exporting [translation]. Available here (p. 16); Ministry of Economy, Trade and Industry. (n.d.). Export Approvals. Available here.

f. Documents clarifying the properties of the specified hazardous waste, etc. to be disposed of for export;

g. Documents clarifying the disposal plan for the specified hazardous waste, etc. to be disposed of for export;

h. Documents that outline the facility where the specified hazardous waste, etc. pertaining to the export is to be disposed of;

i. Plans, elevations, structural drawings, disposal process drawings, and design calculations that clarify the structure of the facility where the specified hazardous waste, etc. pertaining to the export is to be disposed of, and a plan of the area around the facility;

j. Documents on the disposal capacity of the facility and the disposal method of all the facilities to dispose of the exhaust gas, wastewater and residues generated from the disposal of the specified hazardous waste, etc. for export;

k. Documents describing the concentration of hazardous substances in the exhaust gas, wastewater and residues generated from the disposal of the specified hazardous waste, etc. for export;

l. Documents certifying that the person who intends to dispose of the specified hazardous waste, etc. pertaining to the export has obtained the necessary permission, etc. in the counterpart country of the export;

m. Documents describing the laws and regulations of the counterpart country of the export that must be observed with regards to the disposal of the specified hazardous waste, etc.;

n. Documents stating other matters concerning the proper and smooth implementation of the Convention and the protection of human health and the living environment in the counterpart country of the export;

o. Other documents that demonstrate that necessary measures have been taken from the viewpoint of the accurate and smooth implementation of the Convention and the protection of human health and the living environment in the exporting country.

Loopholes in monitoring

The government of Japan demands extensive data in the movement documents required before the transboundary shipments of waste.[142] Even after receiving approval to export and proceeding with the shipment, there is a requirement that exporters must ensure that the hazardous wastes are disposed of in the importing country in an environmentally sound manner, in accordance with the contents of the export transfer documents. The exporter should encourage the disposer to send a report on the receipt of the specified waste and the completion of disposal to both the exporter and to MOEJ.[143] However, this does not appear to be a mandatory requirement, and it is uncertain how and whether Japan enforces this regulation.

All these procedures, if truly adhered to, would enable strong environmental protection to be instituted, but they would also increase the costs of exporting the plastic waste. In the case of Malaysia, this extra cost may discourage exports, possibly resulting in businesses opting to hire a "fixer" at a lower cost to "sort it out" or "settle" with the enforcement agencies instead of meeting the requirements in the regulations. In Malaysia, as with most of Southeast Asia, there remains a delicate balance between regulation and over-regulation, between a reliance on the authorities to enforce the law and a public perception that they are corruptible (as well as a public willingness to bend the law).

Unfortunately, despite this data potentially being collected under the Basel Convention, there is a lack of transparency, traceability, and public access to data in cross-border plastic waste supply chains that can allow watchdog organisations to participate in monitoring for any wrongdoing. There are also few opportunities in Malaysia for public participation in decision making in urban planning, industrial siting, and zoning issues, which has affected communities living around recycling facilities or illegal dumping sites. Residents-turned-activists often have to fire-fight once pollution has happened, instead of working to prevent it in the first place.[144]

[142] Ministry of Economy, Trade and Industry. (n.d.). Movement document for transboundary movements/shipments of waste. Available here; Ministry of Economy, Trade and Industry. (n.d.). Export movement documents [translation]. Available here; Ministry of Economy, Trade and Industry. (n.d.). Import and export management of specified hazardous waste, etc. [translation]. Available here.

[143] Ministry of Economy, Trade and Industry. (2023, February). Specified hazardous waste, etc.' (goods regulated by the Basel Law) Guidance on exporting [translation]. Available here.

[144] See reference [78].

A good practice by the MOEJ regarding e-waste imports that could be emulated by Malaysia for plastic waste imports, is to publicly publish an updated list of importers and waste recovery facilities that are certified to import and process e-waste. There are also efforts in collaboration with companies to ensure the traceability of waste printed circuit boards (PCBs). Although the importation of waste PCBs no longer requires import approval by METI under the *Japanese Basel Law*, in line with the Green List of the OECD Wastes Trade Decision, companies that recycle waste PCBs and members of the Japan Mining Industry Association have begun taking measures to ensure the traceability of imported waste PCBs from the country of origin to Japan. The MOEJ publishes a voluntary list of importing companies on its website.[145]

Tracing the companies

For Japanese companies exporting plastic waste to Malaysia, an Internet search revealed only two: Hoyosha (Tokyo) reportedly sends polyethylene from Yokohama port to West Port in Klang, Selangor;[146] and Taisei Trading (Hyogo), a trading company that buys non-ferrous metal scrap and an extensive list of plastic scrap, and exports them as raw materials to China, Taiwan, Malaysia and Vietnam.[147] The latter company deals with thermoplastics in general, and separates the plastics by type and shape, compresses them, and packs them for export in bulk to affiliated recycling plants overseas.

Japan External Trade Organization (JETRO), a body under METI that works to enhance trade and investment between Japan and its partner countries, produced a report in May 2023 titled "*Malaysia's Recycling Industry: A Focus on Plastics*" [translated from Japanese],[148] focusing on the plastic recycling ecosystem and policy in Malaysia. The report provided comprehensive information to Japanese companies who may be interested in starting recycling businesses in Malaysia, including on laws, regulations, mid- to long-term plans of the government, the various ministries and agencies, trade associations and NGOs.

[145] Ministry of Environment, Japan. (n.d.). Import by Japan. *Japan's activities for the Basel Convention*. Available here.

[146] Hoyosha Corporation. (2024, March 13). Waste Plastics (Polyethylene, etc.): Export destination. Available here.

[147] Taisei Trading. (n.d.). Official website. Available here

[148] Japan External Trade Organization (JETRO). (2023). *Malaysia's recycling industry: a focus on plastics*. Available here.

The report mentioned three Japanese companies among other foreign businesses that have entered the plastics recycling business in Malaysia: Hiroyuki Industries (Recycling) processes recycled PET and has been granted pioneer status by the Malaysian Investment Development Authority (MIDA), enjoying tax exemption for a specified period;[149] Asahi G&S is a collection company handling paper and plastic wastes contaminated with hazardous compounds; and Matsuda Sangyo (Malaysia), also a collection company for hazardous or scheduled wastes.[150] It is uncertain whether any of these companies import plastic waste from Japan, but in July 2022, Hiroyuki Industries invested in expanding recycled PET resin production facilities in Johor, Malaysia.

According to JETRO's report (p.30), corporate investment in solutions in Malaysia's plastic waste industry appears focused on profit-making ventures in what are seen as false solutions,[151] including using plastic chemical recycling to extract hydrogen from used plastics to supply ammonia raw materials, chemical recycling using coke ovens at steel mills to produce recycled hydrocarbon oil, developing biodegradable agricultural films, and exploring cleaning technology to remove dirt from plastic waste.[152]

The report also noted barriers to entry including complicated procedures for foreign-affiliated companies, and the need to hire foreign workers to cope with the labour shortage. The recycling industry is also highly regulated, when done legally. Only certified companies can manage waste and carry out recycling operations, and only companies that have obtained import permits (APs) can import plastic waste. Foreign companies attempt to enter the market by providing technical support to local companies and forming partnerships, facilitated by MIDA. JETRO released results of their survey on Japanese companies expanding overseas in Asia and Oceania in November 2023.[153] The survey showed that 50% of survey respondents had indicated plans to expand in Malaysia in the next one to two years.

[149] Hiroyuki Industries. (n.d.). Official website. Available here.

[150] Matsuda Sangyo. (n.d.). Official website. Available here.

[151] Changing Markets Foundation. (2020). *Talking Trash: the corporate playbook of false solutions to the plastic crisis*. Available here.

[152] Keidanren Policy and Action. (2019, February 15). *A collection of examples of plastic-related initiatives that contribute to the SDGs (3rd ed.)* [translation]. Available here.

[153] Japan External Trade Organization (JETRO). (2023, December). *2023 Survey on Business Conditions of Japanese Companies Operating Overseas (Asia and Oceania)*. Available here.

Low ambition to end waste colonialism

Nevertheless, despite all the stringent provisions in the *Japanese Basel Law* and good practices in the guidelines, Japan has failed to ratify the Basel Ban Amendment, which means that they can export hazardous plastics (A3210) to non-OECD countries that provide consent for the importation. They also fall short of the lead taken by the EU to completely forbid the export of all Basel Convention Annex II wastes, including Y48 for mixed and contaminated plastic wastes, to non-OECD countries.[154]

This decision by the EU is significant because Annex II will soon also include the new e-waste listing, Y49 for non-hazardous e-waste, in 2025. E-waste is a waste stream that contains a high percentage of plastics and is at high risk of being illegally trafficked. UNEP estimated that up to 90% of the world's 41 million tonnes of e-waste, worth nearly USD19 billion, was illegally traded or dumped each year. That was back in 2015, when UNEP released the report "*Waste Crimes, Waste Risks: Gaps and Challenges In the Waste Sector*".[155]

It is not uncommon for exporters to send e-waste disguised as used electrical and electronic equipment (UEEE) or second-hand goods to developing countries, causing adverse impacts on human and environmental health when the e-waste is dismantled and processed without adequate environmental controls. The Japanese Government established the "*Criteria for Distinguishing UEEE as Secondhand Goods and Its Exportation*"[156] in 2013 to promote the proper implementation of the *Japanese Basel Law*.

However, most recently, Japan has filed an objection to the OECD against the automatic adoption of the new Basel listing for e-waste (Y49) into the OECD Wastes Trade Decision.[157] This has caused turmoil within the OECD, as Japan is the only OECD country that wanted to exempt many types of dangerous e-waste from normal trade controls,

[154] The import of Y48 wastes into the EU from non-OECD countries are subject to the PIC procedure.

[155] UN Environment Programme. (2015, May 12). *Illegally Traded and Dumped E-Waste Worth up to $19 Billion Annually Poses Risks to Health, Deprives Countries of Resources, Says UNEP*. Available here.

[156] Ministry of Environment, Japan. (n.d.). *The Criteria for Distinguishing UEEE as Secondhand Goods as Its Exportation (Provisional Translation)*. Available here.

[157] Organisation for Economic Co-operation and Development (OECD). (n.d.). *The OECD Control System for waste recovery.* OECD. Available here.

including e-waste that contains plastics.[158]

To do as Japan proposed would violate the terms of Article 11 of the Convention, which allows bilateral agreements on waste trade between Parties or non-Parties external to the controls by the Basel Convention. However, even under Article 11, the terms of trade should not be weaker than the terms of the Basel Convention itself. The Basel Action Network and the European Environment Bureau have submitted an objection to the OECD over this and have called for a legal review by the OECD.[159]

Illegality and waste trafficking

Waste trafficking occurs both domestically and internationally. Internationally, waste is usually trafficked from developed to least developed countries, with trade flows from the Global North (the EU, Japan, the US, and Australia) to the Global South (Africa, Asia, and South America). Waste trafficking involves a variety of actors, including companies operating in the illicit waste industry, organised criminal groups, and compromised law enforcement. Waste crime is considered one of the most significant, lucrative, and low-risk crimes that affect the environment, as perpetrators are usually faced with administrative or civil penalties for causing pollution, and not charged under criminal laws with heavier penalties.[160]

Although the recovery of materials from certain types of waste provides a means of generating income, particularly in the informal sector, developing countries and vulnerable populations are the hardest hit by waste crime and waste trafficking. In Malaysia, migrant workers or undocumented people are often victims of modern slavery or forced labour at illegal waste processing plants, risking their safety

[158] Basel Action Network. (2023, February). Summary Record of the First Meeting of the Ad Hoc Task Team Further to the 2022 Objection to Incorporation of Amendments to the Basel Convention into the OECD Decision on the Control of Transboundary Movements of Wastes Destined for Recovery Operations. Document from the Organisation for Economic Co-operation and Development (OECD). Available here.

[159] Basel Action Network. (2024, March 11). Basel Action Network (BAN) / European Environment Bureau (EEB) Comments on the WPRPW Proposal in light of Japan's 2022 Objection to Incorporation of Basel e-Waste Amendments: A call for a Legal Review and in the meantime Deletion of Inappropriate Examples. Available here

[160] UN Office on Drugs and Crime. (n.d.). *Unwaste: Tackling waste trafficking to support a circular economy.* UNODC. Available here; Andreatta, D., & Favarin, S. (2020). Features of transnational illicit waste trafficking and crime prevention strategies to tackle it. *Global Crime*, 20(2), pp.130-153. Available here; Favarin, S., & Aziani, A. (2020). The global waste trafficking and its correlates. *Journal of Contemporary Criminal Justice*, 36(3). Available here.

and health.[161] The range of deleterious impacts and the costs of waste crime are often hidden, absorbed by the decimation of clean air, clean water, villages and communities, wildlife, public health, food security, livelihoods, economies, and the rule of law.

In recent years, there have been several cases where shipments exported from Japan have failed to clear border controls in other countries and were repatriated back to Japan, as disclosed in MOEJ's website and summarised in Table 3.4. Out of 25 rejected shipments, 18 were electrical or electronic waste, and three were plastic waste. There was no further information about how these shipments left Japan's ports in the first place, with such stringent regulations regulating plastic waste, and Malaysia instituting a total ban on e-waste imports. The cargo was likely wrongly declared as other goods, with many end-of-life e-waste shipments arriving in Malaysia as repairable electronics.

This repatriation of export cargo not only causes financial burdens in terms of ocean transport costs and storage fees in ports or warehouses, but may also lead to diplomatic disputes, such as when Canadian waste shipments were stranded in the Philippines for six years.[162] The Japanese government is keen to avoid this and alerted business operators to fully check the laws, regulations, systems, etc., of the counterpart country before exporting, as shipments that may not be problematic under Japanese law may be in breach of standards in other countries.[163]

[161] Mohd Haris Fadli Mohd Fazsil. (2024, January 5). Forced to work 12 hours a day, 6 days a week [translation]. Available here; Mohd Haris Fadli Mohd Fazsil. (2024, January 25). Factory hiring undocumented workers raided, 65 arrested [translation]. *Harian Metro*. Available here; Hafidzul Hilmi Mohd Noor. (2024, February 22). Undocumented workers made corridor from factory to factory, ease escape if raided [translation]. *Harian Metro*. Available here; Singh, S. (2024, February 21). Illegal ewaste disposal plant with laundry list of offences raided in Seremban. *The Star*. Available here.

[162] Mistry, M. (2019, May 22). Canada tries to avoid an all-out trash "war" with the Philippines' Rodrigo Duterte. *CBS News*. Available here; Shore, R. (2019, April 24). Philippines fiasco: Doctored paperwork obscures origin of garbage shipped to Manila. *Vancouver Sun*. Available here.

[163] Ministry of Environment Japan (n.d.). Information on the return of cargo exported from Japan. Available here.

Table 3.4: Waste shipments repatriated to Japan from Malaysia from 2013 to 2022

No.	Date	Cargo	Reason for return
1	8 January 2021	Cable (sheathed conductor)	Because it has been determined that it falls under hazardous waste according to the laws and regulations of the recipient country.
2	8 January 2021	Aluminium cable (sheathed conductor)	Because it has been determined that it falls under hazardous waste according to the laws and regulations of the recipient country.
3	25 February 2021	Metal scrap mixed with waste electrical and electronic equipment (including waste circuit boards)	Because it has been determined that it falls under hazardous waste according to the laws and regulations of the recipient country.
4	9 April 2021	Cable (sheathed conductor)	Because it has been determined that it falls under hazardous waste according to the laws and regulations of the recipient country.
5	26 April 2021	Waste electrical and electronic equipment (including waste circuit boards)	Because it has been determined that it falls under hazardous waste according to the laws and regulations of the recipient country.
6	26 April 2021	Cable (sheathed conductor)	Because it has been determined that it falls under hazardous waste according to the laws and regulations of the recipient country.
7	26 April 2021	Cable (sheathed conductor)	Because it has been determined that it falls under hazardous waste according to the laws and regulations of the recipient country.

No.	Date	Cargo	Reason for return
8	31 April 2021	Cable (sheathed conductor)	Because it has been determined that it falls under hazardous waste according to the laws and regulations of the recipient country.
9	14 September 2021	Cable (sheathed conductor)	Because it has been determined that it falls under hazardous waste according to the laws and regulations of the recipient country.
10	14 September 2021	Cable (sheathed conductor)	Because it has been determined that it falls under hazardous waste according to the laws and regulations of the recipient country.
11	21 September 2021	Toner cartridge	Because it has been determined that it falls under hazardous waste according to the laws and regulations of the recipient country.
12	4 May 2020	Metal scrap mixed with waste electrical and electronic equipment (including waste circuit boards)	Because it has been determined that it falls under hazardous waste according to the laws and regulations of the recipient country.
13	20 May 2020	Used CPU (Central Processing Unit)	Because it has been determined that it falls under hazardous waste according to the laws and regulations of the recipient country.
14	20 May 2020	Used printers (including damaged items)	Because it has been determined that it falls under hazardous waste according to the laws and regulations of the recipient country.
15	6 October 2020	Waste electrical and electronic equipment	Because it has been determined that it falls under hazardous waste according to the laws and regulations of the recipient country.

No.	Date	Cargo	Reason for return
16	April 2019	Metal scrap	Because it has been determined that it falls under hazardous waste according to the laws and regulations of the recipient country.
17	May 2019	Metal scrap	Because it has been determined that it falls under hazardous waste according to the laws and regulations of the recipient country.
18	May 2019	Waste plastic	The importer of the recipient country did not obtain the necessary import permission in accordance with the laws and regulations of the recipient country.
19	July 2019	Metals and metal-containing waste	Because it has been determined that it falls under hazardous waste according to the laws and regulations of the recipient country.
20	August 2019	Waste plastic	Because it has been determined that it falls under hazardous waste according to the laws and regulations of the recipient country.
21	November 2019	Waste plastic	Because it has been determined that it falls under hazardous waste according to the laws and regulations of the recipient country.
22	December 2018	Harness	Because it has been determined that it falls under hazardous waste according to the laws and regulations of the recipient country.
23	December 2013	Used cathode ray tube monitors, etc.	Because it has been determined that it falls under hazardous waste according to the laws and regulations of the recipient country.

No.	Date	Cargo	Reason for return
24	March 2013	Desktop PC etc.	It was determined that the product did not meet the standard for used products, which is "within 3 years of manufacture" as required by the laws and regulations of the partner country.
25	February 2013	Desktop PC etc.	It was determined that the product did not meet the standard for used products, which is "within 3 years of manufacture" as required by the laws and regulations of the partner country.

Source: MOEJ[164]

3.3 Enforcing the Plastic Waste Amendments in Malaysia

Malaysia became Party to the Basel Convention on 8 October 1993, with the DOE as the designated competent authority of the Convention in Malaysia.[165] Malaysia has ratified the Basel Ban Amendment and does not allow any importation of hazardous wastes from Annex VII countries. The national policy regarding the transboundary movements of hazardous wastes stipulates the following:

- Any importation of hazardous wastes for recovery or final disposal purposes is prohibited;
- The importation of hazardous wastes is only allowed for the purpose of direct reuse or as alternative raw material provided the hazardous waste is not available in the country;
- The exportation of hazardous wastes is allowed subject to the following conditions:
    - The importing country has better technology than the technology available in Malaysia;
    - The technology in the importing country will result in a higher recovery rate than the local recovery facility; or

[164] Ministry of Environment Japan (n.d.). Information on the return of cargo exported from Japan. Available here.

[165] Department of Environment. (n.d.) Basel Convention. Available here.

- No technical capacity or facility that is capable to recover the wastes in Malaysia.

To support the implementation of the Basel Convention in Malaysia, Orders pertaining to the prohibition of exports and imports were formulated under the *Customs Act 1967*. The Orders have been amended subsequently over time to meet current regulatory needs, and the current prevailing Orders are the *Customs (Prohibition of Export) Order 2023* and the *Customs (Prohibition of Import) Order 2023*. The overarching law that protects the environment from the importation and improper disposal of imported wastes is the *Environmental Quality Act 1974 (EQA)* which governs the release of pollutants by industrial activity. In 1996, the Act was amended to include section 34B on the control of "shipment and disposal of scheduled wastes". In Malaysia, hazardous wastes are referred to as "scheduled wastes".

Back in 2018, before the Plastic Waste Amendments were made to the Basel Convention, the DOE, as the competent authority to Basel, ingeniously managed to use the Convention to return shipments of plastic waste, even when plastic waste was not yet restricted. Within Malaysia, the DOE also had no jurisdiction over plastic waste that is not hazardous, as solid waste falls under JPSPN. The legal framework that was finally adopted to underline the enforcement actions of the DOE is outlined in a guidance document titled "*National Action Plan on Enforcement for the Importation of Plastic Waste (HS 39.15)*", released on 10 February 2020. From domestic laws, the DOE drew from section 31(1)(g) of the EQA, which states:

> "***Section 31. Power to require occupier to install, operate, repair, etc.***
>
> *Where any environmentally hazardous substances, pollutants or wastes are being or are likely to be emitted, discharged or deposited from any vehicle, ship or premises irrespective of whether the vehicle, ship or premises are prescribed under section 18 or otherwise, or from any aircraft, the Director General may by notice in writing require the owner or occupier of the vehicle, ship or premises, or aircraft, to...*
>
> *(g) adopt any measure to reduce, mitigate, disperse, remove, eliminate, destroy or dispose of pollution,*
>
> *within such time and in such manner as may be specified in the notice."*

They considered the plastic waste to contain Annex III characteristics of the Basel Convention, in line with the definition of waste in section 2 of EQA, where "waste" includes "any matter prescribed to be scheduled waste, or any matter whether in a solid, semi-solid or liquid form, or in the form of gas or vapour which is emitted, discharged or deposited in the environment in such volume, composition or manner as to cause pollution." With that, the DOE classified plastic wastes as "hazardous substances to the environment" under the EQA, based on its potential to cause pollution.

From the Basel Convention, the DOE drew from Article 4(11) on General Obligations to justify its insistence that exporting countries accept the repatriation of plastic waste shipments:

> *"(11) Nothing in this Convention shall prevent a Party from imposing additional requirements that are consistent with the provisions of this Convention, and are in accordance with the rules of international law, in order better to protect human health and the environment."*

Currently, Malaysia has not transposed the Plastic Waste Amendments into national law. The EQA and *Customs (Prohibition of Import) Order 2023* remain unchanged – the latter law being significant as it accords power to JPSPN to issue import permits (APs) for HS Code 3915 plastic scrap. Instead, the DOE has issued guidelines to ensure that the Plastic Waste Amendments are complied with.

Malaysia has developed extensive guidelines since 2018 to govern the import of plastic waste. According to DOE guidelines, all plastic waste that is imported, whether B3011 (separated plastic waste or a mix of PP, PE, and PET) or Y48 (mixed plastics aside from PP, PE, and PET), must meet the following criteria:[166]

- Have a 95% threshold recycling rate, which means that 95% of the plastic waste imported must be recyclable.
- Plastic contaminants and non-plastic contaminants must not exceed 5% of the imported waste, with the condition that all the contaminants can be recycled and are not hazardous waste.
- Dirt such as soil or dust is only allowed on the surface of the plastic bale and not within the bales.

[166] Basel Action Network. (2021, February 10). Translation of letter from Department of Environment, Putrajaya to President, Sahabat Alam Malaysia. BAN. Available here.

The DOE plans to further amend the guidelines so that the enforcement procedure can take into account all types of plastic waste involved in exports and imports. In addition, to reflect the new categories of plastic wastes under the Plastic Waste Amendments to the Basel Convention, the *Customs (Prohibition of Export) Order 2023* would need to be amended to clarify the HS codes involved, especially the code that can enable differentiation between Annex II (subject to PIC) and Annex IX (freely traded). Before the importation of Y48 plastics, the importer must fill in the "Application Form to Import Plastic Waste into Malaysia", and this form must be appended with a notification letter containing the "Notification Document for Transboundary Movements/Shipments of Waste" from the competent authority of the exporting country, according to the PIC procedures.

While the import of B3011 plastics is not subject to PIC, the competent authority of the exporting country (OECD and non-OECD) must notify the DOE by email about the importation to enable the DOE to verify that the type of plastic meets the requirements of the Basel Convention, and to verify the e-permit approved by JPSPN. Meanwhile, Annex VIII plastics are categorised as scheduled wastes and the import and export procedures will follow existing PIC procedures for scheduled waste.

The DOE has also ordered that all importation of B3011 and Y48 plastics require:

- Approval of import licence by JPSPN.
- Approval of supplier/exporter by JPSPN.
- Approval of AP through the e-permit system by JPSPN.
- A submission of a pictorial inspection report with photographs of the traded merchandise by a certified inspection body appointed by the exporting country to verify whether the type of plastic is B3011 (Annex IX) or Y48 (Annex II), and that the shipment complies with the criteria set by Malaysia. This requirement is aimed at controlling the attempt at trafficking all plastic waste under B3011 without PIC, using false declarations.

One notable difference between Malaysian regulations and what is required by the Basel Convention is that while B3011 plastics can be traded freely under the Convention, Malaysian law requires that the im-

portation of all plastic waste, even B3011 plastics, be subject to an import permit application process and an e-permit application from JPSPN. Figure 3.3 describes how the importation of HS Code 3915 plastic waste is governed in Malaysia.

Harmonized Commodity Description & Coding System, commonly known as HS Codes, was created by the Customs Department for international use to classify commodities being declared at the customs frontiers by exporters and importers.

The **Customs (Prohibition of Imports) Order 2023**, **Second Schedule, Part I,** lists the goods which are prohibited to be imported into Malaysia except under an import licence. This prohibition also applies to free trade zones.

In this list, power is given to **JPSPN** under KPKT to issue import licences (APs) for **"waste, parings and scrap of plastics" (Item 12) under HS Code 3915**. This power to issue import licences was previously held by the Ministry of International Trade and Industry (MITI) until it was amended on 2 February 2015.

HS Code Chapter 39 includes all sorts of plastics and articles, including in primary forms, resins, or final products, with **Headings 01 to 26**. Only **Heading 15** which refers to recyclable plastic waste is under the purview of JPSPN. All Basel categories of plastic waste currently fall under HS Code 3915.

For B3011 homogenous plastic waste, importers are required to apply for an AP from JPSPN for each shipment.

A3210 hazardous plastic waste is not allowed to be imported. Any plastic waste contaminated with **"chemicals, pesticides, mineral oil or scheduled wastes"** is also included in Chapter 39. However, these items are listed under Item 54 in the **Third Schedule, Part I,** which are goods **prohibited** to be imported into Malaysia except under certain manners of import. Because scheduled or hazardous waste is involved, the importation requires a letter of approval issued by or on behalf of the Director General of Environmental Quality.

For Y48, importers are required to apply for PIC from the DOE, and an AP from JPSPN, for each shipment.

The Third Schedule, Part I, also includes "solid waste (municipal waste)" (Item 36), categorised under HS Code 3825.10.00 00. This item can only be imported with a letter of approval issued by or on behalf of the DG of JPSPN (Peninsular Malaysia and Labuan), or the Director of the Environment Protection for Sabah, or the Controller of Natural Resources and Environmental Board for Sarawak.

Figure 3.3: Present regulation of HS Code 3915 Plastic Waste
Source: *Customs (Prohibition of Imports) Order 2023*

In 2022, KPKT, the ministry under which JPSPN lies, released "*General Specification Guidelines for Imported Plastic Solid Waste under HS Code 39.15*",[167] which contained photographs of what can and cannot be brought into Malaysia. The plastic waste must be:

- Baled up in a tidy manner, using recyclable material;
- Clean, with not more than 5% soil or sand contaminants, free from oil stains, free from oil leachate, free from mould, free from insects;
- Homogenous, not mixed with other materials such as paper, glass, wood, metal, or scheduled wastes.

Import permit application process

To apply for an import permit or AP, an importing company must have only one factory premise for each application. As of May 2022, in efforts to control plastic pollution, the state of Selangor, where the busiest Malaysian port is located, announced that no new business licences would be approved for recycling facilities that import plastic waste for the purpose of recovery or final disposal. This decision is subject to a review every five years. Existing factories with valid licences were allowed to continue to operate.[168] The importer must also meet 19 conditions as listed in Table 3.5.

[167] Ministry of Housing and Local Government. (2022). Guidelines on the importation of plastic solid waste under HS Code 39.15 [translation]. Available here.

[168] Bernama. (2022, May 19). Selangor sets five policies for operation of recycled plastic waste to prevent pollution. *Malay Mail*. Available here.

Table 3.5: Criteria to secure AP (e-Permit) to import HS Code 3915 plastic waste effective 26 October 2018[a]

No.	Criteria
1.	Submit clear photographs of actual plastic waste imported and its category. The same photographs are not allowed for repeated applications.
2.	Submit premise compliance review status from DOE through JPSPN.
3.	Submit JPSPN approval letter for exporter (supplier), along with ISO 14000 certificate for exporter and importer. Include information on the types and sources of the plastics from the exporter as approved by JPSPN. Approval from the competent authority in the exporting country is required.
4.	Submit a letter of verification (certified translated copy where applicable) by the authorities, accreditation body, or certified body from the exporting country to prove that the exporter is allowed to carry out the export of plastic waste.
5.	Submit valid business licence issued by the local authority. Include Customs licence for *Gudang Pengilangan Berlesen* (GPB) for the past three months or an official verification letter signed by the company.
6.	Submit invoice that is stamped and signed by exporting company and verified by importing company (signed and stamped).
7.	Practice good housekeeping in the factory. Submit latest photographs of the factory including entrance, backyard, raw material storage area, washing area, operations area, and final product storage area. The photographs must be printed in colour with two photographs in one A4 sized sheet. The photographs must include date and time stamps.
8.	Have proper storage area in the factory such as a covered area and concrete flooring.
9.	Have approval from the Department of Occupational Safety and Health (DOSH) for the installation and operation of machinery.

No.	Criteria
10.	Submit verification of actual capacity of processing machines as certified by the Standard and Industrial Research Institute of Malaysia (SIRIM).
11.	The ratio of imported plastic waste is capped at 70% of the factory's full capacity to encourage the processing of domestic plastic waste.
12.	Only homogenous and clean plastic waste generated by industrial factories or post-consumer plastics are allowed. The plastic waste must have commercial value and be recyclable, excluding household waste.
13.	Submit location of waste disposal site for waste generated by the factory.
14.	Submit list of buyers for end-product (resin). Include monthly statements on plastic waste (latest three months) indicating import volume, usage (processed) volume, production volume.
15.	Submit list of factories owned by the company.
16.	The import of plastic waste from developing countries is restricted.
17.	Location of the plastic waste factory must be suitable and within an industrial zone.
18.	Make fee payment for waste imports.[b]
19.	Submit bank guarantee for imported waste.

[a] These criteria must be met to secure a letter of approval from JPSPN to import HS Code 3915 plastic waste for a period of six months. After that, the importer is required to submit all the documents, including the JPSPN letter of approval, to secure an e-Permit for each consignment being imported.
[b] The importer will be charged a fee of MYR20 for every tonne of plastic waste imported (reduced from the initial proposal of MYR50).
Source: JPSPN[169]

[169] Ministry of Housing and Local Government. (n.d.). Criteria for the importation of plastic waste HS Code 39.15 [translation]. Available here; Ministry of Housing and Local Government. (n.d.). Flow chart for the application of import licence for plastic waste HS Code 39.15 [translation]. Available here; Ministry of Housing and Local Government. (n.d.). Flow chart on the application process and approval of plastic waste imports [translation]. Available here; Ministry of Housing and Local Government. (n.d.). Checklist for the application to import plastic waste HS Code 39.15 [translation]. Available here.

Once all the paperwork and procedures are in order, JPSPN will issue a letter of approval for the import licence, which must be renewed annually. The letter will contain details regarding the import quota for the facility for each month. After obtaining the approval, the importer would still have to submit applications for e-permits through the Customs system. This e-permit is valid for six months and applications must be made for each consignment, within the limits of the allowable monthly quota. As long as the e-permit is in order, Customs will allow the consignment or the containers to clear the ports.

Importers, agents, or freight forwarders can no longer bring in plastic waste shipments to the ports before making an application for AP after the consignment arrives at the port. This was the practice before. Now, to avoid stranded shipments at the ports, APs must be approved before the importation process begins. The AP is issued based on single usage and single consignment (per shipment). The time frame to process export approval papers is seven working days, with complete documentation given. And the time frame to process the AP through the e-Permit system is also seven working days, with complete documentation attached.[170]

E-Permit is a web-based service provided by Dagang Net Technologies Sdn Bhd to facilitate the online application and approval of permits. APs will be routed to Customs for validation and cross-reference purposes against Customs declaration. The system that runs the application merely connects the users to the approver which is JPSPN. On 1 June 2021, Customs imposed a tax on HS3915 to improve the management of plastic pollution from the recycling industry. There is however no indication on how this levy is used.[171]

How the PIC procedure works alongside the AP system in Malaysia is uncertain. The DOE revealed that in 2023, 10 PIC requests were processed, but no further information was available on which countries the wastes were from, what types of wastes were imported, and how the application process worked. Proper implementation of the Basel Convention by Malaysia will require stringent enforcement by the

[170] Ministry of Housing and Local Government. (n.d.). FAQ on the application of licence to import plastic waste to Malaysia [translation]. Available here; Ministry of Housing and Local Government. (n.d.). Flow chart on the application of import licence for plastic waste HS Code 39.15 – Approval process of ePermit system [translation]. Available here.

[171] More information on the application process for import permits of plastic waste to Malaysia can be found in C4 Center's 2021 report *Malaysia is not a "Garbage Dump"*.

DOE as the competent authority. Enforcement requires spot-checking of incoming shipments of HS Code 3915 to see if they include the Y48 or A3210 listed waste, and if so, to determine if they have been properly pre-notified prior to importation. If they have not, then these shipments must be prosecuted as illegal traffic under the Convention.

Enforcement at the ports and factories to curb illegal waste trafficking

The process of inspecting shipments at the ports is time consuming and involves the participation of many governmental agencies. The Royal Malaysian Customs Department is the gatekeeper, responsible for allowing containers into the country or withholding suspected shipment. However, to verify whether any violations have taken place, they would need to refer the cargo to the respective competent authority. Inspection of plastic waste imports must involve JPSPN or the statutory body established to execute policies by JPSPN, the Solid Waste and Public Cleansing Management Corporation (SWCorp), inspection of e-waste must involve the DOE, and so on. Joint enforcement operations at the ports can involve Customs, police, port authority, port operator, JPSPN, SWCorp, and DOE. Operations at the factories can involve the local authority, the utility company, the water company, JPSPN, SWCorp, DOE, police, and immigration department. Enforcement officers, who are routinely transferred between positions, have to constantly undergo training and capacity building in terms of technical and legal expertise.[172]

Environmentally sound management of plastic waste

Several laws are relevant to the management of imported plastic waste in Malaysia. The overarching law governing pollution is the EQA. The construction of recycling facilities is subjected to the *Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 2015*, under item 14(b)(ii) of the First Schedule. Thus, any person who intends to carry out the activity is required to submit a report on the Environmental Impact Assessment to the Director General of Environ-

[172] Nur Izzati Mohamad. (2022, December 8). Container bringing e-waste from the US ordered to return. *Harian Metro*. Available here.

ment for consideration, as mentioned under section 34A of the EQA.[173] The DOE only allows premises that fully comply with the EQA to import clean plastic waste for recycling at their premises. The premises are also governed by regulations such as the *Environmental Quality (Clean Air) Regulations 2014* and the *Environmental Quality (Industrial Effluent) Regulations 2009*. Table 3.6 presents a list of relevant laws, including those related to waste management that falls under the jurisdiction of JPSPN, and not DOE. Recently, the Malaysian Parliament passed amendments to the EQA which increased the maximum penalties for atmospheric pollution (from MYR100,000 to MYR1 million), pollution of inland waters (from MYR100,000 to MYR10 million), and open burning (MYR500,000 to MYR1 million), among others.[174]

Table 3.6 Legislation on plastic waste recycling and disposal in Malaysia

Legislation	Description
Environment Quality Act 1974	Governs the prevention, mitigation, and control of pollution in the environment, and regulations for related purposes, such as the *Environment Quality (Industrial Effluent) Regulations 2009* and the *Environmental Quality (Clean Air) Regulations 2014*. This Act is the basic environmental law in Malaysia and stipulates the definition of waste and principles related to management.
Environmental Quality (Licensing) Regulations 1977	Supplements the EQA and contains information on how to apply for permits issued under the EQA, as well as their cancellation and suspension.
Environmental Quality (Prescribed Premises) (Scheduled Wastes Treatment and Disposal Facilities) Regulations 1989	This covers license application, renewal, or regulation regarding transportation, etc. related to facilities that process hazardous waste.

[173] Department of Environment. (n.d.). Importation of plastic waste to Malaysia. Paper presented at the Asian Network Workshop for Prevention of Illegal Transboundary Movement of Hazardous Wastes, November 12-14, 2019. Available here.

[174] Skrine. (2022, October 8). Enhanced penalties for contravention of the Environmental Quality Act 1974. Available here; The Star. (2024, March 25). Dewan Rakyat passes Environmental Quality (Amendment) Bill 2025. Available here.
Ministry of Housing and Local Government. (n.d.). Guidelines on plastic waste storage at factories [translation]. Available here.

Legislation	Description
Environmental Quality (Scheduled Wastes) Regulations 2005	This regulation outlines the disposal, treatment, management, storage, transportation, etc. of scheduled waste, and includes lists of scheduled wastes.
Solid Waste and Public Cleansing Management Act 2007	This act is only applicable in certain territories in Malaysia. It establishes the organisation in charge of waste treatment, the approval system, licenses, fees, decision-making bodies, etc for the construction, relocation, and closure of designated waste management facilities. In 2015, the act mandated the collection of separated recyclable waste but this has not been enforced.
Solid Waste and Public Cleansing Management Corporation Act 2007	This law stipulates how waste treatment companies should be established, their roles, financial management methods etc., again for the few territories.

Source: JETRO[175]

AP holders who import plastic waste are only permitted to store and process the waste in the premises that were stated in the letter of approval for exporter (supplier) of plastic scrap from JPSPN. Imported plastic waste cannot be sold by the AP holder to be processed at another premises. Although factory operations and compliance with environmental laws falls under the DOE, JPSPN prepared a guideline for the storage of plastic waste at the factories, which include the following:[176]

- Plastic waste removed from containers must be placed on top of pallets on dry, flat ground. Pallet strength must take into account the weight of the plastic waste bale that is stacked up. Pallets must be placed at the bottom to ease the movement of the waste using forklifts;
- Yellow or green tape must be taped on the ground around the plastic waste stockpile;
- Plastic waste should not be placed against the wall of the building to

[175] Japan External Trade Organization (JETRO). (2023). *Malaysia's recycling industry: a focus on plastics*. Available here.

[176] Ministry of Housing and Local Government. (n.d.). Guidelines on plastic waste storage at factories [translation]. Available here.

ensure good air circulation;

- The waste bales should be piled up to a safe height so that they are stable and do not fall over;
- If the plastic waste is stored outside, within the gate or fence of the premises, it must be covered with a waterproof canvas;
- The more appropriate storage location is under a roof, unless every package of plastic waste is packaged in a tidy manner using waterproof materials;
- Plastic waste outdoors should be placed on concrete or cemented flooring;
- Avoid arranging the plastic waste higher than the fence of the premises;
- Plastic waste stock is not allowed to be placed outside the fence of the premises or at the road side;
- There must be routine plans for pest control in the storage area for plastic waste;
- There must be a fire emergency response plan as plastic waste is flammable.

MOEJ conducted a study in 2011 and released a report, "*Study on Criteria and Requirement on Environmentally Sound Management of Hazardous Wastes and Other Wastes*". The report identified recommendable standards for the environmentally sound management of wastes in view of the legal systems, technical capabilities, and other institutional frameworks in Asian countries, and also considered measures to prevent illegal trade in wastes. Table 3.7 presents a compilation of general criteria that must be met by an environmentally sound management system.[177]

[177] Ministry of the Environment, Japan. (2011, March 31). *Study on Criteria and Requirement on Environmentally Sound Management of Hazardous Wastes and Other Wastes*. Available here.

Table 3.7: Summary of general components of environmentally sound management (ESM) of wastes

Component	ESM criteria on facilities	Example of requirement on facilities
Compliance with legislative and regulatory framework	Comply with conditions or standards (environmental and emission standards) required by the country, region, international treaty etc. Obtain approvals, licences, etc. from appropriate competent authorities to the national or local government. Others: Extended producer responsibility, end-of-waste status, transboundary movement requirements, specifications for containers and storage sites, and plastic waste treatment and disposal facilities.	Implementation of pollution prevention measures to ensure legal compliance. Implementation of required actions to obtain the license (e.g. Environmental Impact Accessment reports). Continuous implementation of the action above required for periodical renewal of licence.
Introduction of Environmental Management System (EMS)	Establish policy or goals of environmental management on voluntary basis, introduce systems in facility for its achievement, and manage operation based on the system.	Acquisition of ISO14001 or other ESM certification by the third organisation, or introduction of similar management system and its continuous implementation. Ensuring of commitment from top management.
Identification of hazards or risk	Identify hazards or risks on the environment.	Utilisation of Material Safety Data Sheet (MSDS) or laboratory results. Identification of risks or hazards in facility (rebelling on hazardous substances or appropriate packaging, etc).

Component	ESM criteria on facilities	Example of requirement on facilities
Occupational safety and health	Avoid exposures to unrespectable occupational risk in working environment.	Ensuring occupational health and safety of employees (providing personal protecting equipment, cleaning of working place and sanitary management, periodical medical check, etc.
Awareness and competency of staffs	Enable workers to understand hazards or risks of hazardous wastes and handle it in appropriate manner.	Awareness raising and capacity development of employees (through seminar or in-house training, etc). Recruiting of certified experts (in the field of occupational safety or mechanical engineer.
Monitoring, recording, reporting	Collect and keep record of information such as material flow or emission status (exhaust gas or effluent) and report it to the appropriate authority.	Development of procedure for monitoring and allocate staffs and equipment for its implementation Development of procedure for record-keeping and its implementation. Periodical reporting to the competent authority.
Emergency response	Have a capability to deal with unexpectable situation which can create negative effect on the environment. Health and safety.	Development of emergency response plan. Sharing of the above plan among facility employees and local authority.
Secure financial resource	Financially stable which can accommodate unexpectable situation (such as accident or closure of the facility).	Ensuring financial resource or having financial instruments (e.g. insurance).

Component	ESM criteria on facilities	Example of requirement on facilities
Ensure ESM in downstream	Ensure ESM in downstream recycling chain or destined country.	Keeping the contract with recyclers in downstream chain. (Export case) keeping contract with exporter and all the shipping documents.
Policies	Waste prevention and minimisation Care in handling, separation, collection, packaging, compaction, transportation, storage. Environmentally sound disposal.	

Source: MOEJ [178]

Stringent measures are in place to regulate plastic waste importing companies in Malaysia. Receiving facilities must carry out Environmental Impact Assesments before construction, and must comply with the requirements of the EQA on air pollution emission levels, waste water discharge standards, and more. They must also comply with JPSPN guidelines on storage of plastic waste, before APs can be issued for the importation of plastic wastes to be recycled at said premises. However, whether the regulations are regularly enforced through site visits by enforcement agencies, and whether the facilities processing imported plastic waste would comply in the absence of strict enforcement, is uncertain. The following section indicates that industrial premises in Malaysia have a long way to go before being able to meet the criteria outlined in Table 3.7 above.

[178] Ministry of the Environment, Japan. (2011, March 31). *Study on Criteria and Requirement on Environmentally Sound Management of Hazardous Wastes and Other Wastes*. Available here. (p. 12)

CHAPTER FOUR

Governing Plastic Pollution

4.1 The burning question of waste management in Japan

The Japanese government has released a vast number of reports on waste management issues in Japan.[179] According to MOEJ, of 39.42 billion kg of domestic waste generated by Japanese households in 2021, almost 80% is directly incinerated by 1,028 incinerators throughout Japan. This makes it the top OECD country in terms of municipal solid waste incineration.[180] The second-ranked OECD country, Finland, incinerates a significantly smaller proportion at 57%. It is unfortunate, then, that Japanese households take great pains to sort their household waste when most of it is simply incinerated.

Figure 4.1 shows that only 4.8% of Japan's domestic waste was recycled in 2021, while 0.9% was landfilled. 14.8% was sent for intermediate processing including at facilities such as bulky waste processing facilities, garbage composting facilities, garbage feed facilities, methanation facilities, waste-fuel facilities, other resource recovery, and processing for landfill disposal.

[179] Ministry of the Environment, Japan. (n.d.). History and current state of waste management in Japan. Available here.

[180] Ministry of the Environment, Japan. (2023, March). Japanese waste management in 2021 [translation]. Available here (p. 18).

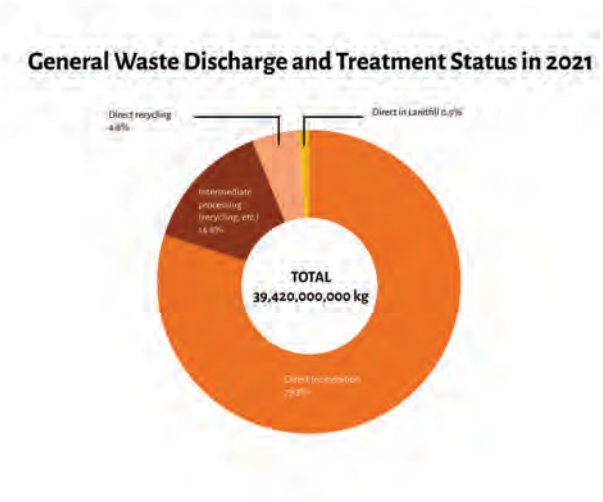

Figure 4.1: Total domestic waste and methods of disposal in Japan in 2021
Source: MOE),[181] Plastic Waste Management Institute[182]

The large number of incinerators in Japan can be traced back to its history of solid waste management. Supported by government subsidies, the number of incinerators ballooned to 1,964 in 1975, before falling to 1,189 in 2012, and 1,028 in 2021.[183] However, despite having such a high percentage of waste being incinerated, there is still a stringent sorting requirement at the household level. While opposition to incinerators have mushroomed throughout the Asia-Pacific region in recent years, there is widespread public acceptance for incinerators in Japan. This could be due to the perception that Japan is a small country that lacks land space for landfills. But several smaller OECD countries or territories such as Switzerland, Holland, Belgium, South Korea, and Hong Kong are smaller than Japan, yet do not have such a high reliance on incineration.

[181] Ministry of the Environment, Japan. (2023, March). Japanese waste management in 2021 [translation]. Available here (p. 6).

[182] Plastic Waste Management Institute. (2023). An introduction to plastic recycling 2023. Available here.

[183] Ministry of the Environment Japan (2023, March). Japanese waste management in 2021 [translation]. Available here (p. 18).

The sunk cost of constructing so many incinerators in Japan results in high costs of municipal solid waste management. The cost of municipal solid waste management is at USD350 per tonne of waste as Japan has strict emission standards and safety management requirements for the incineration facilities. This strict enforcement and monitoring helps to minimise pollution issues from the solid waste.[184] The cost also covers the disposal of fly ash post-incineration into secured landfills and material recovery facilities to separate recyclables. The average per-capita municipal solid waste management cost for the Japanese public is at USD115 per year (for a household with four persons, this will come up to USD460 per year), which is very high when compared to the cost for municipal solid waste charges in Selangor state which is at MYR6 (less than USD2) per month per household in Malaysia.[185]

Japan's incineration of municipal solid waste can be considered highly inefficient because:

- About 80% of the incinerators are extremely small with an average capacity of just 175 tonnes per day (figures from 2021). Owing to this, less than 40% have the ability to generate power to even run the facility.
- Governments have invested heavily in incinerators and this has limited the ability of the policymakers to change solid waste management systems in Japan to one that is more environmentally sustainable.
- It is inaccurate to use Japan as a model country for the successful use of waste-to-energy incinerators as it comes at a high cost to the Japanese public (USD460 per year per household of four persons) but does not generate a significant amount of energy.
- The cost of solid waste management in Japan is also pushed up by the operational expense incurred by incinerators in order to meet the strict environmental controls in the country, especially in the mitigation of air pollution and to control dioxin emissions.[186]

[184] Information from a Japanese waste management expert, online, 27 January 2024.

[185] Interview with KDEB, Shah Alam, 13 December 2023.

[186] Global Alliance for Incinerator Alternatives (n.d.). The high cost of waste incineration. Available here.

Municipalities that are too small and do not have incinerators often perform well in recycling and zero waste initiatives, such as the example provided earlier of Kamikatsu. This is because they are unable, or rather do not have the option, to incinerate their municipal solid waste, thus material recovery rate for recycling can be as high as 80%, as seen in Kamikatsu and Oki. After Japan implemented the *Containers and Packaging Recycling Law* in 1995,[187] Kamikatsu started classifying their wastes into nine types, gradually adding more.

As there were materials that no recycling companies would collect, the municipality initially installed two small incinerators in 1998, permanently ending the practice of open waste burning in the area. However, as the dioxin emissions of the incinerators were higher than the emission standards of the *Law Concerning Special Measures against Dioxins* that came into effect in 2000, the town's two incinerators had to close.[188]

Nonetheless, high recycling rates of over 80% are limited to small municipalities. Japan, as a nation, records only a 21% overall recycling rate compared to other OECD countries such as Germany at 67.5% and South Korea at 62%. There is little indication that this recycling rate will increase as the municipalities appear to be locked in by contracts to build incinerators, paying for decades through debt repayments or long-term power-purchase agreements, which incentivises securing a guaranteed stream of waste rather than minimising waste through sorting and recycling.[189] Examples from other countries have shown that waste sorting leaves incinerators short of fuel.[190] Denmark has re-sorted to importing waste to fuel its incinerators.[191]

Focusing on plastics, Figure 4.2 shows the total amount of plastic waste generated by households and industries in 2021, which amounted

[187] Plastic Waste Management Institute. (2006). Reassessment of the "Containers and Packaging Recycling Law" 10 years after enactment, and status of the "Automobile Recycling Law" 1 year and 3 months after enactment. *PWMI Newsletter*. Available here.

[188] Wu, C. (2020, September 10). Kamikatsu: Japan's zero-waste town. *Medium*. Available here.

[189] C40 Knowledge Hub. (2019, July). Why solid waste incineration is not the answer to your city's waste problem. Available here.

[190] Li, J. (2023, September 4). Four years of waste sorting leaves China's incinerators short of fuel. *China Dialogue*. Available here.

[191] Gardiner, B. (2021, April 1). In Europe, a backlash is growing over incinerating garbage. *Yale Environment 360*. Available here; Muznik, S. (2017, October 31). "Deliver or pay", or how waste incineration causes recycling to slow down. *Zero Waste Europe*. Available here; Corvellec, H., Campos, M. J. Z., & Zapata, P. (2013). Infrastructures, lock-in, and sustainable urban development: the case of waste incineration in the Göteborg Metropolitan Area. *Journal of Cleaner Production*, 50 (July 1, 2013), pp. 32-39. Available here.

to 8.24 billion kg, and the various methods of waste recovery or disposal. Only 21% of plastic waste is mechanically recycled, while around 4% was used in chemical recycling, and 62% for thermal recycling. Chemical or feedstock recycling refers to usage for blast furnaces or coke oven furnaces, gasification (using chemical raw materials) and liquefaction (oil conversion). Thermal recycling is for energy recovery, refers to densified-refuse-derived fuel (gasification), solid fuel for cement kilns, incineration with power generation, and incineration with heat utilisation facility.[192]

In the breakdown for mechanical recycling, the export of scrap plastic came up to 560 million kg, while the export of recycled material came up to 750 million kg. The Plastic Waste Management Institute attributed the higher volume of plastic scrap being processed in Japan and exported as recycled material to the Basel Plastic Waste Amendments.[193]

Interestingly, in Japan, chemical recycling is cheaper than mechanical recycling, due to the massive volume of wastes that it can process. Mechanical recycling is considered primitive technology, consisting of mainly small-scale operations which can only accept clean and sorted plastics. This results in a large percentage of residue compared to chemical recycling. In China and Malaysia, plastic recycling operations are also small in scale, particularly when compared to the waste paper recycling industry. According to an official from Japan, waste paper recycling has traditionally complemented the virgin paper industry; waste paper collection and recycling was led by the industry itself as part of paper companies' core business.

Meanwhile, plastic recycling is carried out by companies whose focus is waste management, especially when final disposal sites became limited and when Japan introduced a packaging law that offers incentives to increase recycling. Through extended producer responsibility laws, Japan has begun working to incentivise a reduction in the use of plastics by collecting fees from companies based on plastic production or plastic packaging used.[194]

[192] Plastic Waste Management Institute (2023). An introduction to plastic recycling 2023. Available here.

[193] Plastic Waste Management Institute (2023). An introduction to plastic recycling 2023. Available here (p. 7)

[194] Interview with officer involved in recycling in Japan, Nairobi, 16 November 2023.

Japan had also introduced a *Basic Policy for Comprehensive and Systematic Promotion of Measures on Waste Reduction and Other Proper Waste Management*, under the *Waste Management and Public Cleansing Law*.[195]

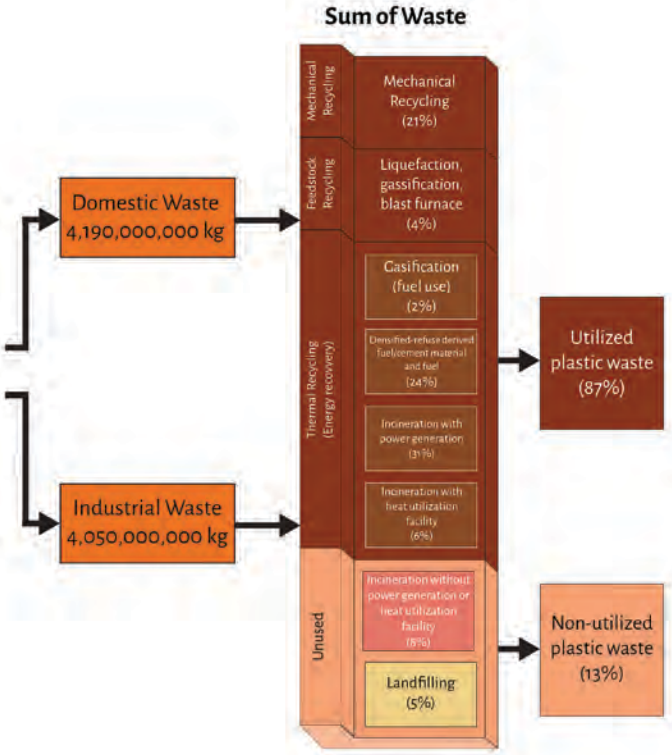

Figure 4.2: Recovery and disposal of waste in Japan in 2021
Source: Plastic Waste Management Institute (2023)[196]

[195] Ministry of the Environment, Japan. (n.d.). Basic policy for comprehensive and systematic promotion of measures on waste reduction and other proper waste management. Available here.

[196] Plastic Waste Management Institute (2023). An introduction to plastic recycling 2023. Available here (p. 7).

Waste diplomacy between Japan and Malaysia

As a regional leader, Japan maintains strong bilateral ties with many Asian countries across all sectors, encouraging investment, sharing technology, promoting economic, social, and cultural development. Aside from facilitating Japanese companies to invest in recycling ventures in Malaysia, briefly discussed in Section 3, there are other forms of international cooperation between Japan and Malaysia in terms of waste management. Over the years, Japan has collaborated with partners in Malaysia in many programmes through Japanese agencies such as JETRO, JICA, ASEAN-Japan Centre, and even ministry-to-ministry relations between MOEJ and KPKT. MOEJ implemented the Project "Overseas Development Based on Japanese Model of Environmental Technologies" since 2009, sharing knowledge on technology, regulatory systems, and environmental management capacity with other Asian countries, namely China, Indonesia, and Vietnam, based on the Japanese experience in overcoming environmental pollution.[197] Table 4.1 presents a compilation of some programmes with Malaysia.

Table 4.1: Japan-Malaysia collaboration on waste management and plastic pollution

Programme	Description
March 2006: Green Partnership Program: Plastic Waste Management and Recycling by JETRO	MPMA trainees were sent twice to Japan in March 2006 and November/December 2006 to enhance plastic waste management and recycling activities and initiatives in Malaysia, to disseminate information based on the Japanese experience, to identify and formulate strategies and action plans, and to propose future programmes. JETRO organised seminars to achieve the above objectives.
2011 October – 2013 March: KPKT-MOEJ Collaboration Project (formerly known as MHLG-MOEJ Collaboration Project)	On-going collaboration on "Cooperation on the Solid Waste Management Project in Malaysia" and "Development of a National Strategic Plan for Food Waste Management in Malaysia".
November 2014: Partnership Programme on Waste Management in Tokyo and Malaysia, by JICA	13 visitors from Malaysia toured the Recycling Centre as part of the project. In 2015, Japanese residents were to visit Malaysia in turn to continue the project.

[197] Clean Asia Initiative (2012, November). FutureCity Initiative. *CAI Newsletter*. Available here.

Programme	Description
5 September 2019: KPKT signed a Memorandum of Cooperation (MOC) with MOEJ in Tokyo. 18 March 2024: KPKT renews collaboration with MOEJ until 2026 under a Supplementary MOC.	The 2024-2026 SMOC aims to speed up Malaysia's transition to a circular economy in solid waste management by implementing programmes such as EPR, best practices and mechanisms for communication, education, and public awareness (CEPA) programmes, and a "model citizen" development programme.
2023-2024: ASEAN-Japan Young Environmental Leaders Network (AJYELN) by the ASEAN-Japan Centre	A network of young regional champions in combating the plastic pollution crisis selected from the 10 ASEAN Member States and Japan, promoting youth-led solutions to the plastic pollution issue in the region. The project theme for 2024 is "Empowering the youth in tackling marine plastic waste in ASEAN and Japan".

Source: Author compilation[198]

4.2 Regulatory challenges in Malaysia for industry and waste

In Malaysia, waste management policies and plans include the 1998 Action Plan for a Beautiful and Clean Malaysia, the 2005 National Strategic Plan for Solid Waste Management, the 2006 Master Plan on National Waste Minimization, the 2006 National Solid Waste Management Policy, and the Solid Waste Corporation Strategic Plan (2009-2013), among others. In an effort to achieve environmental sustainability by 2030, the Ministry of Environment introduced Malaysia's Roadmap to Single Use Plastic (2018-2030), which is complemented by Malaysia's Circular Plastics Economy Roadmap 2020-2030 and Malaysia's Marine Litter Roadmap 2020-2030. However, none of these policies have translated into effective waste segregation-at-source models in Malaysia.

[198] Japan External Trade Organization (JETRO). (n.d.) Green Partnership Program. *JETRO Malaysia*. Available here; Clean Asia Initiative (2012, November). FutureCity Initiative. *CAI Newsletter*. Available here; Ministry of the Environment, Japan. (n.d.). Other technology development and transfer projects in Malaysia. Available here; The Government of Japan. (n.d.). Advanced waste disposal technology makes Tokyo the cleanest city. Available here; Ministry of Housing and Local Government. (2024, March 23). KPKT renews cooperation with MOEJ [translation]. *KPKT Facebook page*. Available here; Ministry of Housing and Local Government. (2024, March 23). Bilateral kick-off meeting under Supplementary Memorandum of Cooperation between KPKT and MOEJ [translation]. *Urban Sustainability and Green Environment Division Facebook page*. Available here; ASEAN-Japan Centre. (2024, March 19). Report: ASEAN-Japan Young Environmental Leaders Network Impact Report (FY2023). Available here.

Data is lacking for municipal and industrial solid waste in Malaysia – an area which Japan offers many lessons. Several actors in the waste management sector expressed a lack of confidence in the official recycling rate released by the government, at 31.52% in 2021.[199] Solid waste management is fragmented and, depending on the location, could be governed by the state government and local authority, or the federal government.

Malaysia is a federation made up of 13 states and three federal territories. JPSPN is the federal department in charge of solid waste management policies, parked under the ministry overseeing local governments (KPKT). SWCorp is a statutory body under JPSPN and has jurisdiction over the operations of solid waste management in eight states and federal territories which have agreed to be party to the *Solid Waste and Public Cleansing Management Act 2007* enacted by the federal government – Kuala Lumpur, Putrajaya, Pahang, Johor, Negeri Sembilan, Malacca, Perlis, and Kedah. This Act was established to standardise solid waste management (including household, commercial, construction, industry etc.) and public cleansing across all local authorities regardless of income levels. The costs would be covered by the federal government with contributions from local authorities.

States which have not surrendered their powers over waste management to the federal government are Selangor, Penang, Perak, Sabah, and Sarawak, as well as the federal territory of Labuan. The differing waste management systems in the other states have hindered efforts to institute nationwide reforms for waste management. While JPSPN, the federal department in charge of solid waste management is in charge of approving APs for the import of plastic waste nationwide, the department does not deal with solid waste "mismanagement" or the consequences of their import policy in states that are not under their jurisdiction.[200]

Regulating wastes at households and regulating wastes and pollution by industries present vastly differing challenges. This report examines Malaysia as an importer of plastic waste for industrial purposes, and hence this section will focus on the challenges in regulating industry. Risks are inherent in recycling activities, including the risk of

[199] Muhammad Basir Roslan, & Sakini Mohd Said. (2022, March 10). Estimated 14 million tonnes of waste will be collected this year [translation]. *Malaysiakini*. Available here.

[200] See C4 Center's 2021 report *Malaysia is not a "Garbage Dump"*.

fires, microplastic pollution, and contamination from the wastes, and these are only for legal operations. The illegal operators would resort to dumping and open burning, causing more harm to human and environmental health.

The risks inherent in transporting and recycling the massive volumes of imported plastic waste are not risks that Malaysia is ready to handle. A study identified and measured the concentration of contaminants in recycled pellets from 28 small-scale recycling facilities in the Global South.[201] Their investigation covered facilities in Cameroon, Mauritius, Nigeria, Tanzania, and Togo in Africa as well others in Asia (including Malaysia), Europe and South America. They found 191 pesticides, 107 pharmaceuticals and 81 industrial compounds among many others in the recycled plastic pellets. Many of these chemicals could be hazardous and make the plastics unsuitable for reuse. This finding should inform regulations for recycled plastics. The chemical composition of the plastic should be checked before it is recycled.

In addition to the high risks, the economic viability of recycling is questionable. The prices that sellers of recycled pellets are willing to offer simply do not match the prices that buyers are willing to pay. Asian recyclers struggled to deliver recycled polymers at the volume, quality, and prices that their customers – mainly multinational consumer goods brands – are demanding. The market for recycled polymers has been volatile since the COVID-19 pandemic, when illegal plastic waste recycling activity in Malaysia drastically reduced. Virgin plastic feedstocks are cheaper than recycled secondary materials, and the high costs to collect and process plastic waste, especially household waste or lighter materials, simply do not add up economically.[202]

As the authors of this report were unable to gain access to recycling factories in Malaysia, this section is a compilation of images from outside the premises, and of illegal waste dumping and burning. These images illustrate the challenges faced by Malaysian authorities in the enforcement of environmental laws and regulations, as operators consistently flout the law in efforts to evade the costs of compliance. These are facilities with no APs, while Appendix 1 is a compilation of the con-

[201] Carmona, E., Rojo-Nieto, E., Rummel, C. D., Krauß, M., Syberg, K., Ramos, T. M., Brosché, S., Backhaus, T., & Almroth, B. C. (2023). A dataset of organic pollutants identified and quantified in recycled polyethylene pellets. *Data in Brief*, *51*, 109740. Available here.

[202] Hicks, R. (2024, February 9). Recycled plastic at virgin prices? Asian recyclers say market volatility making it hard to meet brands' demands. *Eco-Business*. Available here.

ditions of plastic recycling factories with the proper permits to import plastic waste.

Regulating factories

Some recycling facilities wash the plastic scraps before further processing them. Waste water effluent from these factories fall under the *Environmental Quality (Industrial Effluent) Regulations 2009* which applies to any premises which discharge or release industrial effluent or mixed effluent, onto or into any soil, or into inland waters or Malaysian waters. There are currently no parameters to monitor microplastics under the regulation and premises discharging less than 60 cubic metres of waste water per day are outside the purview of the Regulations. Figure 4.3 shows the wastewater observed at a plastic recycling factory in Bukit Minyak, with microplastics being discharged into the public drainage.

Figure 4.3: Effluent or waste water flowing from a drain of a recycling facility that has an AP, Bukit Minyak (Penang), 20 February 2024
Source: C4 Center

The *Environmental Quality (Clean Air) Regulations 2014 (CAR)* regulates the industrial emissions from factories. Several communities living near facilities have not only experienced foul toxic fumes but also seen smoke emissions that violate Regulation 12 of CAR on the opacity of emissions as shown in Figure 4.4. These factories shown in Figure 4.4 are not plastic recycling facilities, but they are common sights around industrial areas such as Telok Gong and Telok Panglima Garang in Selangor, where much plastic recycling and illegal e-waste processing take place. They highlight the challenge faced by authorities in monitoring and enforcement, especially when the DOE is often under-staffed and under-resourced. Plastic recycling factories currently do not fall under the First Schedule of CAR, which stipulates which types of activities and industries are subject to best available techniques (BAT) in air pollution monitoring.

Air pollution is also often caused by factory fires or open burning. In Figure 4.5, the improper storage of plastic waste piles led to a fire in the compound of a plastic recycling facility. Residents and communities living around industrial areas and oil palm plantations consistently face air and odour pollution from acrid fumes caused by illegal smelting or burning activities. Figure 4.6 shows several of the illegal dumpsites in Selangor and Perak being set on fire as a means of disposal. Residents living around the dumpsites actively lodged complaints about air pollution and resulting respiratory illnesses. Some burnings of trash are small in scale, carried out by factories looking for a low-cost fix to their waste problem. Attempts have been made by government members to solve issues in large dumpsites in Klang, Selangor. They were unsuccessful as the sheer scale of the trash was simply too expensive to clear, leaving the trash mountain vulnerable to fires.[203] While open burning and open dumping are strictly illegal and punishable by law, few perpetrators have been caught and prosecuted in Malaysia.

[203] Muslim, N. (2023, May 12). Residents near huge illegal dumpsit in Kapar 'waiting to exhale'. *Bernama*. Available here; Hajar Umira Md Zaki. (2023, October 10). Report: Hundreds of thousands of residents near Klang suffer from illegal industrial waste dump, gas from scavengers' fire. *Malay Mail*. Available here.

Figure 4.4: Clear violation of air pollution regulations, Rasa (Selangor), 7 January 2023; Telok Panglima Garang (Selangor), 7 November 2023

Source: Kuala Langat Environmental Action Association; C4 Center

Figure 4.5: Plastic recycling factory on fire, Telok Panglima Garang (Selangor), 8 December 2023

Source: Local residents

Figure 4.6: Open burning of illegal dumpsites in Klang and Kuala Langat (Selangor) and Ipoh (Perak), October 2023
Source: C4 Center

Developments since the Plastic Waste Amendments

In 2018, when the plastic waste trade crisis exploded, foreign journalists arrived in Malaysia by the droves looking for plastic packaging waste from their countries. Until today, activists in Malaysia continue to receive enquiries about whether wastes from a certain country were found in the country. However, as enforcement actions increased and supply chain brokers as well as recyclers became more wary, the illegal smuggling of post-consumer waste into Malaysia significantly decreased. The illegal dumpsites, however, continued to grow, with post-consumer plastic waste replaced by shredded plastic or plastic flakes. The flakes are microplastic, making it impossible to identify the origins of the waste, as shown in Figure 4.7.

Sources in the waste management business offered several explanations of what this processed plastic scrap might be. Some scrap appeared to be electronic plastics like acrylonitrile butadiene styrene (ABS), some smelled like PVC when burnt and some were treated by a solvent. Some appeared to be shredded "lumps" – contaminated material filtered out during the extrusion process in mechanical recycling. No conclusive answers were given by our sources, except that these are rejects from waste processing, likely to be imported waste as they were not ubiquitous in illegal dumpsites before 2018.

Figure 4.7: New forms of plastic waste being dumped, collected between May 2022 to December 2023 in Selangor and Kedah
Source: C4 Center

Plastic waste linked to Japan found in Malaysia

The four images below show plastic waste likely from Japan or linked to Japan found in illegal dumpsites all around Malaysia. Despite Japan's stringent measures on exports and repeated alerts to exporters, some unrecyclable plastic waste still escapes its borders. The global nature of plastic pollution highlights how all countries must come together to redesign products and shift away from using toxic materials.

Figure 4.8: Japanese plastic tubes found in Pulau Indah (Selangor), January 2020 to June 2022
Source: C4 Center; Farhan Nasa

Figure 4.9: Japanese plastic tubes, sachets, and parts found in Pulau Indah (Selangor), May 2022 to December 2022
Source: Farhan Nasa

Figure 4.10: Japan-linked electronic plastics dumped illegally, Ipoh (Perak), 23 February 2024
Source: C4 Center

Figure 4.11: Electronic plastics with Japanese characters found in an illegal dumpsite opposite a plastic waste recycling facility, Telok Panglima Garang (Selangor), 18 January 2024
Source: C4 Center

Suspicious activities around factories

Several factories with no AP could be processing imported plastic wastes, either actively participating in waste trafficking, or just processing waste brought in by other parties which was sold to them. Figure 4.12 shows several factories that do not even have signage at their gate to indicate that they are legitimate businesses. For the facility shown in Figure 4.13, an activist from the US placed a tracker in her Amazon packaging which she sent for "store drop-off recycling" in San Clemente, California. The bag was not recycled in the US; the tracker led her to this address in Malaysia, and it is uncertain whether the mixed plastic wastes was actually recycled.[204] This facility also does not have an AP.

[204] Winters, J. (2024, March 20). *Amazon says its plastic packaging can be recycled. An investigation finds it usually isn't.* Grist. Available here.

Figure 4.12: Abandoned facilities with abandoned feedstock. [L-R, T-B] Abandoned facility with abandoned feedstock, Sungai Petani (Kedah), 20 February 2024; active facility with no signage, Telok Gong (Selangor), 7 February 2024; facility with no signage and large stockpile, Klang (Selangor), 7 February 2024; facility with no signage within the vicinity of recent raids on illegal e-waste processing plant, Seremban (Negeri Sembilan), 23 February 2024
Source: C4 Center

Figure 4.13: Plastic recycling factory with no AP, Seremban (Negeri Sembilan), 23 February 2024
Source: C4 Center

Figure 4.14: An empty lot filled with plastic wastes, allegedly owned by a nearby PVC company, Rasa (Selangor), 7 January 2023 and 19 November 2023
Source: C4 Center

The facility shown in Figure 4.14 is also suspected to be involved in processing imported waste without an AP. Because it does not hold an AP, and it is located in Selangor which does not fall under the jurisdiction of JPSPN when it comes to waste management, JPSPN has no power to regulate its storage or mismanagement of plastic waste. The ground was strewn with microplastics. Some samples of the waste found at this site is shown in Figure 4.15, likely from the US and Japan. However, it is uncertain whether the plastic wastes were shipped before or after the Basel Plastic Waste Amendments came into force in 2021.

Figure 4.15: Samples found at an empty but fenced land, piled high with plastic wastes, Rasa (Selangor), 7 January 2023
Source: C4 Center

Figure 4.16 shows another facility licenced to recycle domestic paper and plastic waste, but also potentially processing imported waste without an AP. Multilayer packaging from Türkiye was found among its stockpiles. This facility is located far from the ports, in the northern parts of Selangor, close to forested water catchment areas. As all sorts of wastes began to be shipped to Malaysia for further processing, this area has become notorious for air pollution caused by smelters in the facilities. Meanwhile, Figure 4.17 illustrates another area known for dubious activities, close to Port Klang, where a facility with the signage of a biscuit company is surround by plastic and electronic wastes.

Figure 4.16: Massive recycling facility piled high with stockpiles, Rasa (Selangor), 5 November 2023
Source: C4 Center

Figure 4.17: A factory with the signage of a biscuit factory full of plastic waste in its premises and surrounding it, Meru (Selangor), 7 February 2024
Source: C4 Center

CHAPTER FIVE

Conclusion: The Global Plastic Treaty Must End Waste Colonialism

This report highlights the major challenge of ensuring that plastic waste, domestic or imported, is managed in an environmentally sound manner. Section 3 reviewed Japan's strict requirements for plastic waste exporters to comply with. In addition, Malaysia is one of the best among non-OECD countries in terms of infrastructure for plastic recycling, and among the top in Southeast Asia when it came to enforcement efforts to stop the illicit plastic waste trade. Yet, imported plastic waste (including electronic plastics) continues to devastate landscapes across Malaysia, affecting the health of communities and workers, and polluting the air, soil, and water bodies.

Japan's plastic waste exported to Malaysia may be clean, homogenous, and soundly managed, and waste trafficking from Japan may be strictly prohibited and monitored. This was precisely what this research intended to explore – how plastic waste could be properly managed. But the lack of transparency around supply chains, the secrecy of plastic recycling facilities, and the difficulty in accessing data from both governments have rendered it difficult for the researchers to verify these claims. This does not instil public confidence in the industry.

Information about the types of plastic waste being traded, where they are being sent to in destination countries, and how they are being

processed is largely unknown. To investigate these questions, journalists in the US and Europe,[205] as well as NGO Basel Action Network,[206] have successfully used GPS trackers to trace the trade routes of e-waste and plastic waste. Due to resource constraints, this research project was unable to work with GPS trackers, and instead relied on interviews and field research to gather data. Section 4 presented findings from site visits. This approach taken by the research team revealed a severe lack of transparency and accountability with regards to plastic waste imports to Malaysia, as well as the impacts of the legitimate and illicit plastic waste trade on the country.[207]

5.1 Misplaced focus on downstream solutions to plastic pollution

During INC-4, several countries including Russia, the Gulf countries, and Japan submitted positions which emphasised plastic waste management at the downstream level for the agreement on ending plastic pollution. This is concerning as it perpetuates business-as-usual approaches to plastic waste generation, relying on technologies that have thus far not managed to address the problem. Japan made the following submissions to the UNEP secretariat regarding text being negotiated for the instrument, reflecting their focus on waste management, summarised in Table 5.1.

[205] Gutman, M., Simon, E., Park, C., Simpson, T., Kofsky, J., Schlosberg, J., Brooksbank, T., Yamashita, S., & Kim, S. R. (2023, May 24). We put dozens of trackers in plastic bags for recycling. Many were trashed. *ABC News*. Available here.

[206] Basel Action Network (2017). *The "Scam Recycling" Continues an Update of E-Waste Exportation from Ban's E Trash Transparency Project -- Phase 2*. Available here.

[207] Researchers for this project welcome any available information that would disprove the findings of this report. Data made available will be considered for future editions or publications.

Table 5.1: Japan's submissions at INC-3

Category	Text	Source
Japan's text proposal for the definition of "plastic pollution"	Plastic pollution could be considered as the negative effects and emissions resulting from the production and consumption of plastic materials and products across their entire life cycle; A major focus could be on *plastic waste that is mismanaged* and *leakage and accumulation of plastic objects and particles* that can adversely affect humans and the living and non-living environment [emphasis added].	https://resolutions.unep.org/resolutions/uploads/japanplasticpollution.pdf
Japan's proposal for "Objective" of the instrument	The objective of this instrument is to end plastic pollution, and to protect human health and the environment, including in the marine environment, with the ambition to prevent, progressively reduce and eliminate *additional plastic pollution* throughout the life cycle of plastic by 2040 and enhanced efforts thereafter [emphasis added].	https://resolutions.unep.org/resolutions/uploads/japanobjective_0.pdf
Japan's intervention at Contact Group 3, 15 November 2023	On the common but differentiated responsibilities…Japan believes that plastic pollution is occurring throughout the global value chain and *plastic leakage into the environment not only from developed countries but also from developing countries* in part due to insufficient environmentally sound waste management. *Plastic pollution is an issue that all countries should address*, and therefore, Japan considers it is not appropriate to have a specific reference to the common but differentiated responsibilities. Particularly, we would oppose to having different obligations for different groups of countries [emphasis added].	https://resolutions.unep.org/resolutions/uploads/japan_definitionprinciple.pdf

Category	Text	Source
CG1: Japan's text Proposal on core obligations (Part II, Item 7 to 13)	Production restrictions could be considered *only when other measures do not produce results*, and even then, circumstances of each country should be taken into account [emphasis added].	https://resolutions.unep.org/resolutions/uploads/japan_16112023_core_obligations_part_ii_item_7_to_13.pdf
CG1: Japan's text Proposal on core obligations (Part II, Item 7 to 13)	b. Transboundary movement of plastic waste. Since the Basel Convention already regulates the transboundary movement of plastic waste, it is indispensable to carefully discuss whether this provision is necessary in the first place from the perspective of avoiding duplication with existing conventions. We understand that this provision is intended to regulate plastic waste with almost free from contamination which is not currently regulated by the Basel Convention, but *we should not prevent appropriate transboundary movements of such wastes for recycling in environmentally sound manner*. We should prioritise to create recycling system in environmentally sound manner to combat plastic pollution. Imposing uniform import/export restrictions or elimination without taking into account whether different processing capacities in each country, as well as the appropriate transboundary movement will impede free trade. Taking into consideration the related discussions that have been held under the WTO and UNCTAD, we should first discuss what kind of regulation is necessary for what among plastic wastes. Since regulations are already in place for plastic waste under the Basel Convention, it is necessary to carefully organize the scope of regulations for imports and exports in relation to the Basel Convention to avoid overlapping. Creating a similar system under the Plastic treaty without working on this clarity will lead to confusion. If there are specific wastes whose import/export should be regulated, we should first consider whether the Basel Convention, *which already has a well-established Prior Informed Consent procedure system*, can be used for this purpose [emphasis added].	https://resolutions.unep.org/resolutions/uploads/japan_16112023_core_obligations_part_ii_item_7_to_13.pdf

The submissions above illustrate Japan's belief that focusing on downstream measures can effectively end plastic pollution. However, even a country with such a stellar record of waste management like Japan exports its plastic waste to non-OECD countries that may be less capable of handling the waste. The Basel Convention indeed has a well-established PIC procedure. But this report indicates that while guidelines on the PIC procedure are in place, they do not appear to be adhered to, as seen in the case of Malaysia where PIC notifications do not match the volume of PVC waste imported into the country. There is also no effective mechanism that can ensure that the exported waste is managed in an environmentally sound matter.

It follows that a focus on downstream measures is highly inadequate to manage plastic pollution. A crucial step in creating a safe, non-toxic, and ethical global circular economy is the responsibility of all parties. Within the human rights framework, states have a duty to uphold, promote, and protect human rights, while businesses have a duty to respect human rights. Plastic pollution is a clear violation of communities' right to a healthy environment worldwide.

Japan rightly said that "*Plastic pollution is an issue that all countries should address*", and the country submitted that "*production restrictions could be considered only when other measures do not produce results*". Years of Japan-Malaysia relations have produced minimal results in enhancing Malaysia's waste management system. Production restrictions, waste minimisation, and an end to plastic waste exports must be considered now, to prevent further harm to environmental and human health.

5.2 Key findings

1. Plastic is the problem.

Too many studies on plastic pollution have begun with the caveat that the problem lies not in the material, but in how the material is used or disposed of. This study argues that the inherent problem lies in the nature of the material itself – the extraction of its raw material, the way it is designed for single use, the physical toxicity of plastics, the chemical toxicity of the additives in plastics, and more.

Plastic is created out of by-products from the oil and gas industry, a virgin material that comes at a low price, backed by large petrochemical corporations which have an interest in ensuring the expansion of

its use. The material is not sourced from the natural world, where raw materials are limited and rapidly depleting, coupled with high costs of extraction, which incentivise industry to source for recycled secondary materials. This can be seen in the different ways that the pulp and paper industry and the plastics industry in Japan manage paper and plastic wastes.

The prevailing narrative on plastic pollution currently states that plastic is important to humanity, but it causes certain harms that need to be managed. However, to galvanise real efforts to end plastic pollution, it is imperative for the global community to shift the narrative to, firstly, acknowledge the pollution caused by plastic (not only plastic waste) across its lifespan and the urgent need to take precautions to limit its harm, and secondly, accept that while there are currently no better alternatives for certain applications of plastic, research and development to redesign products must be prioritised.

2. There is a lack of transparency and traceability in global and local plastic waste recycling supply chains.

Plastic waste recycling is being touted as a key solution to plastic pollution, but the lack of information surrounding the types of plastic waste is being traded, where they are destined for recycling or final disposal, and how the environmentally sound management of plastic waste is carried out in practice are causes for concern. The Basel Convention provides for the PIC procedure to govern the trade of regulated wastes, where importing countries must give their consent before exports can be allowed. However, there is currently no public accountability on whether the PIC procedure is being used, and whether it is adequate to control the trade of regulated wastes.

This is problematic as the consequences of the waste trade have very real impact on the communities living around the facilities where the wastes are destined. To better quantify the costs, benefits, and implications of plastic recycling, in this era of environmental, social, and governance standards, the plastic recycling industry in Malaysia would benefit from being more transparent in their recycling processes, and how they comply with environmental and occupational health and safety regulations. The lack of access to information concerning the plastic waste imports and processing in Malaysia also means that local communities are less able to report illicit plastic waste recycling in their neighbourhoods.

3. Plastic recycling in Malaysia may not be carried out in an environmentally sound manner.

The apprehension of plastic recycling operators in engaging with researchers begs the question of why there is a need for such secrecy. If plastic waste is not processed in an environmentally sound manner, this will cause Japan to violate the Basel Convention as they are sending millions of tonnes of plastic waste to Malaysia. The preliminary findings of this research point to potential illegalities surrounding the plastic waste trade, and a high prevalence of industrial operations flouting environmental laws. Exporting plastic waste to a system already burdened by challenges in enforcement and monitoring, and in waste management, will inadvertently lead to more plastic mismanagement and pollution. In addition, plastic degrades with each round of recycling, and this downcycling of plastics only delays its final disposal, while producing hazardous by-products. This glaring loophole of plastic waste exports should not be included in a multilateral environmental agreement to end plastic pollution.

4. Focusing on downstream measures to end plastic pollution is highly inadequate, especially when domestically generated plastic waste continues to increase and is exported.

Downstream measures have been unable to cope with the exponential increase in plastic production, consumption, and waste generation since the 1990s, and are unlikely to be able to do so if drastic measures are not taken to curb the problem at source. Current mainstream waste management practices for plastic waste are not sustainable, including waste incineration, landfilling, and the export of plastic waste for recycling. The harms of incineration and its climate impacts have been discussed extensively in other reports.[208]

As for the waste exports, once the plastic waste is sent abroad, the country of origin where the waste was generated would have given up all control over how that waste is managed, whether leakage will happen, and whether the waste would end up polluting soil, rivers, or seas. This case study of Malaysia, ostensibly a country with one of the most advanced recycling infrastructures amongst non-OECD countries, demonstrates that the export of plastic waste cannot be considered proper management of plastic waste. This point is further strengthened

[208] Global Alliance for Incinerator Alternatives (n.d.). *False Solutions to the Plastic Pollution Crisis*. Available here.

considering the high levels of illegality surrounding the waste trade.

5. Governing the plastic waste trade is not just a matter of economics and the environment.

The disastrous impacts of the illegal plastic waste trade, for recycling and further disposal, on workers, communities, and environments have been well documented across the world.[209] But even the legitimate plastic waste trade cannot be assessed as purely a matter of trade and economics. In view of the urgent need to address plastic pollution, when exporting plastic waste, governments should consider the politics and culture of the destination countries, their capacity to tackle domestic waste management issues, their capabilities in monitoring the environmentally sound management of waste, as well as their ability to deal with waste trafficking. These are on top of existing domestic waste management problems.

Waste management is complex, fragmented, and underdeveloped in Malaysia. As Malaysia is one of the top importers of plastic waste globally, this means that there is sufficient infrastructure and capacity to process and recycle a large volume of plastic waste. Yet, the country struggles to implement domestic waste separation-at-source, domestic recycling, and even basic rural waste collection, much less littering, fly-tipping, and illegal open dumping.

6. Existing loopholes in Malaysia's governance of the plastic waste trade, processing, and disposal increase the risk of waste trafficking crimes and petty corruption.

Malaysia not only faces the challenge of waste management, but also one of corruption. Facilities holding plastic waste import permits continue to flout guidelines openly, and there is a consistent prevalence of waste smuggling, illegal processing, and dumping. Existing loopholes in Malaysia's governance of the plastic waste trade, processing, and disposal, particularly in border control as well as local governance, increase the risk of waste trafficking crimes and petty corruption. Corruption risks may involve bribery, collusion to avoid inspection, abuse of power, money laundering, and others. Environmental crimes will exacerbate plastic waste mismanagement, which will end up as marine debris, adding to the global problem that will affect Japan as well.

[209] See the examples given in Section 1.

5.3 Recommendations for further research

Due to limitations in resources and lack of access to data, this research report was unable to draw conclusive findings on where Japanese plastic waste exports end up, or whether environmentally sound management of plastic waste exists in Malaysia. Many areas exist for further research, including:

- how MOEJ verifies the information provided by plastic waste exporting companies applying for permits;
- how Japanese exporting companies ensure that their shipments are destined for plastic recycling in an environmentally sound manner;
- who are the Malaysian companies importing plastic waste from Japan;
- how the Malaysian importing companies ensure that only clean waste is shipped;
- what are the treatment processes for recycling the plastic waste in Malaysia;
- how the plastic wastes are being recycled in an environmentally sound manner;
- how much residual waste is generated by the processes and how the waste is disposed of;
- how much recycled plastic pellets are absorbed by domestic Malaysian manufacturers and how much is exported; and
- what are the costs and benefits of importing plastic waste to Malaysia.

5.4 Time to end waste colonialism towards reduction and reuse

The state and implications of plastic pollution constitute an urgent global crisis and must be addressed as such. Viewing the crisis merely as an inconvenience to be overcome will only lead to inadequate measures. Plastic recycling has not worked thus far to mitigate plastic pollution, not even for Asia's role model for waste management, Japan, considering that Japan exports plastic waste to non-OECD countries that may mismanage the waste. Plastic recycling cannot be a core solution to plastic pollution while plastic production continues to expand.

The UNEP Global Waste Management Outlook 2024 titled "*Beyond an age of waste: Turning rubbish into a resource*" reported that municipal solid waste is set to rise by two-thirds from 2.3 billion tonnes in 2023 to 3.8 billion tonnes by 2050. The costs to manage it will almost double within a generation. In 2020, the global direct cost of waste management was an estimated USD 252 billion per annum. If the hidden costs of pollution, poor health, and climate change from poor waste disposal practices are included, a burden carried by already marginalised communities, the cost rises to USD 361 billion. By 2025, this global cost could almost double to USD 640.3 billion. Only a drastic reduction in waste generation will be sustainable, affordable, and can sufficiently protect people and the environment across the world. Japan's generation of plastic waste and the export of these vast volumes of waste have become indefensible.

The UNEP report emphasised the pivotal role of decision-makers in the public and private sectors to move towards zero waste. Its modelling showed that getting waste under control by taking waste prevention and management measures could limit net annual costs by 2050 to USD 270.2 billion. All countries urgently need to shift to a zero-waste approach, while improving waste management to prevent significant pollution, greenhouse gas emissions, and negative impacts to human health.[210]

Japan has had decades of experience in waste minimisation. Waste generation and plastic waste exports have admittedly been reducing

[210] UN Environment Programme (2024, February 28). *World must move beyond waste era and turn rubbish into resource: UN Report*. Available here; UN Environment Programme. (2024, February 28) *Global Waste Management Outlook 2024*. Available here.

over time. The time is ripe to phase out the exports of plastic waste, and to focus on upstream measures to reduce plastic production. Malaysia should learn from neighbouring Thailand, which has decided to phase out plastic waste imports and focus resources on building capacity in domestic waste collection to feed the existing infrastructure in waste processing. Importantly, Malaysia has much to learn from Japan in managing the waste industry - data collection, regulation, compliance, and more. Japan and Malaysia – the former with 1,028 waste incinerators, and the latter only just embarking on a journey to expand the number of incinerators – would do well to learn from China's experience of ending the trade of wastes and instead, focus on domestic waste reduction, segregation, and recycling.

This is not the first time the world has come together to find solutions to a global problem. Several other multilateral environmental agreements such as the Montreal Protocol offer a way forward.[211] The negotiations towards an international legally binding instrument on plastic pollution, including in the marine environment, must work to end plastic waste colonialism in the name of "recycling", and focus on upstream solutions to reduce plastic production and eliminate toxics by regulating the chemicals in plastics.

[211] Kirk, E. A. (2020). The Montreal Protocol or the Paris Agreement as a Model for a Plastics Treaty? American Journal of International Law, 114, 212–216. Available here; Center for International Environmental Law. (n.d.) Trade Provisions in Multilateral Environmental Agreements: Key Elements for Consideration in the Context of a Treaty to End Plastic Pollution. Available here.

Appendix 1

Conditions of Selected Factories that have held Import Permits for Plastic Waste[212]

[212] The research team was unable to secure permission to visit any plastic waste processing facility to learn about their processes and find out how plastic waste can be managed in an environmentally sound manner. As such, the images here of the premises were captured by the authors of this report to provide an indication of the conditions in which plastic waste is being managed in Malaysia or were screenshots of images from Google Maps.

Plastic waste stockpiles with no roof nor concrete flooring

(plastic recycling companies 1 - 15)

Company 1

(stockpiles with no roof nor concrete flooring)

Import Permit (AP)[213] **Status**: AP holder, 2020-2023

Location: Selangor

Date: 21 December 2023, 30 January 2024

Branch of similarly named company which held AP for 2022-2023 did not exist at its listed address in Selangor.

[213] The country list of AP holders from 2019 to 2021 was provided by JPSPN. For 2022 and 2023, the list of AP holders only for the state of Selangor was provided by JPSPN to the Selangor State Assembly and the Parliament respectively.

Company 2

(stockpiles with no roof nor concrete flooring)

Import Permit (AP) Status: AP holder, 2019-2023
Location: Selangor
Date: 7 November 2023

Company 3

(stockpiles with no roof nor concrete flooring)

Import Permit (AP) Status: AP holder, 2022-2023
Location: Selangor
Date: 7 November 2023

Company 4

(stockpiles with no roof nor concrete flooring)

Import Permit (AP) Status: AP holder, 2021-2023.

Location: Selangor
Date: 2 October 2023

Neighbouring premise with no signage.
Date: 2 October 2023

Company 5

(stockpiles with no roof nor concrete flooring)

Import Permit (AP) Status: AP holder, 2020-2023.
Location: Selangor
Date: 2 October 2023

Company 6

(stockpiles with no roof nor concrete flooring)

Import Permit (AP) Status: AP holder, 2019-2023.

Location: Selangor

Date: 7 February 2024

Company 7

(stockpiles with no roof nor concrete flooring)

Import Permit (AP) Status: AP holder, 2019-2023
Location: Selangor
Date: 28 January 2023

Company 8

(stockpiles with no roof nor concrete flooring)

Import Permit (AP) Status: AP holder, 2022
Location: Selangor
Date: 7 November 2023

Company 9

(stockpiles with no roof nor concrete flooring)

Import Permit (AP) Status: This company in Selangor does not hold an AP.

A company with the same name in a different address in the state of Johor is an AP holder for 2019-2021. Status of AP for company located in Johor is unkown for 2022-2023.

Location: Selangor
Date: 1 October 2023, 6 December 2023, 18 January 2024





Company 10

(stockpiles with no roof nor concrete flooring)

Import Permit (AP) Status: AP holder, 2020-2021. Status unkown for 2022-2023.
Location: Perak
Date: 4 November 2023

Company 11

(stockpiles with no roof nor concrete flooring)

Import Permit (AP) Status: AP holder, 2019-2023.

Location: Perak

Date: 3 November 2023

Company 12

(stockpiles with no roof nor concrete flooring)

Import Permit (AP) Status: AP holder, 2019-2021. Status unkown for 2022-2023.
Location: Perak
Date: 26 January 2024

Company 13

(stockpiles with no roof nor concrete flooring)

Import Permit (AP) Status: AP holder, 2019-2021. Status unkown for 2022-2023.
Location: Perak
Date: 26 January 2024

Company 14

(stockpiles with no roof nor concrete flooring)

Import Permit (AP) Status: AP holder, 2019-2021. Status unkown for 2022-2023. Subsidiary company in Selangor is an AP holder, 2019-2023.

Location: Kedah
Date: 9 January 2023, 20 February 2024

Company 15

(stockpiles with no roof nor concrete flooring)

Import Permit (AP) Status: AP holder, 2019-2021. Status unkown for 2022-2023.
Location: Kedah
Date: 19 February 2024

Plastic waste stockpiles protected from the elements

(Plastic recycling companies 16-20)

Company 16

(stockpiles protected from the elements)

Import Permit (AP) Status: AP holder, 2019-2023.
Location: Selangor
Date: 7 February 2024

Company 17

(stockpiles protected from the elements)

Import Permit (AP) Status: AP holder, 2019-2023.
Location: Selangor
Date: 7 February 2024

Company 18

(stockpiles protected from the elements)

Import Permit (AP) Status: AP holder, 2019-2023
Location: Selangor
Date: 28 January 2024

Premises below are linked to the same company, but have reportedly ended operations, according to nearby residents.
Date: 28 January 2024

Company 19

(stockpiles protected from the elements)

Import Permit (AP) Status: AP holder, 2019-2023.
Location: Selangor
Date: 7 February 2024

Company 20

(stockpiles protected from the elements)

Import Permit (AP) Status: AP holder, 2019-2020, 2022-2023.
Location: Selangor
Date: 7 February 2024

Plastic waste stockpiles hidden from view

(companies 21-23)

Company 21

(stockpiles hidden from view)

Import Permit (AP) Status: AP holder, 2019-2023.
Location: Selangor
Date: 7 February 2024

Company 22

(stockpiles hidden from view)

Import Permit (AP) Status: AP holder, 2022-2023.
Location: Selangor
Date: 7 February 2024

Company 23

(stockpiles hidden from view)

Import Permit (AP) Status: AP holder, 2019-2021. Status unknown for 2022-2023.
Location: Perak
Date: 27 January 2024

Appendix 2
Overview of Basel Convention's Governance Mechanisms on Plastic Waste Trade

The Secretariat of the Basel, Rotterdam and Stockholm Conventions published a study titled Global Governance of Plastics and Associated Chemicals[214] in 2023, mapping the fragmented governance of plastics and plastic-related chemicals by existing international agreements. The report identified governance gaps and examined complementarities with existing multilateral instruments in the context of ongoing intergovernmental efforts to end plastic pollution. The study also outlined possible mechanisms to address the full life cycle of plastics; prevent adverse effects on human health and the environment; and promote sustainable production and consumption of plastics, including, among others, product design, and environmentally sound waste management, including through resource efficiency and circular

[214] Secretariat of the Basel, Rotterdam and Stockholm Conventions (BRS). (2023). Global governance of plastics and associated chemicals. UN Environment Programme. Available here.

economy approaches.

Appendix 2 of the *Global Governance* report mapped legally binding multilateral instruments that could address plastics and associated chemicals. Annex II reproduces below the sections related to the Basel Convention as a reference to how the Convention currently addresses plastics and associated chemicals (p. 128-154).[215] Another important reference document related to governance of plastic waste is the *Technical guidelines on the environmentally sound management of plastic wastes*[216] that was negotiated among Parties at the Basel Convention COP-16 in 2023, but is too extensive to be reproduced here.

1. Material Phase – Manufacture

Broader measures indirectly encompassing plastics and associated chemicals

Goals and targets:

- The **Basel Convention** acknowledges that the most effective way of protecting human health and the environment from the dangers posed by such wastes is the reduction of their generation to a minimum in terms of quantity and/or hazard potential (Preamble).

2. Material Phase – Consumption

Broader measures indirectly encompassing plastics and associated chemicals

Goals and targets:

- The **Basel Convention** requires each Party to ensure the generation of hazardous wastes and other wastes is *reduced to a minimum* (Art. 4), recognising that this should be achieved in terms of quantity and/or hazard potential (Preamble).

[215] The actual Appendix 2 of *Global Governance* (2023) includes other legally binding multilateral instruments such as the Stockholm Convention (Persistent Organic Pollutants), Montreal Protocol (ozone-depleting substances), Minamata Convention (mercury), ILO Chemicals Convention 1990 (No. 170), Rotterdam Convention (hazardous chemicals), MARPOL Annex V (garbage into sea), London Convention and London Protocol (waste dumping at land and sea), and more. Importantly, governance frameworks from the across the lifespan of plastics were identified – sourcing phase (extraction), chemical phase (production), material phase (manufacture), material phase (consumption), dematerialisation phase (waste collection and sorting), dematerialisation phase (waste recovery and final disposal), and dematerialisation phase (remediation).

[216] Basel Convention. (2023, May 25). Technical guidelines on the environmentally sound management of plastic wastes. *UN Environmental Programme*. Available here.

3. Dematerialisation Phase – Waste Management (collection/sorting)

Measures directly related to chemicals in plastics

Chemicals/materials/products and activities to be phased out:

- The **Basel Convention** prohibits the exports of hazardous plastic wastes intended for final disposal or recovery operations from countries listed in Annex VII to the Convention (Parties and other States which are members of the OECD, EC, Liechtenstein) to all other countries not listed in that Annex.
    - This was achieved through adoption of the Basel Ban Amendment (Decision III/1), which came into force in 2019 and is only binding on those countries that have ratified the Amendment

International trade of material/product:

- The **Basel Convention** lists plastic wastes in 3 Annexes. Annex VIII and Annex IX provide specific details on the types of plastic wastes covered by their entries, with Annex II providing a "catch-all" entry for all other plastic waste, including mixtures of waste.
    - **Annex II** (Wastes requiring special consideration and is subject to the PIC procedure) - **Entry Y48:**[217]
        - All plastic waste, including mixtures of such waste, except for the following:
            - Hazardous plastic waste covered by Annex VIII, entry A3210
            - Following plastic waste that is destined for recycling[218] in an environmentally sound manner and almost free from contamination and other types of wastes:[219]

[217] Parties can impose stricter requirements in relation to this entry.

[218] Recycling/reclamation of organic substances that are not used as solvents (R3 in Annex IV, sect. B) or, if needed, temporary storage limited to one instance, provided that it is followed by operation R3 and evidenced by contractual or relevant official documentation.

[219] In relation to "almost free from contamination and other types of wastes", international and national specifications may offer a point of reference.

- Plastic waste almost exclusively consisting of one non-halogenated polymer;
- Plastic waste almost exclusively consisting of one cured resin or condensation product of certain resins;
- Plastic waste almost exclusively consisting of one of the fluorinated polymers listed therein.

- Mixture of plastic waste, consisting of polyethylene (PE), polypropylene (PP) and/or polyethylene terephthalate (PET), provided they are destined for separate recycling of each material and in an environmentally sound manner and almost free from contamination and other types of wastes.

- **Annex VIII** (Waste considered hazardous and is subject to the PIC procedure) - **Entry A3210:**
  - Plastic waste, including mixtures of such waste, containing or contaminated with Annex I constituents, to an extent that it exhibits hazardous characteristics listed in Annex III.
- **Annex IX** (Waste presumed not to be hazardous and is not subject to the PIC procedure) - **Entry B3011:**
  - Plastic waste listed below, provided it is destined for recycling[220] in an environmentally sound manner and almost free from contamination and other types of wastes:[221]
  - Plastic waste almost exclusively[222] consisting of one non-halogenated polymer, including but not limited

[220] In relation to "almost exclusively", international and national specifications may offer a point of reference.

[221] Recycling/reclamation of organic substances that are not used as solvents (R3 in Annex IV, sect. B) or, if needed, temporary storage limited to one instance, provided that it is followed by operation R3 and evidenced by contractual or relevant official documentation.

[222] In relation to "almost exclusively", international and national specifications may offer a point of reference.

to the following polymers:

- Polyethylene (PE)
- Polypropylene (PP)
- Polystyrene (PS)
- Acrylonitrile butadiene styrene (ABS)
- Polyethylene terephthalate (PET)
- Polycarbonates (PC)
- Polyethers

◇ Plastic waste almost exclusively consisting of one cured resin or condensation product, including but not limited to the following resins:

- Urea formaldehyde resins
- Phenol formaldehyde resins
- Melamine formaldehyde resins
- Epoxy resins
- Alkyd resins

◇ Plastic waste almost exclusively consisting of one of the following fluorinated polymers:[223]

- Perfluoroethylene/propylene (FEP)
- Perfluoroalkoxy alkanes:
  - Tetrafluoroethylene/perfluoroalkyl vinyl ether (PFA)
  - Tetrafluoroethylene/perfluoromethyl vinyl ether (MFA)
- Polyvinylfluoride (PVF)
- Polyvinylidenefluoride (PVDF)

◇ Mixtures of plastic waste, consisting of PE, PP and/or PET, provided they are destined for separate re-

[223] Post-consumer wastes are excluded.

cycling[224] of each material and in an environmentally sound manner, and almost free from contamination and other types of wastes.[225]

- The **Basel Convention** prohibits the exports of hazardous plastics wastes intended for final disposal or recovery operations from countries listed in Annex VII to the Convention (Parties and other States which are members of the OECD, EC, Liechtenstein) to all other countries not listed in Annex VII. This was achieved through adoption of the Basel Ban Amendment (Decision III/1) and is only binding on those countries that have ratified the Amendment.
- The **Basel Convention** has been amended to include provisions for e-waste (much of which contain plastics). The amendments come into effect 1st January 2025 and include:
  - **Annex II** (Waste requiring special consideration and is subject to the PIC procedures) - **Entry Y49:**
    - All e-wastes, components thereof and wastes resulting from e-waste processing (e.g. fractions from shredding), unless covered by Annex VIII, entry A1181
  - **Annex VIII** (Waste presumed to be hazardous and subject to the PIC procedures) - **Entry A1181:**
    - Hazardous e-wastes, components thereof and wastes resulting from e-waste processing (e.g. fractions from shredding)
  - **Annex IX** (Waste presumed not to be hazardous and is not subject to the PIC procedures)
    - Entries B1110 and B4030 removed.

Transparency and information sharing:

- The **Basel Convention** requires that information provided to states concerned in a transboundary movement of hazardous wastes and other wastes state clearly the effects of the proposed movement on

[224] Recycling/reclamation of organic substances that are not used as solvents (R3 in Annex IV, sect. B), with prior sorting and, if needed, temporary storage limited to one instance, provided that it is followed by operation R3 and evidenced by contractual or relevant official documentation.

[225] In relation to "almost free from contamination and other types of wastes", international and national specifications may offer a point of reference.

human health and the environment (Art. 4, para 2f).

- The notification document whereby a transboundary movement of wastes is proposed contains information on the designation, quantity and nature of the wastes, its hazardous characteristic, and any special handling requirement (Annex V).
- Hazardous wastes and other wastes to be subjected to transboundary movement shall be labelled in conformity with generally accepted and recognised international rules and standards for labelling (Art. 4, para 7b).
- This is in addition to the movement document required from the point at which a transboundary movement commences to the point of disposal. (Art. 4, para 7c).

Broader measures indirectly encompassing plastics and associated chemicals

Goals and targets:

- The **Basel Convention** requires each Party to take appropriate measures to ensure that the generation of hazardous wastes and other wastes is reduced to a minimum taking into account social, technological and economic aspects, and that adequate disposal facilities are available to the extent possible within it for the environmentally sound management of such wastes (Art. 4, para 2).

Chemicals/materials/products and activities to be phased out:

- The **Basel Convention's Ban Amendment** requires each Party listed in Annex VII (Parties and other States which are members of the OECD, EC, Liechtenstein) that has ratified the amendment to prohibit transboundary movements of wastes captured under Article 1.1(a) which are destined for final disposal or recovery operations to States not listed in Annex VII.
    - Should Parties otherwise prohibit the import of hazardous wastes or other wastes for disposal or develop a national definition of hazardous wastes that goes beyond the scope of Article 1.1(a), notification shall be given to other Parties (Art. 4, para 1) (Art. 13, para 1a).

Chemicals/materials/products and activities to be regulated:

- Parties to the **Basel Convention** shall require that any exported waste is managed in an environmentally sound manner (Art. 4, para 8) but shall also periodically review the options for reducing the amount of these wastes that are exported (Art. 4, para 13). Parties shall adopt national law to prevent and punish illegal traffic (Art. 9).
- Parties shall inform other Parties, through the Secretariat, of wastes considered or defined as hazardous under national legislation and which are not listed in Annexes I and II, as well as any requirements the Party has for transboundary movement of these wastes (Art. 3 para 1).
    - Parties shall also inform other Parties of their decision to prohibit the import of hazardous wastes or other wastes for disposal (Article 4.1). Changes to national definitions of hazardous wastes or limits/bans on the import or export of hazardous wastes and other wastes shall also be notified as soon as possible (Art. 13).

Emissions prohibited:

- The **Basel Convention** requires any transboundary movement of hazardous wastes or other wastes that results in deliberate disposal (e.g., dumping) of hazardous wastes or other wastes to be considered illegal traffic (Art. 9, para 1.e).
    - Countries shall also ensure those involved in the management of hazardous or other wastes within their jurisdiction take the necessary steps to prevent pollution and minimise the effects on human health and the environment should such pollution occur (Art. 4, para 2c).

International trade of material/product:

- The **Basel Convention** requires Parties to prohibit or not permit the export of hazardous wastes and other wastes to the Parties which have prohibited the import of such wastes (Art. 4, para 2b) or if the State of import does not consent to the specific import if not prohibited by that State (Art. 4, para 2c).
    - Export of such wastes to non-Parties shall not be permitted

(Art. 4, para 5), and where these wastes will transit through non-Party States, such States will be so notified (Art. 7).

- Parties shall also cooperate in achieving the objects of the Convention's provisions on illegal traffic (Art. 9, para 5).

Reporting requirements:

- Parties to the **Basel Convention** shall report each year on the previous year regarding:
  - The amount of hazardous wastes and other wastes exported and imported, their category, characteristics, destination, any transit country and disposal method;
  - Disposals which did not proceed as intended;
  - Efforts to achieve a reduction of the amount of hazardous wastes or other wastes subject to transboundary movement;
  - Information on available qualified statistics which have been compiled by them on the effects on human health and the environment of the generation, transportation and disposal of hazardous wastes or other wastes;
  - Information on accidents occurring during the transboundary movement and disposal of hazardous wastes and other wastes and on the measures undertaken to deal with them;
  - Information on disposal options operated within the area of their national jurisdiction;
  - Information on measures undertaken for development of technologies for the reduction and/or elimination of production of hazardous wastes and other wastes (Art. 13, para 3).

Monitoring and evaluation programmes:

- The **Basel Convention** requires parties to periodically review the possibilities for the reduction of the amount and/or the pollution potential of hazardous wastes and other wastes which are exported to other States, in particular to developing countries. (Art. 4, para 13).
  - They shall also cooperate in monitoring the effects of the management of hazardous wastes on human health and the

environment (Art. 10, para 2b) and keep under continuous review and evaluation the effective implementation of this Convention (Art. 15, para 5).

- An evaluation of the effectiveness of the Convention shall be conducted at least every six years, including consideration of additional bans or partial bans on the transboundary movement of hazardous wastes and other wastes in light of the latest scientific, environmental, technical and economic information. (Art. 15, para 7).

Transparency and information sharing:

- The **Basel Convention** promotes the proper exchange of information on and control of the transboundary movement of hazardous wastes and other wastes (Preamble). The information provided to the importing State shall clearly state the effects of the proposed movement on human health and the environment (Art. 4, para 2f).
  - Parties shall also cooperate in the dissemination of information to improve the environmentally sound management of such wastes and to achieve the prevention of illegal traffic (Art. 4, para 2h).
  - The notification document whereby a transboundary movement of wastes is proposed contains information on the designation, quantity and nature of the wastes, its hazardous characteristic, and any special handling requirement (Annex V).
  - Hazardous wastes and other wastes to be subjected to transboundary movement shall be labelled in conformity with generally accepted and recognised international rules and standards for labelling (Art. 4, para 7b) and accompanied by a movement document from the point at which a transboundary movement commences to the point of disposal. (Art. 4, para 7c).
  - If requested, Parties shall make available information that promotes the environmentally sound management of hazardous wastes and other wastes, including harmonisation of technical standards and practices for the adequate management of hazardous wastes and other wastes (Art. 9, para 2a).

- Should an accident occur during the transport of such wastes which is likely to present risks to human health and the environment in other States, those States are immediately informed (Art. 13, para 1), and where a Party considers the movement of such wastes to be a risk to their environment and has notified the exporting Party, a copy of the notification shall be sent to the Secretariat should that Party request it (Art. 13, para 4). Any information regarding illegal traffic shall be provided by the Secretariat to concerned Parties (Art. 16, para 1i).

4. Dematerialisation Phase – Waste management (recovery and final disposal)

Broader measures indirectly encompassing plastics and associated chemicals

Chemicals/materials/products and activities to be regulated:

- The **Basel Convention** requires Parties to ensure transboundary movement of hazardous wastes and other wastes is only allowed if 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 wastes in question in an environmentally sound and efficient manner; or the wastes in question are required as a raw material for recycling or recovery industries in the State of import (Art. 4. Para 9a–b).

International trade of material/product:

- The **Basel Convention** requires Parties to prevent the import of hazardous wastes and other wastes if it has reason to believe that the wastes in question will not be managed in an environmentally sound manner (Art. 4, para 2g). The export of such wastes shall only be allowed if 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 wastes in an environmentally sound and efficient manner; or the wastes are required as a raw material for recycling or recovery industries in the State of import (Art. 4, para 9).

- The import or export of such wastes with non-Parties is not to be permitted (Art. 4, para 5) unless an Article 11 agreement/arrangement is in place. Should the export of such wastes not occur as per the agreed terms and no suitable alternate arrangements can be made, the exporter shall re-import the hazardous wastes or other wastes (Art. 8).

5. Dematerialisation Phase – Remediation

Broader measures indirectly encompassing chemicals in plastics and plastics

- The **Basel Convention** requires Parties to ensure that persons involved in the management of hazardous wastes or other wastes prevent pollution by such wastes, but should pollution occur, they shall minimise the consequences thereof for human health and the environment (Art. 4.2(c)).

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Despite Japan's reputation for effective waste management, the country is a leading exporter of plastic waste to non-OECD countries. In 2022, Japan exported 563 million kilograms of plastic waste (HS code 3915). That year, Malaysia was the largest importer of Japanese plastic waste, receiving 179 million kilograms.

The sheer volume of Japanese plastic waste exports calls into question the effectiveness of Japanese efforts to tackle waste management in Southeast Asian countries like Malaysia, which are often limited in expertise and capacity to handle such amounts in environmentally sound ways.

"Ending Waste Colonialism, Governing Plastic Pollution: Japan's Opportunity to Lead Asia out of the Plastic Crisis" examines the governance of the plastic waste trade through the case study of Japan and Malaysia, discussing trade and pollution through the lens of waste colonialism. In doing so, it aims to raise questions about the transparency, traceability, and accountability of current plastic waste governance, and explores how a Global Plastic Treaty could address waste colonialism.

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