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Indonesia Waste Trade Updates: **Focusing on Plastic and Paper Waste in Indonesia**



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List of Abbreviations

ADB	The Asian Development Bank
ADUPI	<i>Asosiasi Daur Ulang Plastik Indonesia /</i> Association of Plastic Recyclers Indonesia
APKI	<i>Asosiasi Industri Pulp dan Kertas Indonesia /</i> Association of Pulp and Paper Industries Indonesia
ASEAN	The Association of Southeast Asian Nations
BAN	Basel Action Network
BRIN	<i>Badan Riset dan Inovasi Nasional /</i> National Research and Innovation Agency
BRS	The Basel, Stockholm, and Rotterdam Conventions
CIEL	Center for International Environmental Law
CSOs	Civil Society Organizations
EU	European Union
FAO	Food and Agriculture Organization
INAPLAS	<i>Asosiasi Industri Olefin, Aromatik, dan Plastik Indonesia /</i> Association of Olefin, Aromatics, and Plastic Indonesia
INTERPOL	The International Criminal Police Organization
IPF	Indonesia Packaging Federation
IPR	Indonesian Plastic Recyclers
ISRI	Institute of Scrap Recycling Industries
KSO SCISI	<i>Kerja Sama Operasi PT. Sucofindo dan PT. Surveyor Indonesia /</i> Joint-Operation of PT. Sucofindo and PT. Surveyor Indonesia
LIPI	<i>Lembaga Ilmu Pengetahuan Indonesia /</i> Indonesian Institute of Sciences
NPAP	Indonesia National Plastic Action Partnership
OECD	The Organization for Economic Co-operation and Development
MoEF	The Ministry of Environment and Forestry / <i>Kementerian Lingkungan Hidup dan Kehutanan / KLHK</i>
MoF	The Ministry of Finance / <i>Kementerian Keuangan / Kemenkeu</i>
Mol	The Ministry of Industry / <i>Kementerian Perindustrian / Kemenperin</i>
MoIC	The Ministry of Communication and Informatics / <i>Kementerian Komunikasi dan Informatika / Kominfo</i>
MoMF	The Ministry of Marine and Fisheries / <i>Kementerian Kelautan dan Perikanan / KKP</i>
MoT	The Ministry of Trade / Kementerian Perdagangan
PT	<i>Perseroan Terbatas / Ltd.</i>
SMEs	Small-Medium Enterprises
UNEP	United Nations Environment Program
UNODC	United Nations Office on Drugs and Crime
WCO	World Customs Organization
WEF	World Economic Forum
WTO	World Trade Organization

OVERALL RECOMMENDATION

Several gaps in the non-hazardous waste import policy have been corrected in the new Minister of Trade Regulation. This regulation has addressed several aspects that were not previously regulated, based on lessons learned from several cases of waste import violations in Indonesia. [1]

The Indonesian government has also set a new standard for a maximum contaminant limit of 2% for imports of non-hazardous waste as well as exporter verification procedures at the Indonesian Embassy or Consulates located in the country of origin, as well as the master list^a to determine the quantity of imports at the Ministry of Industry. In addition, importers must meet requirements such as recommendations from the Ministry of Environment and Trade and the Ministry of Trade and follow the inspection procedures carried out by the Directorate General of Customs and Excise. Soon, Indonesia will have a roadmap of reducing the volume of imports of non-hazardous waste gradually and setting a target for the content of recycled materials in the country.

As input for the above roadmap as well as the non-hazardous waste import policy, there are recommendations for the government in its implementation as follows:

For the Government of Indonesia

- As the Focal Point of the Basel Convention in Indonesia, the Ministry of Environment and Forestry must repatriate or return the confiscated containers or those contaminated with B3 waste, to senders. Furthermore, as a party to Basel, Indonesia must enforce mechanisms and rules established in the Convention. Therefore, re-exportation aims to sell to other countries will not have deterrent effects for importers.
- Maximum enforcement of regulations and full transparency to stakeholders and the public to close gaps in import policy enforcement.
- The Ministry of Trade and the Directorate General of Customs and Excise must intensify the control over surveyor companies.
- The Ministry of Trade, the Ministry of Environment and Forestry, as well as the Ministry of Industry must provide a publicly accessible documents or reports regarding licensed importing and exporting companies.
- The final processing of residual material from current practices (2% contaminants) should not allowed to be processed by third parties.
- The Ministry of Environment and Forestry must issue guidelines for the disposal of residues and contents of containers confiscated due to problems in an environmentally sound manner. The progress of handling cases of import violations and the sanctions given to troubled importing companies must be communicated to the public.
- The Ministry of Trade, Ministry of Industry, and Ministry of Environment and Forestry must gradually tighten the contaminant limit for non-hazardous waste imports to 0.5% or no contaminants at all.
- The Ministry of Finance must establish a disincentive mechanism for shipments that still have contaminants, even though they have met the 2% limit.
- The Ministry of Finance reduces import duties for non-hazardous scrap that is clean and has 0% contamination as an incentive.
- The Ministry of Trade, Ministry of Foreign Affairs must inform the WTO of the maximum contaminant standard of 2%, and stakeholders in exporting countries.

^a Master list <https://kemenperin.go.id/perizinan/160/Master%20List%20Impor%20Limbah%20Non%20B3>

- The Ministry of Trade and the Ministry of Environment and Forestry must pay close attention to the import of other waste derivative products that have not been included in Permendag No. 20/2021 jo. Minister of Trade Regulation No. 25/2022 and Permendag No. 18/2021 jo. Minister of Trade Regulation No. 40/2022, such as PEF (*Process Engineered Fuel*) or RDF (*Refuse-Derived Fuel*) products.
- The Ministry of Environment and Forestry should increase the capacity of laboratories to monitor new chemical POPs in imported products to protect public health and the environment.
- Capacity building for Customs officers and field operators to identify risks of non-hazardous waste shipping violations to improve the quality of inspections at the port of entry.
- Capacity building for investigators within the Civil Servant Environment, the Police, and the Ministry of Law and Human Rights.
- Incorporate mechanisms such as reporting from the public into the control and inspection system of the entry of non-hazardous waste into Indonesia, as a complementary safeguard mechanism.

For Business Entities, Importers, Exporters, and Industry Associations

- Develop a roadmap for certain recycling industries, such as the plastic sector, paper sector, and textile sector, considering the composition of imports of non-B3 waste raw materials and domestic supplies.
- Create industry standards for non-hazardous waste, especially post-consumers plastic and paper, to protect the climate of the recycling industry in Indonesia.
- Work intensively with surveyor companies and relevant government agencies to ensure the quality of imported goods, in this case non-hazardous plastic and paper waste.
- Exporting partners in the country of origin must verify administrative completeness documents at the Indonesian Embassy to meet export administration requirements according to Indonesian regulations, as well as carry out *Prior Informed Consent procedures* in accordance with the Basel Convention agreement.
- Industry associations and the Indonesian Chamber of Commerce (KADIN) should be able to link large recycling industries with smaller collectors to increase domestic recycling rates, especially for plastic and paper waste.
- Local or regional collectors must receive guidance from the Ministry of Cooperatives, Small and Medium Enterprises or from industry associations, facilitate the formalization of business entities so that they can practice better business, are environmentally sound, and can access loans from financial institutions or banks.

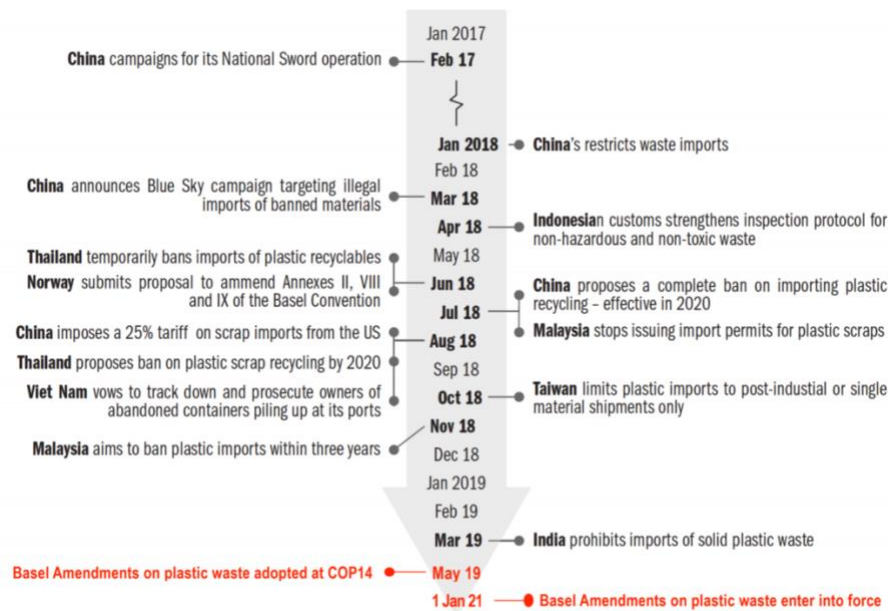
For Social Institutions, Think-Tank Organizations, and Society in General

- Think-tank organizations and development implementation institutions must be able to stimulate research that can create a marketplace that connects the informal sector, small to large waste collectors, and brokers. The main goal is to maximize the increase in the recycling rate of waste in the country
- CSOs should continue to assist with the investigation process and work closely with government and industry associations to address policy enforcement violations.
- The public should also play a role in improving and improving the ease of the process of collecting, sorting and recycling waste.

Indonesia Waste Trade Updates: Focusing on plastic and paper waste in Indonesia

1 BACKGROUND

Global plastic waste trade has attracted global attention along with the increasing awareness of plastic pollution. Stimulated from China's, now, Blue Sky Policy, plastic waste trade and recycling network has shifted globally. Before the initial Green Fence Operation in 2013, China was the global importer of plastic for an amount equal to almost 50% of international plastic waste import until 2016 [2].



*Figure 1. Important milestones in plastic waste and scrap transboundary trade
Modified from: Levi Westerfield, GRID-Arendal (2019) [3]*

Operation Green Fence started in 2013 by enforcing stricter enforcement to tackle waste smuggling that caused plastic and waste to be dumped into China's landfill. Import control of a maximum of 1.5% contamination was applied and enforced for recyclable materials, thus increasing the waste quality [4]. The National Sword Policy then superseded Operation Green Fence, flagging foreign waste smuggling and focusing on industrial, plastic, and electronic wastes [5]. China Customs inspected every plastic and paper scrap container going into the country starting from February 2017, then continued by notifying the World Trade Organization (WTO) of the import ban of 24 types of solid waste by the end of 2017 [6].

Following the National Sword, China enacted another policy called the Blue Sky Policy in 2018, continuing to crack down on illegal waste importation through falsifying importer

company licenses, import documents, strict maximum 0.5% contamination in shipments, and so on [7]. However, China's decision to entirely alter on cracking down foreign waste import violations took eight years with three policy trials, before embedding it into their Waste Management Act in 2020 [8].



Figure 2. Development of China's policy on waste imports
Source: Tran et al (2021), resource-recycling.com (2020) [8, 9]

Looking at the current international trend (Figure 3), globally traded plastic waste has declined since 2016. The slight drop in 2013 could be associated with the enactment of the Green Fence. After China's notification to the WTO in 2017, global export and import of wastes sharply declined [10]. After 2017, shipments of plastic and paper scraps from higher-income countries dropped by almost 70% and 50%, respectively [9], from the tight enforcement of the import customs requirement.

Plastic waste trade from the global north countries to the developing countries has occurred since the 1980s. Despite the growth of the recycling economy, there is a significant discrepancy in the quality of environmental regulation, health standards, and waste management systems between the global north and global south countries [11, 12]. In addition, even clean and high-quality recyclables from developed countries encounter challenges in meeting the market standard for recyclable products [13]. For example, HDPE and PET bottles have a relatively high recycling market in developed nations, while polystyrene or plastic films have low recycling in North America, Canada, and the US. Considering there is also a demand of generally all types of plastic in Asia, these types of plastic, which are more challenging and economically low in the recycling scheme, are exported elsewhere [14, 15], mainly in Asia, which has poor solid waste management systems [16, 17].

These waste exports often deliver the need to achieve recycling targets in developed nations, often due to the lack of recycling capacity in the country or market demanding the plastic waste to recycle [18-20]. In Canada, for instance, sorted plastic and bales of plastic are categorized as recycled in MRFs [15]. Plastic waste exportation among the European Union members is labelled as a recovery operation [20].

In the UK, recycling and recovery rates were also composed of Packaging Recovery Notes (PRNs) and Packaging Export Recovery Notes (PERNs), which the UK government sets to make sure that producers met their targets in the Packaging and Packaging Waste Directives [21]. From those practices, countries exporting waste tend to have less mismanaged domestic waste [22]. However, some countries and states, have started changing their definition of recycling through waste exports. For example, California will no longer classify exporting mixed plastic waste as a recycling effort [23]. In addition, the UK revised their PRN policy, as bales of pellets and fluffs exported as RDF intended for waste-to-energy plants are excluded from the PRN [24]. Therefore, including waste export within the recycling framework misled countries' waste management status.

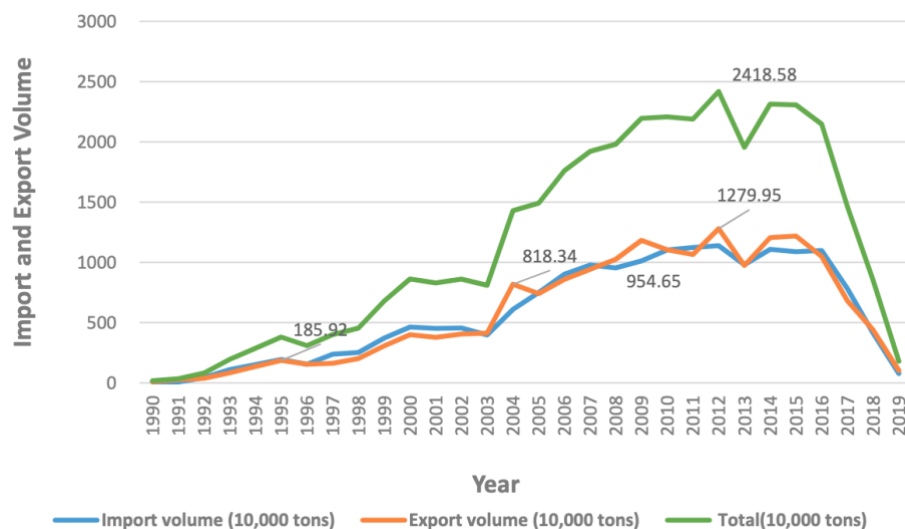


Figure 3. Global plastic waste import and export trade volume from 1990 to 2019
Source: Zhao, et al (2021) [10]

ASEAN countries had taken the role in intermediate re-processing plastic waste before further re-exporting them to China. As the second largest country in ASEAN, Indonesia plays a role in transferring and re-processing plastic waste imports into other commodities for export or domestic market [25, 26]. However, there were changes in the global market due to China's disrupting policy, including Indonesia. The shift occurred since the enactment of the Green Fence Operation, where some traders' response was scouting for countries that could sort, clean, and play a role for intermediate processing before shipping these scraps to China. These countries are Malaysia, Vietnam, and Indonesia [26]. From this, Indonesia and Thailand, which used to have negative net import of plastic waste trade, currently flipped to have less their export since 2018 [10].

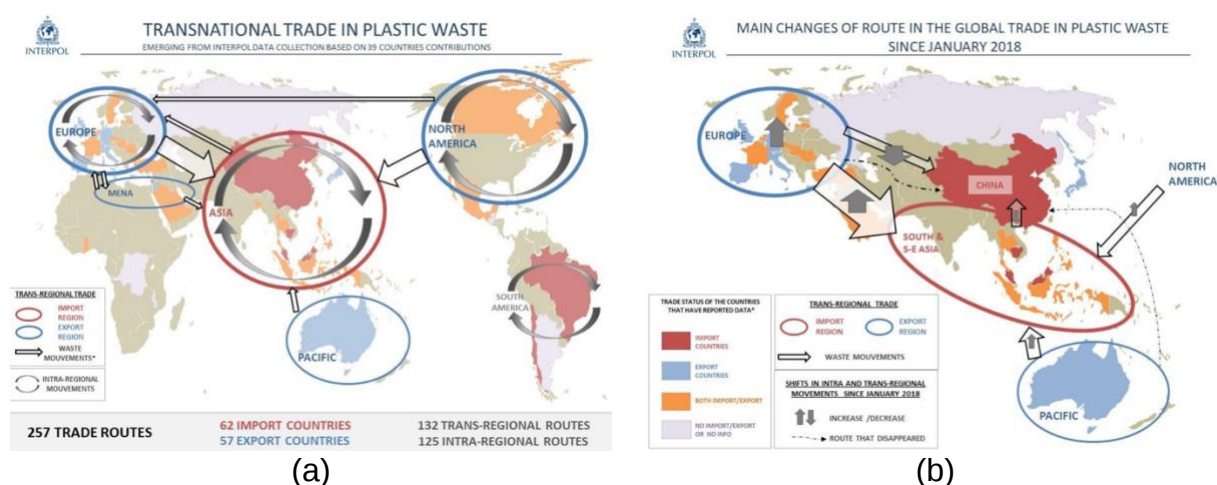


Figure 4. (a) Global plastic waste market emerging from Interpol data collection on legal and illegal trade routes, and (b) Main changes in routes observed in the global trade in plastic waste since January 2018. Source: Interpol, 2020 [17]

After multiple reports of waste smuggling, illegal dumping, and irregular waste fires following the Blue-Sky Policy in numerous countries [17, 27-31], the global community responded by tightening the control of the plastic waste trade. As a result, the Fourteenth Conference of the Party of Basel Convention adopted the 'Basel Plastic Waste Amendment' which entered into force on 1 January 2021. Consequently, parties to Basel should now follow the new standards for plastic waste shipments [32].

Domestically, plastic and paper waste imports are still needed to fulfil the demand of the recycling industries. Annually, plastic recycling industries require 1,233,000 tons of recyclable materials, of which 913,000 tons are sourced domestically, while the remaining 320,000 tons are from waste imports [33]. The annual demand for paper recycling materials for paper production reached 8,6 million tons. Several industries sourced 40-60% of these materials through paper waste shipments abroad [34, 35].

Considering the significant demand for foreign plastic and paper waste in Indonesia, this study aims to analyze and recommend improvements in trading non-hazardous waste, specifically plastic and paper scraps. At the same time, Indonesia should also improve solid waste management to fulfil the government's circular economy strategies.

2 METHODOLOGY

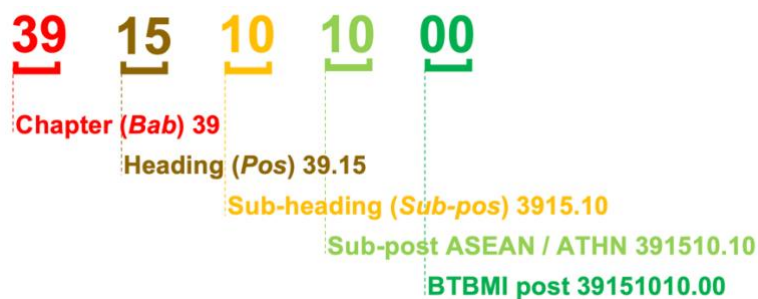
This country status report was developed from March to July 2021, involving a literature review, secondary data collection, several focus group discussions, field surveys, and shipment tracking. In addition to plastics, this study also analyzed paper waste trade for two main reasons:

- The mandate from one of the regulations, the Joint Decree from 3 ministries and the national police, specifically addressed plastic and paper waste to be further assessed and develop a recycling roadmap soon, and
- The potential smuggling activities of plastic waste within paper scrap shipments [27, 28].

For secondary data collection, this study used the UN Comtrade Database, and the Indonesia Statistics (*Badan Pusat Statistik* or BPS) data specially to provide the overview of Indonesia's trade of plastic and paper waste by looking at the relevant commodities classified under HS Code 3915, HS Code 4707, and its derivations (see Box 1 for detail). Data from the Indonesia Statistics was acquired in February 2021 and June 2022, while from the UN Comtrade obtained in June 2021 and June 2022. Note that annual data provided by the Indonesia Statistics Bureau and UN Comtrade in 2022 were not yet completed fully during the time of data collection.

Box 1. HS Codes of plastic and paper waste

The Harmonized System or HS codes are used to classify commodities systematically worldwide, especially the first six digits of the code. The case of plastic waste has been organized in chapter 35, heading 35.15, and subheadings 10, 20, 30, or 90. For ASEAN countries, the next 2 digits are harmonized under the ATHN text (ASEAN Harmonized Tariff Nomenclature). Further, the next two digits show the national tariff classification in BTBMI (*Buku Tarif Bea Masuk Indonesia* / Indonesian Import Duty Tariff Book) when specified [36].



Source: Ministry of Trade [36]

Chapter 39 : Plastics and article thereof

Heading 39.15: Waste parings and scrap, of plastic

391510 : Waste parings and scrap, of plastic -- polymers of ethylene

391510.10 : -- of non-rigid cellular products

391510.90 : -- other

391520 : Waste parings and scrap, of plastic -- polymers of styrene

391520.10 : -- of non-rigid cellular products

391520.90 : -- other

391530 : Waste parings and scrap, of plastic -- co-polymers of vinyl chloride

391530.10 : -- of non-rigid cellular products
 391530.90 : -- other
 391590 : Plastics n.e.s. in heading no. 3915; waste parings and scrap of other plastic
 391590.10 : -- of poly (ethylene terephthalate)
 391590.20 : -- of polypropylene
 391590.30 : -- of polycarbonate
 391590.40 : -- of polyvinyl acetal
 391590.50 : -- of phenolic resins; of amino resins; of hardened proteins; of chemical derivatives of natural rubber
 391590.90 : -- other plastics

Chapter 47 : Pulp of wood or of other fibrous cellulosic material; recovered (waste and scrap) paper or paperboard

Heading 47.07: Recovered (waste and scrap) paper or paperboard

470710 : Paper or paperboard; waste and scrap, of unbleached kraft paper or paperboard or of corrugated paper or paperboard
 470710.00 : -- Unbleached kraft paper or paper board or corrugated paper or paperboard
 470720 : Paper or paperboard; waste and scrap, paper or paperboard made mainly of bleached chemical pulp, not colored in the mass
 470720.00 : -- Other paper or paperboard made mainly of bleached chemical pulp, not colored in the mass
 470730 : Paper or paperboard; waste and scrap, paper or paperboard made mainly of mechanical pulp (e.g., newspaper, journals, and similar printer matter)
 470730.00 : -- made mainly of mechanical pulp (e.g., newspaper, journals, and similar printer matter)
 470790 : Paper or paperboard; waste and scrap, of paper or paperboard n.e.s. in heading no. 4707 and of unsorted waste and scrap
 470790.00 : -- other, including unsorted waste and scrap

Bio-based materials for plastic and dominant materials for plastic recycling – such as polypropylene (PP), polyurethane, or polycarbonate – are classified under HS Code 391590.

3 GLOBAL POLICY ON PLASTIC WASTE TRADE

3.1 Basel Convention Plastic Waste Amendment

The Fourteenth Conference of the Parties (COP) of the Basel Convention in 2019 adopted amendments to its annexes to strengthen global controls on the trade in plastic waste. The goal was to better control and provide transparency on the trade in wastes with a high likelihood of causing harm or not being properly managed. Three listings of plastic waste were established in three different annexes [37, 38]:

- Annex VIII (listed as hazardous waste), specifically Category A3210
These are plastic waste that **contains or are contaminated with hazardous waste** (listed Annex I), while exhibiting hazardous characteristics (Annex III).
- Annex IX (not listed as hazardous, unless they contain controlled waste streams/Annex I thus presenting hazardous characteristics/Annex III), specifically Category B3011.
These are generally uncontaminated (very pure) plastic waste that are not halogenated except for a short list of fluorinated compounds, and are single, unmixed polymers or cured resins. Only one mixture is allowed and that is the mixture of polypropylene, PET, and polyethylene as long as all three polymers in the mix will be separately recycled. Further to quality for B3011, these plastics cannot be destined for waste-to-energy or incineration operations.
- Annex II (Categories of Waste Requiring Special Consideration), specifically Category Y48.
This new listing of Y48 consist of all plastic wastes which are not already categorized as B3011 or A3210. In other words, everything else.

Thus, all plastic waste in now categorized in the Basel Convention and the control procedures applying to each category can be found in the table below.

Table 1. Codes for plastic waste and scrap commodities under the Basel Convention

Basel Codes	Waste Condition	AND	Plastic Type	Control Procedure
B3011 Annex IX (non-hazardous)	• Single unmixed polymer plastic (exception is the mixture of PP, PE, and PET) • Almost free from contamination • Intended for recycling, but not waste-to-energy		Non-halogenated polymers, such as: - Polyethylene - Polypropylene - Polyethylene terephthalate - Non-halogenated polymers Cured resins or condensation products A limited listing of fluorinated polymers (excluding post-consumer sources)	Free trade
A3210 Annex VIII (hazardous waste)	Plastic waste, including mixtures of such waste, containing, or contaminated with Annex I (listed as hazardous) constituents to an extent that it exhibits an Annex III (hazardous waste) characteristics.			PIC procedure needed, unless subject to the Basel Ban Amendment

Basel Codes	Waste Condition	AND	Plastic Type	Control Procedure
				(Article 4a prohibiting exports from Annex VII to non-Annex VII countries)
Y48 Annex II	• Halogenated • Mixed plastic waste • Contaminated with other plastics or other materials		e.g., Polyvinyl chloride (PVC) or Polytetrafluoroethylene (PTFE)	Default PIC procedure (banned from EU to developing countries) and imports by Basel Parties from US banned excepting Canada.

Source: Basel Convention on Controlling Transboundary Movements of Hazardous Wastes and Its Disposal - Text and Annexes (2019 amendment)

3.2 Global Responses after The Basel Convention Plastic Waste Amendment

3.2.1 G7 Countries

The G7 countries have launched the Charlevoix G7 Ocean Plastic Charter in 2018, addressing ocean plastic pollution and their measures to tackle the issue [39]. Despite most of its members being the major exporting countries of plastic and paper wastes, such as USA, the UK, Canada, and Japan, during its launch, this initiative did not address plastic waste trade specifically. However, some of the G7 country members pushed to regulate further regulate the plastic waste trade [40] along with the recent violation event [41] and campaign pressures by some CSOs in the UK [42], for instance.

As previously mentioned, China's decision to alter their import policy (National Sword) dramatically impacted global plastic waste trade route and practices. For instance, at the beginning of the China's strict waste trade policy, there were market shortages for recyclable waste demand, resulting in them piling up on the US and European countries [43, 44]. Now, mainland China and Hong Kong which used to be the major destinations for plastic waste exported from G7 countries, have been shifted to Malaysia, Thailand, Vietnam, other Asian countries, and Turkey after 2018 (Figure 5 below) [45].

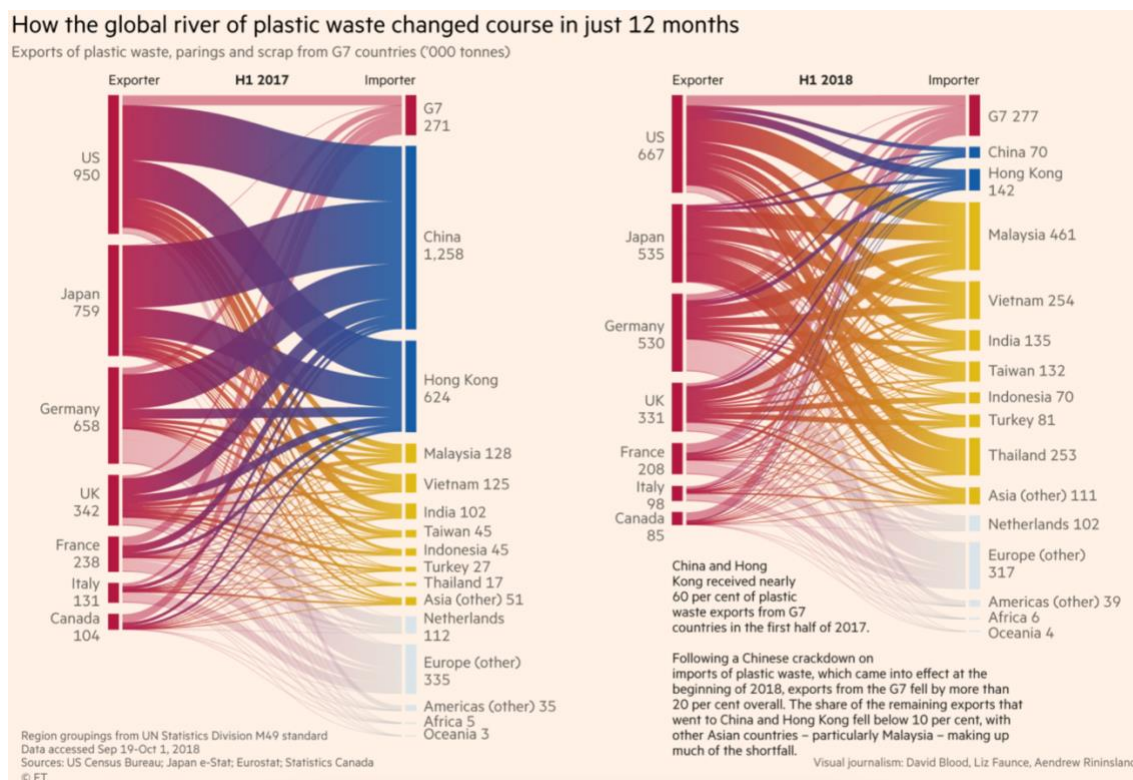


Figure 5. Shift in the plastic waste export destination of G7 countries
Source: Hook & Reed, 2018 [45]

3.2.2 G20 Countries

G20 countries have adopted the Implementation Framework for Actions on Marine Plastics Litter. However, the framework did not specifically address the plastic waste trade [46]. G20 countries account for 60% of global waste and scrap, with the largest export being the US, Germany, and Japan, while importers are China, Turkey, and India. Among G20 countries, the largest waste scrap commodity by value is paper (10%) and plastic (2.5%), while by weight is metal (60%) and paper (30%), with plastic being only 4% [47].

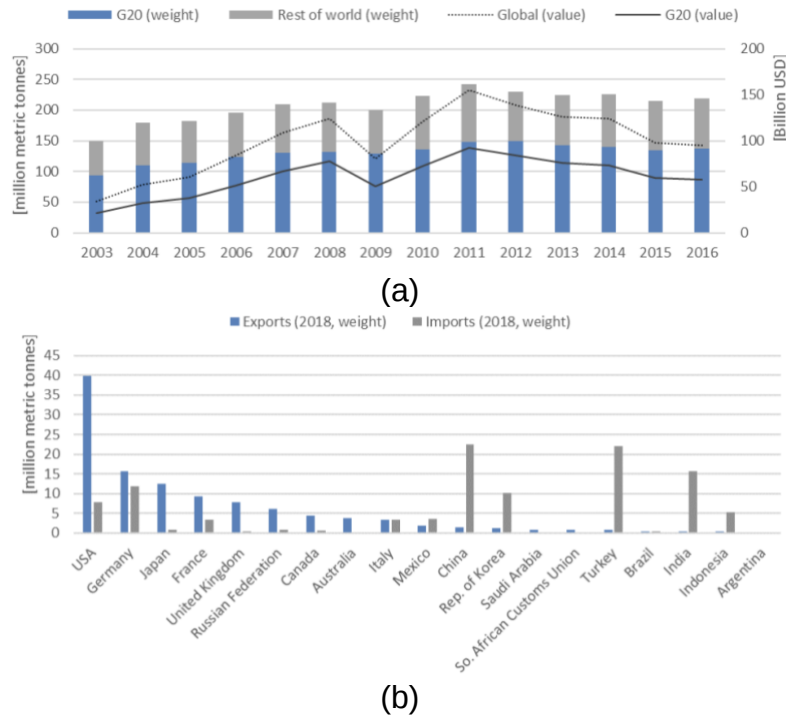


Figure 6. Trend of waste and scrap trade composition by (a) value and by (b) weight in G20 countries

Source: OECD, 2021 [47]

Considering the ongoing agenda of resource efficiency established in 2017, the G20 readdressed in their report as per the request of Italy's Presidency to enhance international cooperation and increase transnational resource flow, including products and waste. Further, the report highlighted the hindering barrier to trade in the best available technology and environmental labelling [47].

Indonesia is currently the President of G20 in 2022 and has established three priority focuses: COVID-19 recovery, digital literacy and prowess, and cross-border data flow [48]. With a resource efficiency agenda on the table, Indonesia could utilize the presidential position to increase waste trade transparency from other countries to tackle the waste smuggling issue. However, Indonesian G20 Presidency focuses more on COVID-19 pandemic recovery, the sustainable and climate financing.

3.2.3 World Trade Organization (WTO)

As a WTO member, Indonesia is actively involved in WTO discussions and negotiations, especially in the Committee of Trade and the Environment. However, the discussions are yet to be progressive due to perspective differences between the developed and developing nations. The trade of environmentally sensitive goods, including waste, are mainly addressed within free trade agreements [49].

Country members can also address issues related to protecting human health and the environment in the General Agreement on Tariffs and Trade (GATT). Specifically, article 20 allows country members to set up specific exemptions or prohibitions measures. In addition, the article creates multiple interpretations and actions on waste in each country, building up its challenge in discussion and dynamics within it.

In addition, country members can raise Specific Trade Concerns (STCs) as a check and balance mechanism to the Committees and/or Councils under the WTO to ascertain measures from specific countries that align to the WTO principles, usually within the Technical Barrier to Trade Committee (TBT). Currently, there are 31,404 STCs, and 56 out of 701 STCs under the TBT committee addressed environmental and waste issues globally [49].

Currently, Indonesia have not submitted the policy of 2% maximum contamination in non-hazardous waste shipments or import quota to the WTO (see Section 4.1). The import quota is not established yet and will be developed after the establishment of the Roadmap of Non-Hazardous Waste Management as Secondary Raw Material for Industries (see Section 4.3). The maximum contamination policy also has yet to be notified to the WTO, but informed through the registration process of exporters to the Indonesian Embassies and Consular in the country of origin [50].

3.2.4 European Union and the Country Members

The European Union amended their Waste Shipment Regulation to accommodate the Basel Amendments of 2019. As per 1 January 2021 the EU bans the exports of hazardous plastic waste (A3210) and Y48 plastic waste from moving from the EU to non-OECD countries. Exports of clean and non-hazardous waste (B3011) to non-OECD countries are only allowed if the importing country registers its pre-consent. Exports of Y48 plastic waste from EU countries to OECD countries outside of the EU require prior inform consent notification procedure [51].

In 2018, EU-28 have about 152,000 tons of plastic waste exported responding to the demand of foreign buyers of waste and scrap. Their market in mainland China harshly

reduced (-90%) as well as Hong Kong (-73%), with a slight replacement in Turkey (+1295%), Indonesia (+485%), and Malaysia (+193%) [20].

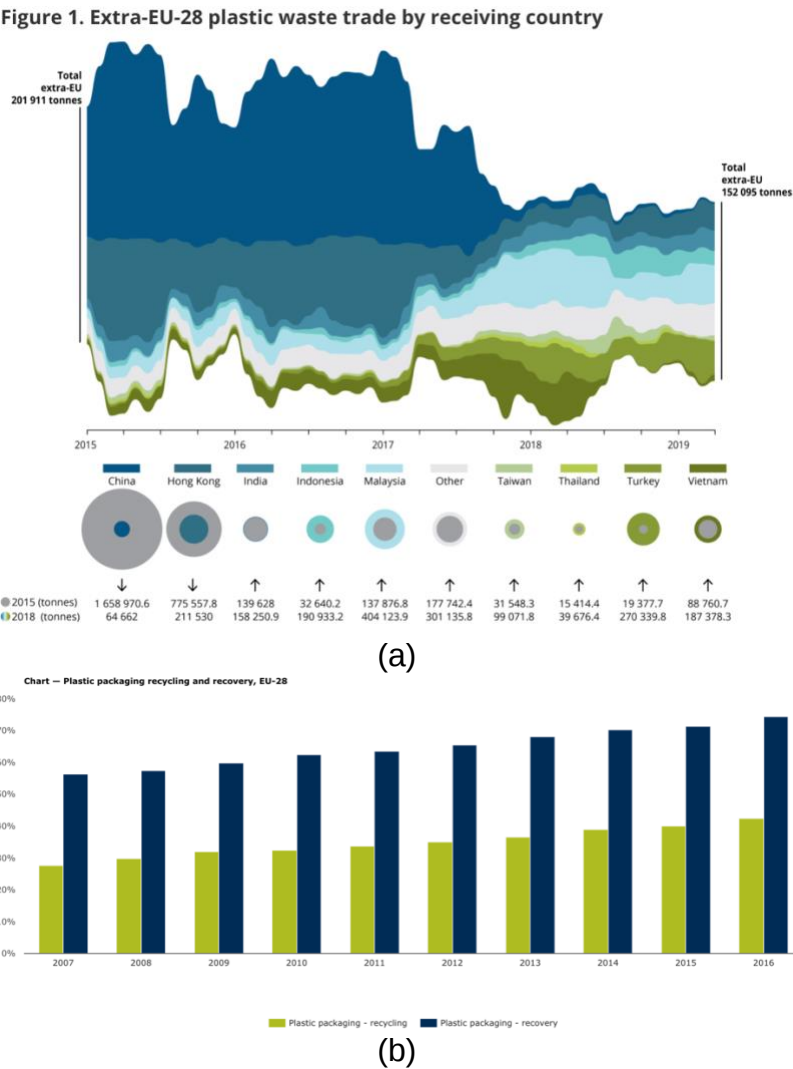


Figure 7. (a) Extra EU-28 plastic waste trade by receiving country, simplified mass balance analysis (b) Plastic packaging recycling and recovery of EU-28
Source: European Environment Agency, 2021 [20]

3.2.5 Organization for Economic Co-operation & Development (OECD) and North American Countries

Unless a member state objects, the OECD, which has its own Council Decision on the Control of Transboundary Movements of Wastes Destined for Recovery Operations (The OECD Waste Trade Decision) [52] governing waste recyclables moving between member states, simply adopts listing amendments made by the Basel Convention [53, 54]. However, following adoption of the plastic amendments, the US objected in 2020. After a protracted debate, the OECD country members did not reach any consensus in adopting the Basel Convention Plastic Waste Amendment listings of B3011 and Y48. For these wastes, members can only use the Basel Convention to conduct trade. However, because (a) the US is a non-Party to the Basel Convention and (b) The Basel Convention does not allow trade between Parties and non-Basel Parties, even OECD Member States are not allowed to trade in Y48 with the United States. OECD will take another look at the impasse in 2024, but there is little hope that the US will alter its objection or the other member states will change their views [52, 55].

In October 2020, Canada and the United States created an arrangement to conduct trade as was allowed prior to the adoption of the amendments [56]. According to the Center for International Environmental Law, this arrangement was illegal as agreements that can allow non-Parties to trade with Parties, authorized by Article 11 of the Convention can only be concluded if they are as strict as the Basel Convention itself [53].

Basel party should not import waste from non-Basel Convention parties, such as the United States. The Canada-US agreement opens a window for the trade between the two countries as a platform for the US to export its waste to non-Basel parties through Canada. Per the Basel Convention provision, shipments of Y48 or A3210 from the United States to Indonesia should be considered illegal due to the violation of the Basel Convention's Party to non-Party ban [57].

There was an example case where illegal shipments of waste are exported within the EU country members in October 2019. Sviluppo Risorse Ambientali, an Italian company, shipped 282 containers of mixed municipal waste to Port of Sousse, Tunisia, for recycling, even though such waste type was hard to be recycled. This illegal case of waste trade caused public outrage and led to the prosecution of Tunisia's Minister of the Environment.

As this was subject to the Basel Convention, the Bamako Convention, and the Izmir Protocol of the Barcelona Convention, the case was declared illegal trafficking and a criminal act. Even after eight months, there was no indication from the Italian authorities

to repatriate or exterminate the waste as required [58, 59]. Tunisia returned these 213 container shipments back to Italy in February 2022 due to local CSO pressure. Following that, Tunisia's Environmental Minister was also arrested from the attempt of household and hospital waste import from Italy [60].

3.2.6 Asian and ASEAN Countries

Asia plays a significant role in global plastic production and consumption, from virgin plastic, plastic resin production, plastic waste generation, as well as recipient of much of the world's plastic waste via trade. Among all Asian countries, Indonesia ranked 11th for total plastic waste generation in 2018. Based on 2016 data, most plastic waste was generated from industrial source (113 Mt) and household waste (6.1 Mt). Aside from domestic plastic waste generation, Asian countries have been the dumping ground for countries worldwide. Plastic waste import policy in Asian countries varies, ranging from the allowance as long as the importer has a registered import permit (Indonesia, Malaysia, and Lao) or justification for recyclable materials under the conditional permit system (Japan, Korea, and the Philippines) [25]. However, for Basel Convention country members, parties of Basel should not trade with non-parties, non-OECD countries should not receive plastic waste from OECD country members, PIC procedure should be implemented, or otherwise, the trade should not occur.

Several ASEAN member-states have responded to the global shift of the plastic waste trade network and the new Basel amendments. For example, Malaysia is implementing their target of cracking down on waste importation [61]. Currently, they are banning the import of mixed paper (HS 470790), continuing to eliminate plastic-grade paper, prohibiting import from a third-party broker, and setting import quota that does not exceed the maximum annual production [62]. Malaysia also decided to intensely inspect incoming paper waste shipments in November 2021 [63]. Furthermore, refusing to be a global dumping ground, Malaysia recently issued a bold decision to re-export 24 containers to Canada due to maladministration in license and import permitting, after the inspection in North Butterworth Container Terminal (NBCT) in Penang [64]. In May 2020, Malaysian authorities began returning more than 4,000 tonnes of contaminated mixed plastic waste illegally shipped from 20 countries [65].

Vietnam's imports of plastic waste scraps have also been increasing, peaking in 2020 thus far [66]. Such implications are observed, especially in domestically produced virgin plastic and imported raw materials for plastic production. However, most of Vietnam waste is still disposed of in landfills or dumpsites [67]. Vietnam also announced their plan to control its plastic waste importation. In early 2019, more than 20,000 containers were halted in the port of entry, waiting for customs clearance, making the country announce their target to stop importing plastic waste trade altogether in 2025 [68, 69]. Vietnam, however, still faces a challenge of an uncovered network of Vietnamese brokers based in other countries assisting the trade of uncleaned LDPE and HDPE plastics to the country [59].

The Philippines has not ratified the Basel Ban Amendment on hazardous waste, nor have they banned the import of plastic waste, hence the existing importation of plastic and paper scraps to the Philippines. However, it is stated that contamination of hazardous materials and waste in recyclable materials are also prohibited from entering the Philippines [70].

Singapore is a party to the Basel Convention and is one of the biggest trade hubs in the Southeast Asian Region [71, 72]. They have implemented Basel Convention amendments into their TradeNet system per 1 October 2020, as well as imposing violation fines and criminal charges for violators. In addition, any waste or hazardous waste for import, export, or transit need to have a Basel permit from their Pollution Control Department [73].

Early October 2022, Thailand announced that they would ban imports of plastic scrap by 2025 to stop the country from being "a dump site for plastic waste". The first phase of the ban, starting in 2023, will limit the amount of imported plastic scrap based on production capacities at the plants that process the material. In 2024, only half of the imports will be allowed, and the total ban will start in 2025 [74].

The ASEAN citizens have submitted these concerns over plastic waste to the ASEAN Secretariat. Through Greenpeace Southeast Asia and EARTH (Ecological Alert and Recovery Thailand), CSOs addressed the urgency of the ASEAN Secretariat to announce the ban of plastic waste imports [75]. IPEN Southeast and East Asia Region also have published their reports and recommendations for ASEAN to establish regional agreements, regional standards, standard protocol, and an expert working group on international and regional waste trade [70].

ASEAN Secretariat launched their regional action plan addressing plastic pollution issues [70]. In addressing the transboundary trade of plastic waste, the ASEAN secretariat plans to develop a Regional Guidebook on Standards for Responsible Plastic Waste Trade,

Sorted Plastics Waste, and Recycled Plastics to support high-quality plastic waste traded for recycling purposes. The guidebook also aims to harmonize standards for plastic waste, the market of recyclates, and sorted plastic waste along the chained stream of plastic [76].

3.2.7 Shipping Lines Commitment

In February 2021, 52 environmental and social organizations [77] called on the major shipping lines to prove their sustainability commitments by pledging not to transport plastic waste to developing countries [78].

The organizations wrote letters to the nine most prominent global shipping lines: Hapag-Lloyd (Germany), Maersk (Denmark), CMA CGM (France), MSC (Switzerland), Hamburg SUD (Germany), Hyundai Merchant Marine (Korea), Evergreen (Taiwan), COSCO (China), and Orient Shipping (Jordan). They urged them to establish policies to prevent the export of plastic wastes of all kinds moving from OECD to non-OECD countries or the OECD countries Turkey and Mexico [78].

Basel Action Network, through their Shipping Lines Plastic Waste Campaign, kept the Policy Decision record of these nine companies in BAN's Campaign Score Card (see Figure 8) [78].

Scorecard: Shipping Lines & Plastic Pollution			
		Shipping Lines contribute to the global plastics pollution crisis by allowing illegal or unsustainable exports of plastic waste (PW) to countries with weak waste management infrastructure. We call upon them to stop this damaging trade. We will record a positive decision as a YES in the final column.	
Company, HQ Location	National Policies – No PW Shipments to:	Reports of Illegal PW Shipments	Policy Decision to Stop Plastic Waste Exports
<u>CMA CGM</u> (France)	<u>China, Taiwan</u>		YES! <u>Announced global Ban</u>
<u>Hapag-Lloyd</u> (Germany)	<u>China</u>		None
<u>Maersk</u> (Denmark)	<u>China, Hong Kong</u>	• <u>2019: Indonesia, 2021: Turkey</u>	None
<u>Evergreen Marine</u> (Taiwan)	None		None
<u>Hamburg SUD</u> (Germany)	<u>China, Hong Kong</u>	• <u>2021: Turkey</u>	None
<u>MSC</u> (Switzerland)	<u>China, Hong Kong</u>	• <u>2021: Turkey</u>	None
<u>Orient Shipping</u> (Jordan)	None		None
<u>COSCO</u> (China)	None	• <u>2019: Indonesia, 2021: Turkey, Vietnam</u>	None
<u>Hyundai (HMM), S. Korea</u>	None		None

Created by [Basel Action Network](#), contact: inform@ban.org Updated: February 14, 2022

Figure 8. Shipping lines and plastic pollution score card campaigned by the Basel Action Network

Source: Basel Action Network, 2022 [78]

3.3 Global Enforcement of Waste Crime

World Customs Organization relaunched Operation Demeter V during September 2019 to address environmental issues, including global waste crime. This joint global operation enjoyed the participation of 83 members, six regional intelligence liaison offices, and six regional and international organizations. The operation intercepted 4,584.7 MT (59,983 pieces) of illegal waste, including electronic waste, used batteries, paper, plastic, and household wastes. These illegal shipments seized in the importing countries (69%), followed by export (22%), at transit ports (5%), and discovered from internal information (4%) [79, 80]. The operation findings also distinguished various types of plastic and paper in illicit shipments. For illicit plastic waste shipments, they consist of PC-ABS, PVC, plastic materials, recyclable plastic particles, or reusable plastic. For illicit paper waste shipments, they consist of kraft paper or cardboard on the outer surface of each bale but containing mixed papers and plastics on the inside [79, 80].

Further, UNODC and WCO Control Container Program (CCP), with the support from Norwegian Agency for Development Cooperation (NORAD), recently launched a project to combat illegal plastic and hazardous waste in the cargo trade supply chain. UNODC-WCO kicked off the project along with the Cambodian, Malaysian, Vietnamese, and Thai authorities on 20 June 2021. [81]

In August 2021, the European Union and UNODC signed two agreements to promote cooperation and partnership-building in Southeast Asia to address environmental crimes. One of the projects, called *Project Unwaste*, aims to counter waste trafficking, and promote circular economies. The EU's Foreign Policy Instrument (FPI) funded both projects. [82] The project "Unwaste: Tackling waste trafficking to support a circular economy" will specifically address the illicit flows of waste from Europe to Southeast Asia and promote good practices for detecting waste shipments that are in violation of national and international regulations. The project also aims to develop regional standards at the ASEAN level. The locations of Project Unwaste will be in four countries in the Southeast Asia region: Indonesia, Vietnam, Thailand, and Malaysia. In addition, UNODC will cooperate closely with UNEP and other organizations. [83]

4 CHANGES IN INDONESIA'S REGULATORY FRAMEWORK

Importation of waste is prohibited in Indonesia, as stipulated in the Indonesian Waste Management Act (Law No. 18/2008). Violation of such an act may result in committing criminal act. The context for the article within the Act is subject to the term "*trash*" instead of "*waste*". Further, waste importation is regulated under the jurisdiction of the Ministry of Trade, considering there are recyclable materials that are beneficial for raw materials in manufacturing processes. Certain commodities such as types of metal, rubber, plastic, and paper are included in the Ministry of Trade Decree that has been developed to

regulate the importation of non-hazardous waste. In the last four years, there have been several changes to the regulation that oversees non-hazardous waste importation.

4.1 Development of Indonesia's plastic and paper scrap import policy

4.1.1 Regulatory Framework

The most recent policy regulating plastic waste importation, including paper waste, is the Ministry of Trade Decree No. 20/2021 jo. 25/2022 (MoT Reg. 20/2021 jo. 25/2022) on Import Control and Policy, which replaces the MoT Reg. 84/2019 concerning The Importation of Non-Hazardous Waste as Industry Secondary Raw Materials. MoT Reg. 84/2019 was able to further redefine non-hazardous waste for importation, as a distinction from garbage that has no economic value, or “trash”, as stipulated in the Waste Management Act:

- The waste should not be sourced from landfill (clean and not mixed with soil or dirt).
- The waste should not be sourced from household waste.
- The waste should not be contaminated with hazardous materials or waste.
- The waste should be homogenic.

Table 2. Development of Indonesian non-hazardous waste import policies

No	Regulation Name and Number	Date Issued	Document Title
1	Ministry of Trade Regulation No. 31/M-DAG/PER/05/2016	August 2016	Provisions on the Imports of Non-Hazardous Waste (<i>cancelled by no. 2</i>)
2	Ministry of Trade Regulation No. 84/2019	October 2019	Provisions on the Imports of Non-Hazardous Waste as Industry Secondary Raw Materials (<i>Amended with no. 3, 5, and 6; cancelled by no. 7</i>)
3	Ministry of Trade Regulation No. 92/2019	December 2019	Amendment to the MoT Regulation No. 84/2019 (<i>amended with no. 5, and 6; cancelled by no. 7</i>)
4	Joint Decree: Ministry of Trade No. 482/2020 Ministry of Environment & Forestry No. 2/235/MENLHK/PSLB3/PLB.3/45/2020 Ministry of Trade No. 715/2020 National Police No. KB/1/V/2020	May 2022	Implementation on the Imports of Non-Hazardous Waste as Industrial Raw Materials
5	Ministry of Trade Regulation No. 58/2020	June 2020	Second amendment to the MoT Regulation No. 84/2019 (<i>amended with no. 6; cancelled by no. 7</i>)
6	Ministry of Trade Regulation No. 83/2020	October 2020	Third amendment to the MoT Regulation No. 84/2019 (<i>cancelled by no. 7</i>)
7	Current import policy: Ministry of Trade Regulation No. 20/2021 Ministry of Trade Regulation No. 25/2022	April 2021 May 2022	Import Policy and Control Amendment to the MoT Reg. 20/2021

The policy also short-listed the port of entry for these inward shipments only available certain entry portal:

- Tanjung Priok Port, DKI Jakarta Province
- Tanjung Emas Port, Central Java Province

- c. Tanjung Perak Port, Eastern Java Province
- d. Soekarno Hatta Port, Southeast Sulawesi Province
- e. Belawan Port, North Sumatra Province
- f. Batu Ampar Port, Riau Islands Province
- g. Teluk Lamong Port, Eastern Java Province
- h. Merak Port, Banten Province
- i. Weda Port, North Maluku Province (addition from MoT Reg. 92/2019)
- j. Cigading Port, Banten Province (addition from MoT Reg. 92/2019)
- k. Bahodopi Port, Central Sulawesi Province (addition from MoT Reg. 92/2019)
- l. Bitung Port, North Sulawesi Province (addition from MoT Reg. 92/2019)
- m. Pekanbaru Port, Riau Province (addition from MoT Reg. 83/2020)
- n. Sekupang Port, Riau Islands Province (addition from MoT Reg. 20/2021)
- o. Panjang Port, Lampung Province (addition from MoT Reg. 25/2022)

These ports aligned with the location of plastic production and recycling companies concentrated in certain area of the country (Figure 9).

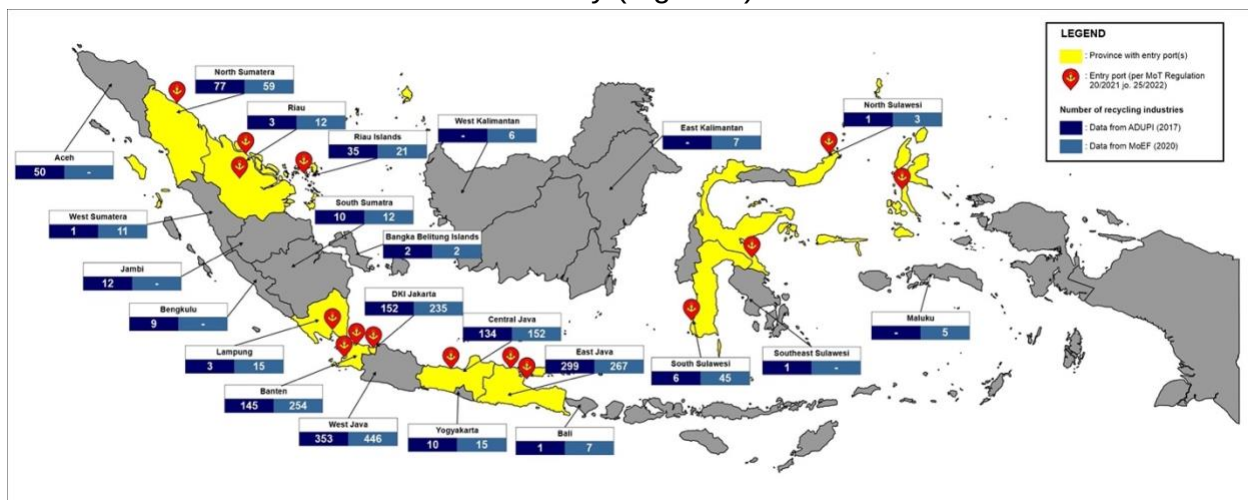


Figure 9. Locations of plastic industry and recycling industries in Indonesia
 Source: Association of Plastic Recycler Industry/ADUPI (2017) [84] and MOEF (2020) [85]

The first amendment of MoT Reg. 84/2019 issued in MoT Reg. 92/2019 further detailed the means of shipment transport. It explicitly prohibits transfer shipment in other ports that are not indicated in the shipment documents unless the shipment is kept sealed and intact. It also added the requirement to include the export partner's company profile and track record with the validation from local authorities, in this case the Indonesian Embassies or Consulates. While the second and third amendment in MoT Reg. 58/2020 and MoT Reg. 83/2020 is mainly amendments on administrative and permitting details, as well as several ports of entry. The rest of the amendment is to merge the non-hazardous waste import regulation list with all the other regulated commodities into one regulation paper, with additional port of entry.

Several relevant authorities issued a joint decree, namely the Ministry of Trade, Ministry of Environment and Forestry, Ministry of Industry, and the National Police in May 2020 to set 2% maximum contamination for imported plastic and paper scraps. These allowable contaminants include the taping to tie the bales, bale separator within the container shipments, the *pallet* or the base beneath the shipment bales, and the wrapping. These contaminants, however, should not be mixed or containing hazardous materials and waste (for example medical waste, electronic waste, and radioactive materials), container of hazardous materials and waste, drugs packaging, liquid leakage other than water^b, household waste (for example including apparel waste, diapers, sanitary pad, food waste, toys, etc.), non-recyclable single-use plastic, wood scraps, and dirt^c [86]. These contaminants are the importer's responsibility to treat and manage or cooperate with other industry to treat, as it is also included in the checklist before MOEF issue recommendation for import permit application [50].

The decree also mandated the government to develop a baseline study [87] to develop a roadmap of non-hazardous waste management for industrial purposes. Further, the roadmap would set out incremental restrictions and import quotas depending on the availability of materials for plastic and paper recycling over time.^d This applies to the Basel Convention update since specific requirements from countries are allowed under the amendment.

During incoming shipment processes, custom authorities receive import notification and the necessary documents, including the import approval and surveyor report. In addition, the INSW (Indonesia National Single Window) – a synchronizing platform for permitting, customs clearance, and release – and the customs risk management system alerts mandatory and random inspection for incoming shipments [88].

^b Environmental Protection Act (Law No. 32/2009), replaced by Job Creation Act (Law No. 11/2020)

^c Waste Management Act (Law No. 18/2008)

^d Ministry of Trade Dec. No. 482/2020, Ministry of Environment & Forestry Dec. No. S/235/MENLHK/PSLB3/PLB.3/45/2020, Ministry of Industry No. 715/2020, Head of National Police Dec. No. KB/1/V/2020

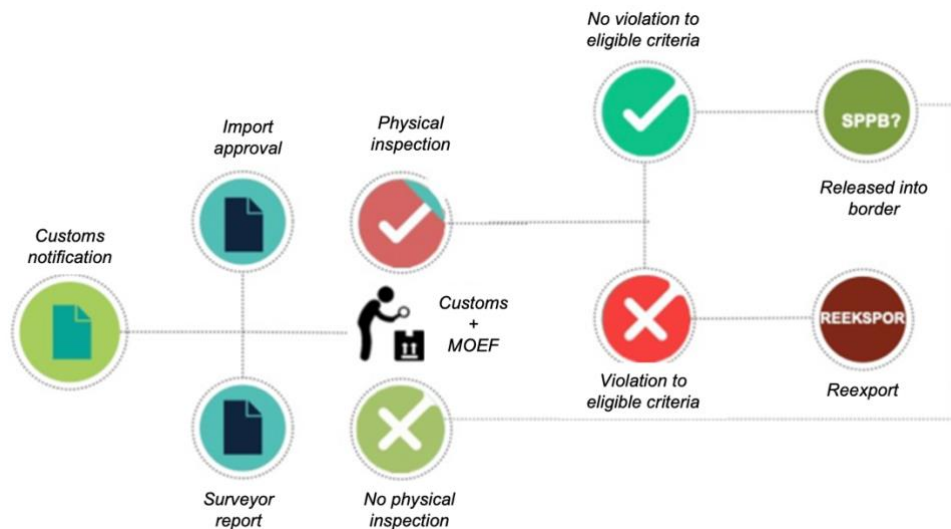


Figure 10. Customs clearance monitoring procedure
Source: Direktorat Jenderal Bea Cukai, 2020 [88]

The Indonesian Customs use several lanes to inspect shipments after receiving import notification, namely red, yellow, and green lanes (Figure 11 below). Customs authorities established these lanes to prevent bottlenecks in shipment inspections in general. The main differences in these lane types are the document checks before releasing the shipments into the Indonesian border. Multiple determining factors decide the types of lanes in each shipment: commodity type, importing companies, exporting companies, trade frequency, flagged country of origin based on transaction track record, intelligence, etc. Thus, plastic and paper waste, and other commodities in the Ministry of Finance Regulation No. 141/2020, are not automatically set out to be in the green lane [88]. In addition, the risk management system from the customs flagged some shipments into red lanes for random physical inspection [50].

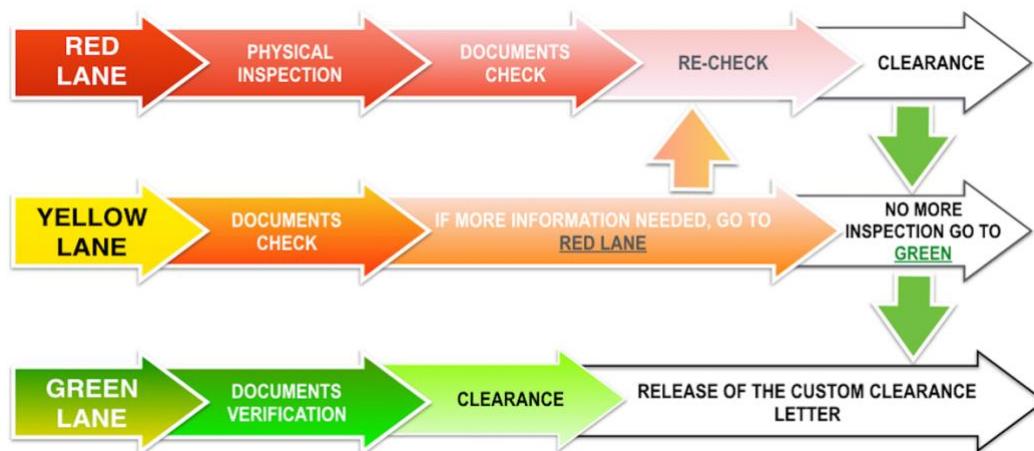


Figure 11. Multiple lanes of border control in Indonesia's import restrictions
Source: Direktorat Jenderal Bea dan Cukai (2020) [88]

The Indonesian customs found challenges in dealing with non-hazardous import shipments. Despite importing non-hazardous waste already accommodated by MoT regulation, it is challenging to distinguish imported waste sourced from household and non-household during inspections. They rely on laboratory results to determine hazardous waste contamination within the shipments. Despite the verification already provided by the appointed surveyors,^e several approved shipments violated the MoT regulation. Therefore, the best and realistic measure from the customs agency is to coordinate with the MoEF to inspect and validate incoming non-hazardous waste shipments [89]. Further, the MoT has renewed guideline policy for surveyor companies in the MoT Regulation No. 16/2021^f and No. 20/2021 (amended by MoT Reg No. 25/2022).^g

Per the Basel Convention Amendment, cross-referenced with the specific HS Codes and regulation that applies to Indonesia, plastic waste and other allowed scraps should not be contaminated with hazardous waste or materials. **The current gap is to create detailed plastic type as accordingly to the amendment.**

Box 2. Indonesia's past anti-dumping import duty

In the past, Indonesia implemented an anti-dumping import duty for several types of imported plastic-based products, namely biaxially-oriented polyethylene terephthalate / BOPET (for products from India, China, and Thailand during 2015-2020) and biaxially oriented polypropylene/BOPP (for products from Thailand and Vietnam during 2016-2018) [85].

Indonesia has yet to determine its national recycling capacity to handle plastic waste, even domestically, thus far. National program-based strategy is planned already^h, however, they have yet to include performance-based indicators. For instance, the plan to enact incentives or disincentives in 11 cities/regencies with beyond compliance in recycling has no percentage or volume targets. This creates big unknowns for recyclers to scout or collect recyclable waste.

The annual plastic production of 6.8 million tons is only equipped with 2 million tons of recycling capacity. The Center of Green Industry (*Pusat Industri Hijau*), under the Ministry of Industry, emphasized that the lack of capability in waste sorting, collection and transportation was the main reason why the Indonesian industry still needs to import plastic waste from outside the country [90]. The national recycling capacity and the plan

^e KSO SCISI (*Kerja Sama Operasi PT. Sucofindo dan PT. Surveyor Indonesia*/Joint operation of PT. Sucofindo and PT. Surveyor Indonesia)

^f Ministry of Trade Regulation No. 16 in 2021 on

^g Ministry of Trade Regulation No. 20 in 2021 on

^h Ministry of Environment and Forestry Regulation No. 97/2017

to incrementally reduce import quota will be addressed in the Roadmap of Non-Hazardous Waste Management as Secondary Raw Material for Industries [91].

4.1.2 Relevant Regulations for Indonesian Importing Companies

Plastic waste under HS 3915 is classified as commodities under border control. Importers must have Import Permit Approval (*Persetujuan Impor / PI*), Surveyor Report, and other administrative documents. Importers could only obtain the import permit approval after approval from three relevant Ministries: The Ministry of Trade, the Ministry of Industry, and the Ministry of Environment and Forestry.

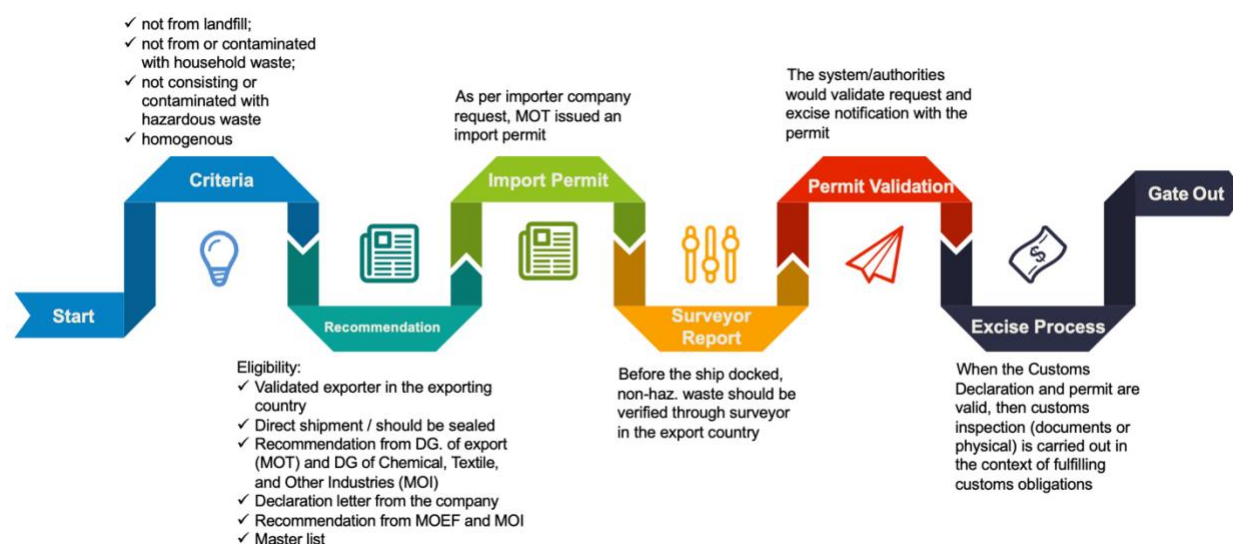


Figure 12. Flowchart of non-hazardous waste import in Indonesia
Source: Directorate General of Customs and Excise, MOF [88]

The MoEF will issue recommendations for importing companies after satisfied with reports provided by the companies about the performance of their wastewater treatment plants, information regarding domestic supplies of the secondary raw materials and emissions, and the description of their environmental permitting and implementations. Importing companies are only allowed to import waste 50% of their production capacity as secondary raw materials (see MoEF's template for importers integrity pact in Figure 13 below). In addition, From 234 application requests, there were 209 import permits were issued by the MOT between 2019 to July 2020, for 98 plastic waste importers and 35 paper waste importers [86].

(LETTER HEAD OF IMPORTER COMPANY)

INTEGRITY PACT

Recommendation request for Importation of Non-Hazardous Waste from (company name) on (address).

I, (name of executive director), as the executive director, declared that:

1. I shall be in the act of full transparency, honesty, objective, and accountable in the process of creating this recommendation for non-hazardous waste import;
2. I shall request the recommendation as accordingly to procedures and statutory provisions that currently are taking into force;
3. I shall carry out all provisions and obligations in accordance with decisions stipulated in the recommendation and/or statutory provisions;
4. I shall prevent the occurrence of environmental pollution and use environmentally friendly technology;
5. The non-hazardous waste that are requested to be imported are not within the prohibited list;
6. The non-hazardous waste that will be imported suffices the necessary demand and is technologically available;
7. The quantity of the non-hazardous waste that will be imported are no more than 50% of the production capacity;
8. I shall conduct production that prioritizes domestically sourced secondary raw materials;
9. I shall ensure the non-hazardous waste that will be imported are converted to downstream products;
10. If I violate my previous statement points, I am willing to accept sanctions according to the statutory provision.

(place of agreement), (date of agreement)

Signatory,

(sign + stamp)

(name of signatory)

*Figure 13. Template of agreement letter from the MoEF for Indonesia importers.
Source: Kementerian Lingkungan Hidup dan Kehutanan, 2019*

The Ministry of Environment and Forestry, then, would issue a recommendation letter for the importing companies which will be needed for the next submission to the Ministry of Industry. MoI would have to approve a *master list* provided by the importing companies to provide the necessary documentation, including environmental protection equipment in the facilities and environmental permits. The *master list* submission in a non-hazardous waste import regime control and monitor the import quantity.^{i,j} There are specific Directorates/Directorate Generals (DGs) within the Ministry of Industry to submit the request for recommendation letter, depending on the type of commodities (see Table 3).

ⁱ This was started with its obligation from Article 5, Ministry of Trade Regulation No. 84/2019 and kept until current regulating policy in Ministry of Trade Regulation No. 21/2021 (jo. 22/2022)

^j Annex III; Table VI. Ministry of Trade Regulation No. 25/2022

Table 3. Specific directorate within the Ministry of Industry for non-hazardous waste import recommendation letter request submission

Submission destination*	Relevant commodities**
Ministry of Industry; DG. of Agroindustry	Paper scraps (HS 4707)***
Ministry of Industry; DG. of Chemical, Pharmaceutical, and Textile Industries	Plastic scraps (HS 3915)**** Textile scraps (HS 5003, 5103, 5202, 5301, 5302, 5303, 5305, 6310) Rubber scraps (HS 4004) Glass scraps (HS 7001)
Ministry of Industry; DG. of Metal, Machineries, Transportation, and Electronic Industries	Metal scraps (HS 7112, 7204, 7407, 7503, 7602, 7902, 8002, 8101, 8102, 8103, 8104, 8105, 8106, 8108, 8109, 8110, 8111, 8112)

* Based on The Ministry of Industry webpage^k [92], there is a set of default document for the **master list submission** to each directorate general based on the commodities, which include:

- Business license
- Environmental permits
- Environmental control equipment
- Photos and flowcharts of the production process
- Import permit and Import realization control card (for previous permit holder)

** Groupings of the non-hazardous waste scraps are based on Ministry of Trade Reg. 20/2021 (jo. Ministry of Trade Regulation 25/2022)

*** In addition to (*), for paper scrap import, based on The Ministry of Industry webpage [93], submission for the import recommendation from the Ministry of Industry requires:

- Cover letter (addressed to DG. of Agroindustry, Directorate of Forestry and Plantation Product Industries, Ministry of Industry)
- Filled template form
- Plan of imports
- Plan of production for the following year
- Product realization for the past year
- Import realization control card (for permit holders)
- Statement letter, stating that the imported waste would not be contaminated with hazardous waste
- Wastewater treatment plant lab result (3 months), from a nationally accredited lab
- Environmental permits (Dokumen Upaya Pengelolaan Lingkungan / Upaya Pemantauan Lingkungan or UKL/UPL)
- Business license (Dokumen Izin Usaha Industri or IUI)
- Company registration certificate (Dokumen Tanda Daftar Perusahaan or TDP)
- Tax identification number (Dokumen Nomor Pokok Wajib Pajak or NPWP)
- Import identification number (for permit holders; Dokumen Angka Pengenal Importir-Produsen or API-P)
- Power of attorney for recommendation request processes

**** In addition to (*), for plastic scrap import, based on The Ministry of Industry webpage [94], submission for the import recommendation from the Ministry of Industry requires (also for rubber scraps and powder):

- Cover letter (addressed to DG. of Chemical, Textile, and Other Industries, Directorate of Downstream Chemical Industries, Ministry of Industry)
- Statement letter, stating that the imported waste would not be domestically traded
- Business license (Dokumen Izin Usaha Industri or IUI) or business registration (Dokumen Tanda Daftar Industri or TDI)
- Company registration certificate (Dokumen Tanda Daftar Perusahaan or TDP)
- Tax identification number (Dokumen Nomor Pokok Wajib Pajak or NPWP)
- Customs identity number (Dokumen Nomor Identitas Kepabeanan or NIK)
- Recommendation letter from DG. of Solid and Hazardous Waste Management, Ministry of Environment and Forestry
- Mass balance of production process^l
- Data identity of importing company
- Acknowledgement letter of the Import Permit for Non-Hazardous Waste (for permit holder)
- Import realization control card (for permit holders)
- Company profile^m
- Power of attorney for recommendation request processes

^k See <https://www.kemenperin.go.id/perizinan/160/Master-List-Impor-Limbah-Non-B3>

^l See here: https://kemenperin.go.id/download_persyaratan.php?id=363

^m See here: https://kemenperin.go.id/download_persyaratan.php?id=1558

Both recommendation letters from the MoEF and the Mol are required for the import permit submission request to the MoT (see Table 4 below).

Table 4. List of requirements for plastic and paper scraps import permit from the Ministry of Trade

Permit Profile Requirement for Plastic Scrap Import Permit (HS 3915)	Permit Profile Requirement for Paper Scrap Import Permit (HS 4707)
a. Business number (<i>Dokumen Nomor Induk Berusaha or NIB</i>) b. Business license (<i>Dokumen Izin Usaha Industri or IUI</i>) c. Environmental permit (<i>Dokumen Izin Lingkungan</i>) d. Recommendation letter from the MoEF (DG. of Solid and Hazardous Waste Management) e. Recommendation letter from the Mol (DG. of Chemical, Pharmaceutical, Textile, and Other Industries) f. Approved <i>master list</i> from the Mol g. Integrity pact, stating that: - the imported non-hazardous waste is appropriately following the defined importable non-hazardous waste (per MoT 20/2021 jo. 25/2022) - be responsible and willing to withdraw the imported non-hazardous waste when violation occurs h. Cover letter (addressed to the Ministry of Trade) i. Proof of Exporting Company Registration (<i>Dokumen Bukti Eksportir Terdaftar or BET</i>) issued by Indonesian Embassy in the country of origin	a. Business number (<i>Dokumen Nomor Induk Berusaha or NIB</i>) b. Business license (<i>Dokumen Izin Usaha Industri or IUI</i>) c. Environmental permit (<i>Dokumen Izin Lingkungan</i>) d. Recommendation letter from the MoEF (DG. of Solid and Hazardous Waste Management) e. Recommendation letter from the Mol (DG. of Agroindustry) f. Approved <i>master list</i> from the Mol g. Integrity pact, stating that: - the imported non-hazardous waste is appropriately following the defined importable non-hazardous waste (per MoT 20/2021 jo. 25/2022) - be responsible and willing to withdraw the imported non-hazardous waste when violation occurs h. Cover letter (addressed to the Ministry of Trade) i. Proof of Exporting Company Registration (<i>Dokumen Bukti Eksportir Terdaftar or BET</i>) issued by Indonesian Embassy in the country of origin

Source: Ministry of Trade, 2022 [95, 96]

For plastic scraps, importers are allowed to have third parties to treat/recycle the imported waste. They must process the imported waste into new commodities, with a new HS code classification and have an added economic value. This advisory stipulates in the request of a statement letter by the importing company. However, this required statement letter does not apply to paper scrap imports.

4.1.3 Regulations for Exporting Companies in the Country of Origin

The MoT regulation requires the exporting companies to validate their paper works at the Indonesian Embassies in the country of origins. The Indonesian Ministry of Foreign Affairs (MoFA), follow up the procedure sets out in the MoFA Regulation No. 13/2019 concerning the Procedures for Legalization of Documents in the Ministry of Foreign Affairs (Figure 14 below). In addition, Indonesian Embassy has the authority to analyse the submitted request by the exporting companies in the country of origin as well as their track records. This domain was set due to the different formats of legal documents submitted in the country of origins.

As of August 2021, MoFA has approved 355 companies from 28 countries of origin, with the majority registered in the United States (62), Australia (38), Japan (53), the United Kingdom (24), and Singapore (48) (see Annex 8.1 for complete list). This registration process aims to tackle challenges faced by Indonesia related to re-exporting/repatriation process and from the risk of policy violation [97].

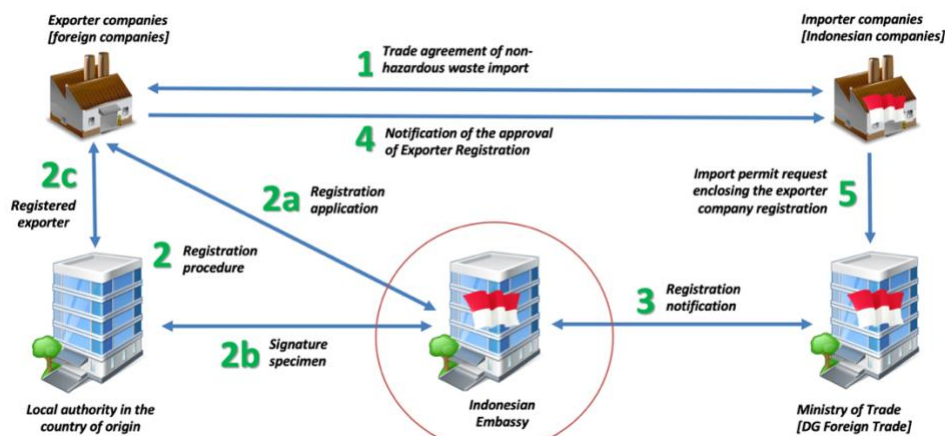


Figure 14. Exporter registration procedure in Indonesian Embassy on the country of origin
Source: Direktorat Pembangunan Ekonomi dan Lingkungan Hidup, 2021 [49]

For example, the Indonesian Embassies in Japan and New Zealand require these documents for exporters in the country of origin for their submissions as shown in Table 2 below [98, 99] to obtain the proof of registered exporter (*Bukti Eksportir Terdaftar/BET*) (examples in Figure 15 below). Some differences exist in different Indonesian embassies due to different legal format of company establishment. Further, in some countries exporting companies have to establish and notarize a custom-formatted legal document that is accepted for the submission [49]. Examples of available forms, statement letter, and other documents from the Indonesian Embassies in Japan and New Zealand are available in the annexes of this report. Despite the similarities of the requested information, template forms may vary depending on the country.

Table 5. Examples of document submission requirement for exporter registration

Japan	New Zealand
• Application form • Company profile and document containing Articles of Company / Association • Copy of statement, mentioning that the exporter takes full responsibility of the shipment, including taking back the shipments when violation occurs • A notarized Tokibotohon Document (Rireki Jiko Zenbu Shomeisho), which is a commercial register document.	• Application form • Authenticated certificate of incorporation • Articles of association • The most recent company profile • Notarized letter of statement • Company profile and document containing Articles of Company / Association • Copy of statement, mentioning that the exporter takes full responsibility of the shipment, including taking back the shipments when violation occurs • Copy of passport/ID of the authorized person representing the company • Self-addressed return NZ courier envelope (with tracking number) for document return

Source: Indonesian Embassy for Japan and New Zealand [98, 99]

This Certificate is not valid for use anywhere within the United States of America, its territories or possessions.

Administrative Use

1. Country: United States of America

Place / Lieu: [Redacted]

This public document
Ce présent acte public / Et présent document public

2. has been signed by
a été signé par [Redacted]

3. acting in the capacity of
agissant en qualité de Secretary of State

4. bears the seal / stamp of
est revêtu du sceau / est muni de State of California

Certified
Attesté - Certifié

5. at
à Los Angeles, California

6. the
le [Redacted]

7. by
par / par Secretary of State, State of California

8. No.
n° [Redacted]

9. Seal / stamp:
Sceau / Sceau

10. Signature:
Signature [Redacted]

This Notary certifies the authenticity of the signature and the capacity of the person who has signed the public document, and, where appropriate, the content of the act or deed when the public document bears the seal of the State.

To verify the accuracy of the signature, see: [Redacted]

This certificate does not constitute an Affidavit under the Hague Convention of 5 October 1961, when it is presented in a country which is not a party to the Convention. In such cases, the certificate should be presented in the consular section of the mission representing that country.

Cette Agence certifie l'authenticité de la signature et la capacité de la personne qui a signé le présent acte public, et, le cas échéant, le contenu de l'acte ou du fait lorsque l'acte public est revêtu du sceau de l'Etat.

Pour vérifier l'exactitude de la signature, voir: [Redacted]

Cette Agence ne constitue pas un Affidavit au sens de la Convention de La Haye du 5 Octobre 1961, lorsque présentée dans un pays qui n'est pas partie à cette Convention. Dans ce cas, le certificat doit être présenté à la section consulaire de la mission qui représente ce pays.

Cette Agence certifie l'authenticité de la signature et la capacité de la personne qui a signé le présent acte public, et, le cas échéant, le contenu de l'acte ou du fait lorsque l'acte public est revêtu du sceau de l'Etat.

Pour vérifier l'exactitude de la signature, voir: [Redacted]

Cette Agence ne constitue pas un Affidavit au sens de la Convention de La Haye du 5 Octobre 1961, lorsque présentée dans un pays qui n'est pas partie à cette Convention. Dans ce cas, le certificat doit être présenté à la section consulaire de la mission qui représente ce pays.

Notarized Form (BET/Bukti Eksportir Terdaftar/Proof of Registered Exporter)

令和2年登録第 [Redacted] 号

証明

輸出人、販賣業者株式会社 代表取締役 吉川弘成の代理人、日の野は、本署に対し、吉川弘成が、添付書類の署名は、自らしたものであることを承認している旨陳述した。

よって、これを証明する。

令和2年 [Redacted] 月 [Redacted] 日、本署記入登録において、東京都中央区銀座4丁目10番6号 東京証券取引所 日野 代表人 日野 [Redacted] 署名

輸出第 [Redacted] 号

証明

上記署名は、東京証券取引所 日野 代表人の署名に相当するものであり、かつ、その署名は、真実のものであることを証明する。

令和2年 [Redacted] 月 [Redacted] 日

東京証券取引所 [Redacted]

CERTIFICATE

This is to certify that the signature affixed above has been provided by Notary, duly authorized by the Tokyo Legal Affairs Bureau and that the Official Seal appearing on the same is genuine.

Date: 2020.10.20

Director of the Tokyo Legal Affairs Bureau

For legalization by the foreign consul in Japan, this is to certify that the seal affixed hereto is genuine.

Date: 2020.10.20

Tokyo, [Redacted]

Official
Ministry of Foreign Affairs
(Consular Service Division)

Figure 15. Examples of exporter's approved registration on the Indonesian Embassy (BET/Bukti Eksportir Terdaftar/Proof of Registered Exporter).

Source: Direktorat Impor, 2021 [100]

Exporting companies should also be aware of the latest established policy of the 2% maximum contamination in non-hazardous waste shipments. As stated in the MoT Regulation No. 84/2019 and its amendments, the importing companies must provide verification documents from a surveyor company in the country of origin for the importer's import permit. For example, shipments from the UK, Ireland, Latin and South America are contracted to a surveyor company, Baltic Control, starting from February 2021 [101, 102]. The incoming shipments will also be validated by Indonesia's surveyor companies, namely KSO SCISI, before the ship is docked.

4.2 Industry responses on the policy changes on non-hazardous waste trade

In September 2019, the Institute of Scrap Recycling Industries (ISRI, USA) and ISRI's Paper Stock Industries (PSI) met with representatives of the Indonesian Government and the US Embassy in Indonesia to discuss the possibility and future shipments of paper scraps to Indonesia. Attended by MoEF and KSO SCISI, Indonesia decided, at the time, to still "allow the continued movement of quality material into Indonesia" [103]. However, having also raised concerns and not supporting the Indonesian Government's previously proposed 0.5% maximum contamination level of the imported waste, UK's Recycling Association continued to lobby the Indonesian Government along with ISRI, with the reasoning of impracticality and possibility of market disruption [104]. In the following two months, the joint decree signed by the MoEF, MoT, MoI and National Police determined maximum contaminants in non-hazardous waste import shipments at 2%.

The Plastic, Olefin, and Aromatic Industry Association (INAPLAS/Asosiasi Industri Olefin, Aromatik, dan Plastik) pushed the Indonesian government to focus on setting consistent standards established by industrialised countries. However, current double standards affect shipments between business-to-business when classifying the commodities as non-hazardous waste, thus allowing such shipments. They also requested the Indonesian government to set up a specific policy on pre-shipping audits to validate the homogeneity and assure low contamination of the shipments [105].

Indonesia's plastic industry sources 17% of its necessity from plastic scraps to recycle. This total plastic scraps demand of 1.23 million tons per annum is sourced from domestic sources 913,629 tons and imported 320,452 tons. Based on Nexus3's discussion with two plastic recyclers associations, the need for importation comes from the lack of quantity and quality secondary raw supply.

The extensive domestic 'supply' capability comes from industrial and household waste. However, plastic household waste, mainly collected from the informal sector and landfills, has low-quality mixed plastic waste, and is contaminated with dirt. These conditions resulting in higher cost for cleaning and pre-treatment for the industry to recycle. Often,

domestic sources cannot provide the required 'grade' or specifications of secondary raw materials as promised.

Furthermore, the discontinuity of plastic scraps from domestic sources is unsuitable for industrial operation operations. There are cases of domestic shipments that cost more compared to imported plastic waste. Thus, domestic plastic waste recyclers prefer the ability of plastic waste exporters to provide secondary raw material and such quality as promised [106].

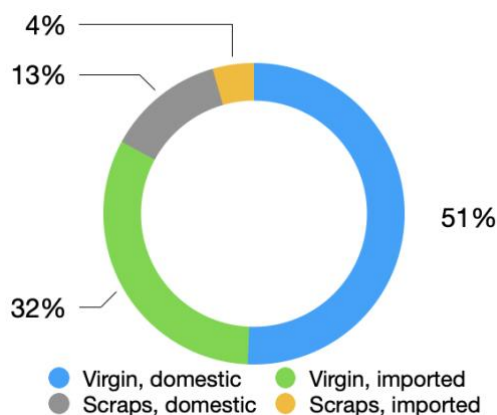


Figure 16. Supply of plastic raw materials in 2019
Source: Asosiasi Daur Ulang Plastik Indonesia, 2021 [106]

Box 3. Challenges in domestically sourcing plastic and paper waste

Indonesian recycling industries, represented by the association of plastic recycling and paper industries*, expressed their current preference for imported waste and scrap compared to locally sourced plastic waste and scrap. ADUPI mentioned that household plastic waste does not necessarily fit easily for industrial recycling, primarily due to the lack of quality, plastic type, heterogeneity, and the often-dirty condition. APKI emphasized the fragility of post-consumption paper waste, which quality deteriorates as it enters Indonesia's waste management system, considering the lack of waste segregation from source.

For example, there were cases of shipment where Busan-originated plastic waste are favourable due to the continuity and its low price compared to plastic waste from Makassar. Foreign companies guarantee the quality of plastic waste commodities as well as the continuity of the shipment. On the other hand, domestic plastic waste is 'dirtier' and more expensive, even for the same volume of plastic waste. Domestic traders also claimed that shipments that were not following their agreements for various reasons, such as bad weather disrupting the shipments, lack of workers, and many more.

Thus, challenges of domestically sourced plastic and paper waste covers:

- Cost gaps.
- Supply continuity.
- Transportation issues.

* Plastic Recycling Industry Association (ADUPI/Asosiasi Daur Ulang Plastik Indonesia), Indonesian Plastic Recyclers (IPR), Pulp and Paper Industry Association (APKI/Asosiasi Industri Pulp and Kertas Indonesia)

Source: Focus Group Discussion “Dampak Peraturan Menteri Perdagangan No. 84 Tahun 2019 Terhadap Industri Daur Ulang Plastik dan Kertas”, Nexus3 Foundation, 29 July 2019 [107]

In Indonesia, various paper companies use imported paper scraps as their secondary raw materials for recycling into paper products. Most of them are printing paper companies, followed by tissue (or napkin) paper companies and recovered pulp companies [108].

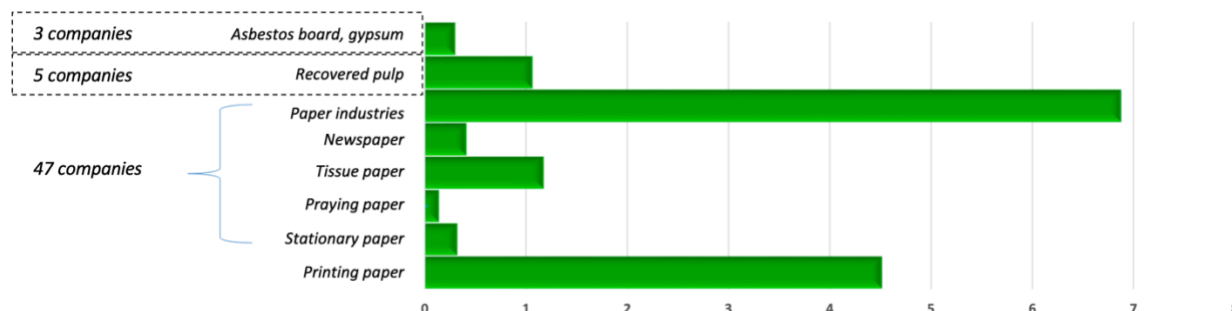
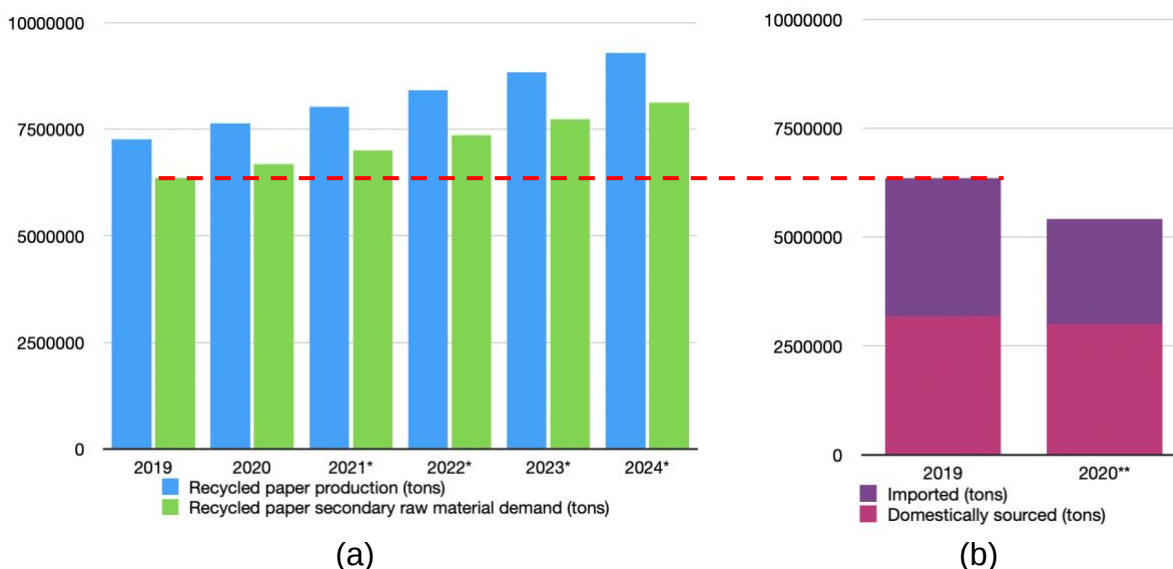


Figure 17. Various types of paper companies using paper waste and scraps as secondary raw material

Source: Asosiasi Industri Pulp dan Kertas Indonesia, 2021 [108]

As China’s most prominent competitor, the demand of paper scraps and waste from Indonesia’s paper companies have been increasing over the years (Figure 18a). In 2019, the need for paper scrap was 6,362,188 tons and rose almost 5% to 6,680,297 tons the following year. Moreover, the demands is projected to increase to 8,119,943 in 2024, where more than 50% of the paper recycling industries sourced its secondary raw materials from imported scraps (Figure 18b) [108].



*Demand estimation

**Full data in 2020 are not yet available

Figure 18. (a) Paper recycling industry current demand and projection, and (b) Secondary raw material sources for paper recycling companies

Source: Asosiasi Industri Pulp dan Kertas Indonesia, 2021 [108]

Regarding the issue of the trade of non-hazardous trade in Indonesia, domestic recyclers, both plastic and paper industries, faced multiple challenges [106-108]:

- There are no incentives for the recycling industries.
- Relatively low demand for domestically sourced secondary raw materials.
- Mismanaged waste in Indonesia's solid waste management, especially lacking in infrastructures and technology in waste collection and separation.
- Value-added tax for recycling industries complicates recycling industries.
- The absence of policy requiring recycled materials within plastic-based or paper-based products (*Tingkat Kandungan Dalam Negeri*/TKDN/Domestically Sourced Content Level).
- Ecolabel scheme for plastic is not actually environmentally friendly, for example, tote bags made from plastic woven materials that currently are replacing single-use plastic bags used by retails and fast-food companies are harder to recycle.
- Indonesia still applying two different standards for importing paper waste (Institute of Scrap Paper Industries (ISRI) standard vs Confederation of European Paper Industries (CEPI) standard).
- Multiple customs inspections for a shipment of commodity demonstrates inconsistencies and inefficiency of the surveyor companies.
- No further definition or explanation to determine homogenous and 'clean' imported waste in the MoT Regulation.
- There is inconsistency and lack of implementation of the regulatory framework, especially in waste management in Indonesia.



Ministry of Trade No.
20/2021
(jo. No. 25/2022)



Import permit/license from Ministry of Trade requires:

- Approved masterlist from the Ministry of Industry
- Recommendation from the Ministry of Environment and Forestry



Non-container shipments:

Direct shipment to the designated entry port

Container shipments:

Available to transit without opening the seal; equipped with surveyor documents; verified by surveyor company in Indonesia



Registered exporter in the Indonesian embassy in the country of origin



Entry: 15 entry ports for non-hazardous waste imports, free trade/port zones, and bonded zones/storage areas, and special economic zones

Importable non-hazardous waste are:

- Not from landfill
- Not mixed with dirt/soil
- Not household waste
- Not contaminated with hazardous waste
- Homogenous (max 2% contamination)



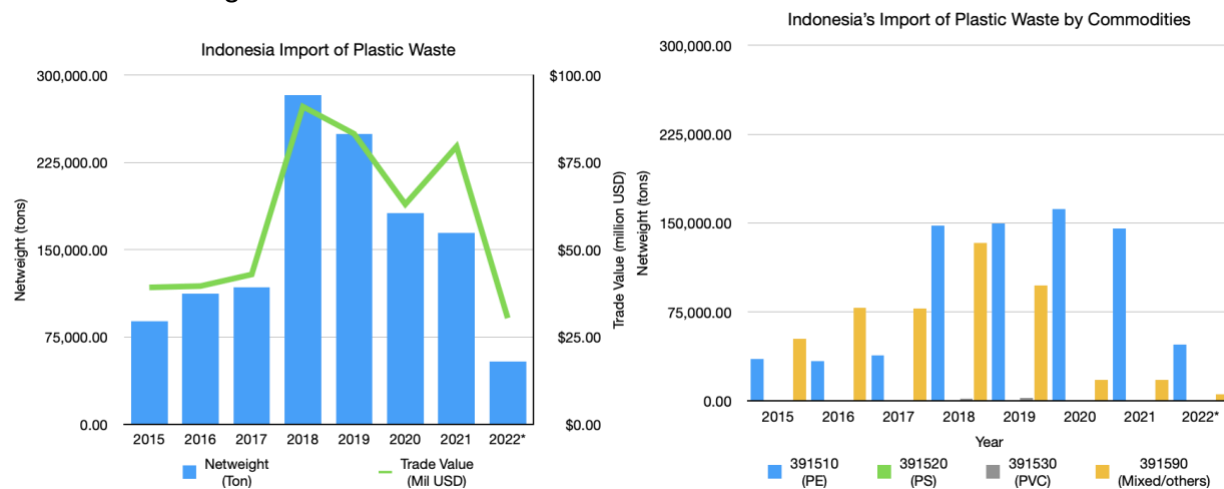
Unwanted residuals should be self-managed, or work with a licensed third-party

Figure 19. Recap of the most recent Indonesian regulatory framework on non-hazardous waste imports

5 EXPORT AND IMPORT OF PLASTIC WASTE IN INDONESIA

5.1 Indonesia's Import of Plastic Waste

In the last five years, Indonesia's import of plastic waste and scrap (HS Code 3915) spiked in 2018 (141% from the previous year) and then declined. As Indonesia reviewed the import policy in 2019, plastic waste shipments declined 27% in 2020 from the previous year. Based on the collected data from Indonesia Statistics, the most significant five import partner countries were Netherland, Germany, Slovenia, the United States and Singapore. Trade values, however, fluctuate differently from the imported volume. The lowest trade value per ton occurred in 2018, at an average of \$321.45 per ton of imported waste on average.



* Data in 2022 is only available for January - March

Figure 20. Indonesia's plastic waste import (HS Code 3915)

Source: Indonesia Statistics, 2022

Before 2018, the most imported plastic waste trade falls under HS Code 391590, which also contains mixed plastic and other types of plastics that are not polyethylene, polystyrene, nor polyvinyl chloride. However, starting from 2018, coincidentally after the National Sword took into force, the proportion of 391510 outnumbered 391590 and kept increasing until 2020.

Table 6. Top 10 country partner of plastic waste import (HS Code 3915)

Rank	2016		2017		2018		2019		2020		2021		2022*	
	Origin	Netweight (Ton)	Origin	Netweight (Ton)	Origin	Netweight (Ton)	Origin	Netweight (Ton)	Origin	Netweight (Ton)	Origin	Netweight (Ton)	Origin	Netweight (Ton)
1	United States	50,037	Marshall Islands	68,295	Marshall Islands	83,125	Marshall Islands	43,293	Netherlands	51,493	Netherlands	67,783.265	Netherlands	17,551.003
2	Marshall Islands	24,781	Singapore	9,097	United States	49,888	Germany, Fed. Rep. Of	40,480	Germany, Fed. Rep. Of	37,530	United States	20,727.280	Germany, Fed. Rep. Of	7,434.460
3	Australia	12,380	United States	7,887	Germany, Fed. Rep. Of	43,974	United States	36,101	Slovenia	17,100	Singapore	17,246.429	United States	6,437.973
4	Canada	3,973	Australia	6,879	Netherlands	16,779	Netherlands	33,053	United States	16,410	Belgium	17,113.580	Belgium	5,678.680
5	Korea, Republic Of	3,965	United Kingdom	4,813	Australia	15,525	Australia	17,278	Singapore	13,272	Australia	16,121.706	Singapore	4,885.791
6	United Kingdom	3,731	New Zealand	2,950	Japan	11,589	Belgium	16,919	Australia	11,465	Germany, Fed. Rep. Of	5,188.701	Australia	4,765.078
7	New Zealand	2,393	Mexico	2,301	Singapore	11,475	Japan	11,937	Belgium	8,757	New Zealand	4,746.340	Slovenia	2,112.310
8	Singapore	2,091	Korea, Republic Of	2,284	United Kingdom	9,465	France	9,563	Japan	6,312	Japan	4,659.642	New Zealand	1,387.830
9	Netherlands	1,676	Canada	2,232	Belgium	7,464	Slovenia	8,930	Poland	5,567	Slovenia	3,753.701	Japan	1,239.268
10	Belgium	1,203	Guatemala	1,431	New Zealand	7,119	Singapore	8,704	Hong Kong	2,225	Poland	18,29.740	Poland	940.820

* Data in 2022 is only available for January - March

Source: Indonesia Statistics, 2022

Looking back at the global development of plastic waste trade dynamics, we can reflect to the result of China's policy changes' impact on the Indonesian import of plastic waste.

Considering the import fluctuations, Indonesia's import of plastic waste peaked during the year following China's restrictions. During that period, Indonesia's import outnumbered the export in 2018 after China enacted the Blue-Sky Policy trial.

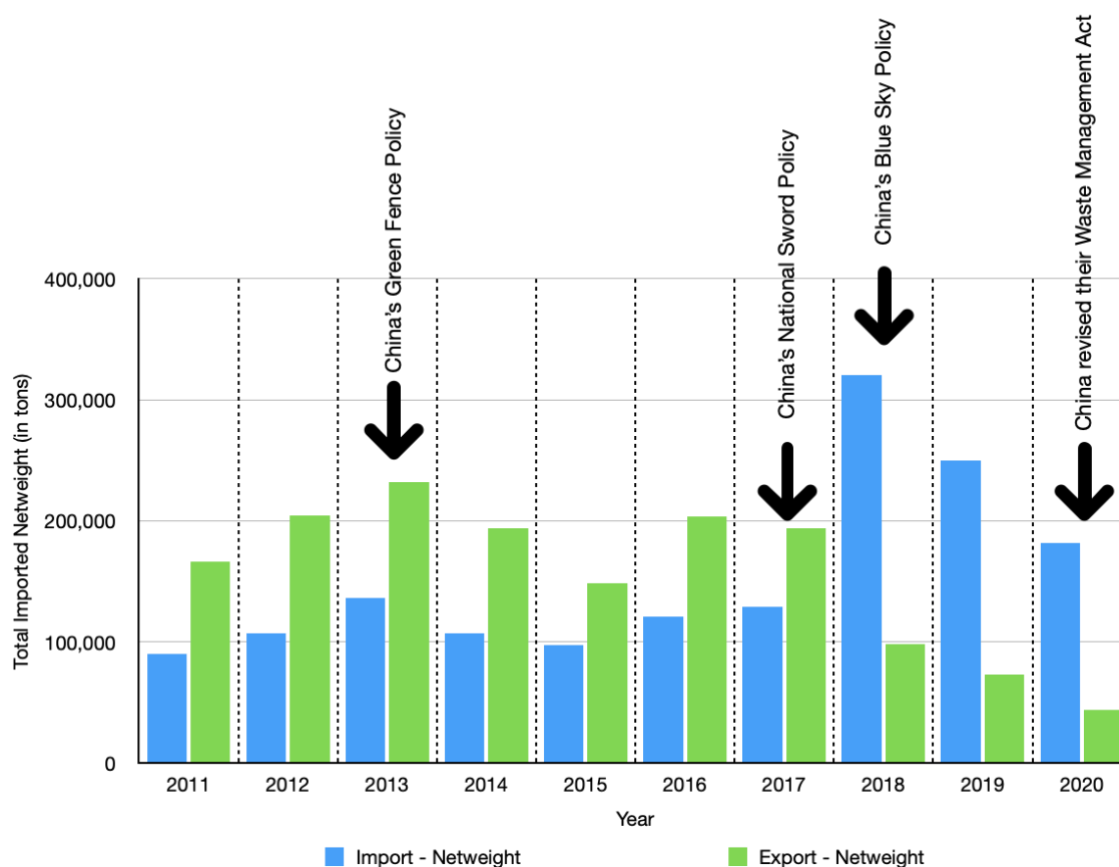


Figure 21. Fluctuations of Indonesia's export and import of plastic scrap (HS 3915)

Source: UN Comtrade Data, 2022

Indonesia's import partner of plastic waste was dominated by trade partners from the North America, mainly from the United States, until 2016. In the same year, emerging shipments came from the Marshall Islands with no reports of export from their end [109]. The following year, import from the United States sharply decreased by 70% reached 11 thousand tons. At the same time, Indonesia reported shipment from the Marshall Islands tripled to 68 thousand tons, making shipments from the Marshall Islands the most significant volume of imports in 2017 (see also Box 4 on the Marshall Islands). After 2018, the inflow of plastic waste to Indonesia increased from the US, Australia, the UK, and Spain. Meanwhile, Malaysia imported of significant shipments of plastic waste from the United States, Great Britain, and Spain [17].

At the peak of Indonesia's import of plastic waste in 2018, imports of plastic waste to Indonesia rose from different regions of the world, either from North America (four-fold), Europe (eight-fold), as well as Australia and Oceania (34%). These imported plastic

wastes, often become paper scrap contaminants. In addition, the Indonesian paper mills are not equipped with treatment capacity for certain types of plastics that are hard to recycle. This unwanted plastic was thrown out or ‘donated’ by the importing paper companies to local communities to further ‘illegally’ sort and sent to middlemen for recycling or downcycling [109].



*Figure 22. A mountain of plastic waste contaminants in a private landfill belongs to one of the largest paper mills in Indonesia, PT Indah Kiat in Serang.
Photo credit: Nexus3, 2022.*

After the restriction and reviewed regulations in Indonesia in 2019, the shipments started to the overall decrease. Shipments from Australia and Oceania dropped by almost half to 43 thousand tons and North America by 30% to 37 thousand tons, dominated by the Marshall Islands and the United States, respectively. However, shipments from the Western European countries, rose to 107 thousand tons, making the region the most significant source of plastic waste imported by Indonesia until today. The latest data from 2020 showed that shipments from West Europe account for 57% of total imported plastic waste to Indonesia. Despite the fluctuation in the total trade value, which is also dependent on the shipment quantity, the average tonnage price for import and export shows an increasing trend.

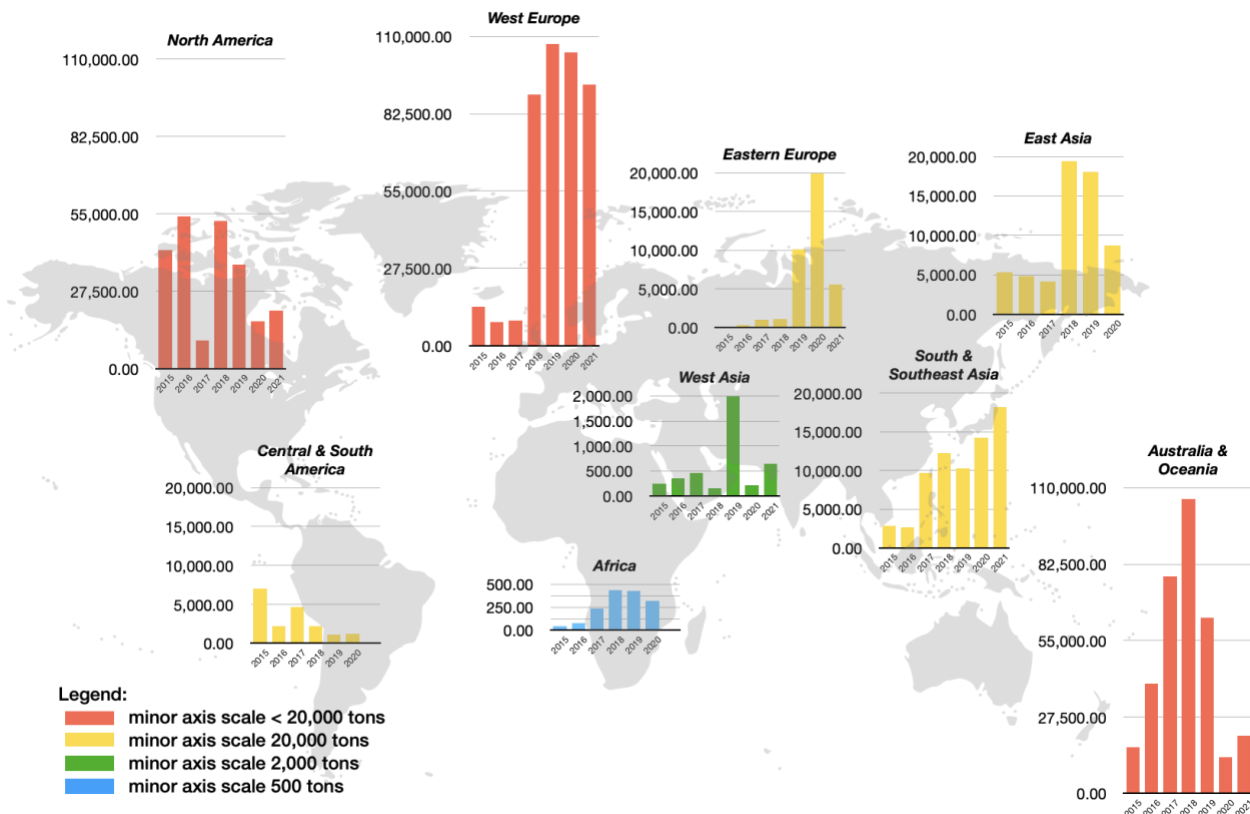
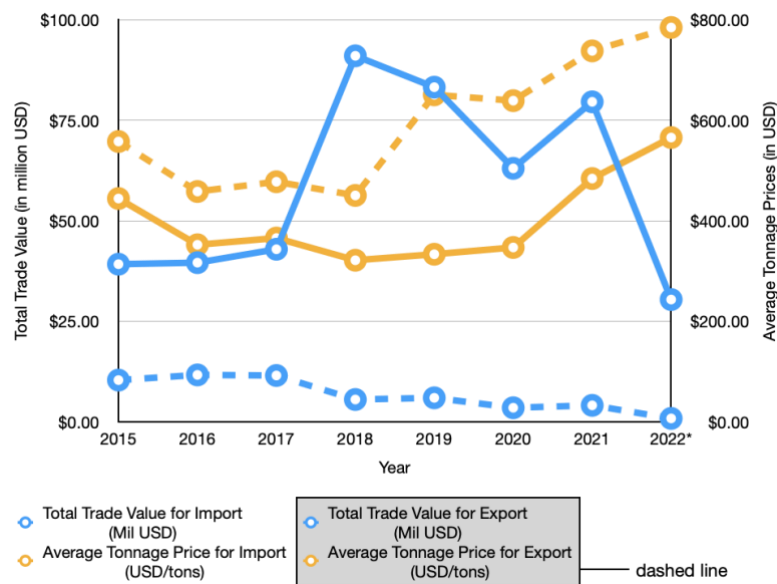


Figure 23. Indonesia's import of plastic waste (HS Code 3915) by region (in tons)
Source: Indonesia Statistics, 2022

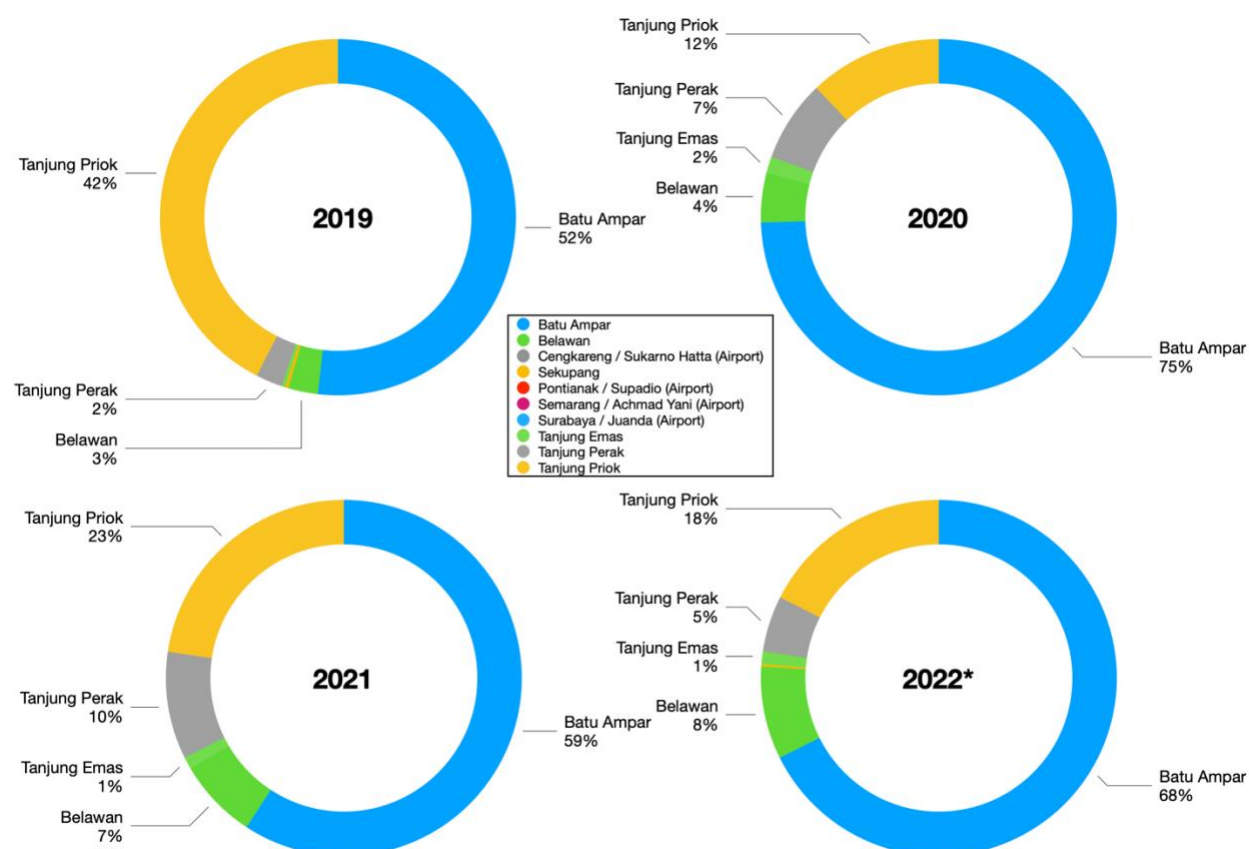


* Data in 2022 is only available for January - March

Figure 24. Fluctuations in annual average tonnage import and export price of plastic scraps (HS3915).
Source: Indonesia Statistics, 2022

The reviewed non-hazardous waste import regulation (see Section 5.1) resulted in the short-listed port of entry on which plastic and paper waste shipments allowed to enter Indonesia. However, there was a minor shipment to Sekupang Port and several airports, which was not included in the list in the MoT 92/2019, probably due to the reviewed date in October 2019.

In 2019 and 2020, the port of entry shifted from predominantly Tanjung Priok in Jakarta Province [109] to Batu Ampar Port in Batam City, Riau Islands Province (52% and 75% in 2019 and 2020, respectively). Tanjung Priok Port are still the second highest port of entry for plastic waste (42% and 12% in 2019 and 2020, respectively), followed by Belawan Port. A small quantity of paper waste imports is still observed in four airports of Semarang, Tangerang, Pontianak, and Surabaya cities.



* Data of 2022 only available for January – March.

Figure 25. Indonesia's port of entry for plastic and paper waste imports.

Source: Indonesia Statistics, 2022

From these entry points, plastic and paper waste imports shipments then distributed to areas where plastic and paper industries concentrated. These industries are concentrated dominantly within West and Eastern Java Provinces, Northern Sumatera, and Riau Provinces, and in the Southern and Central Sulawesi Provinces.

5.2 Indonesia's Export of Plastic Waste

Indonesia is currently one of the countries with positive net import of HS 3915. Figure 25 below shows that Indonesia export has been declining since 2016, as has the trade value. Data indicates that Indonesia mainly sends out plastic waste under HS code 391590. Unfortunately, there is no further detail for this code to know whether they are mixed plastic waste or cleanly separated plastic waste other than PE, PS, or PVC. Considering Indonesia and some ASEAN countries play a role as the intermediate re-processing country for plastic waste trade [110], the end product of those processing should either be cleanly separated plastic waste or other products of plastic.

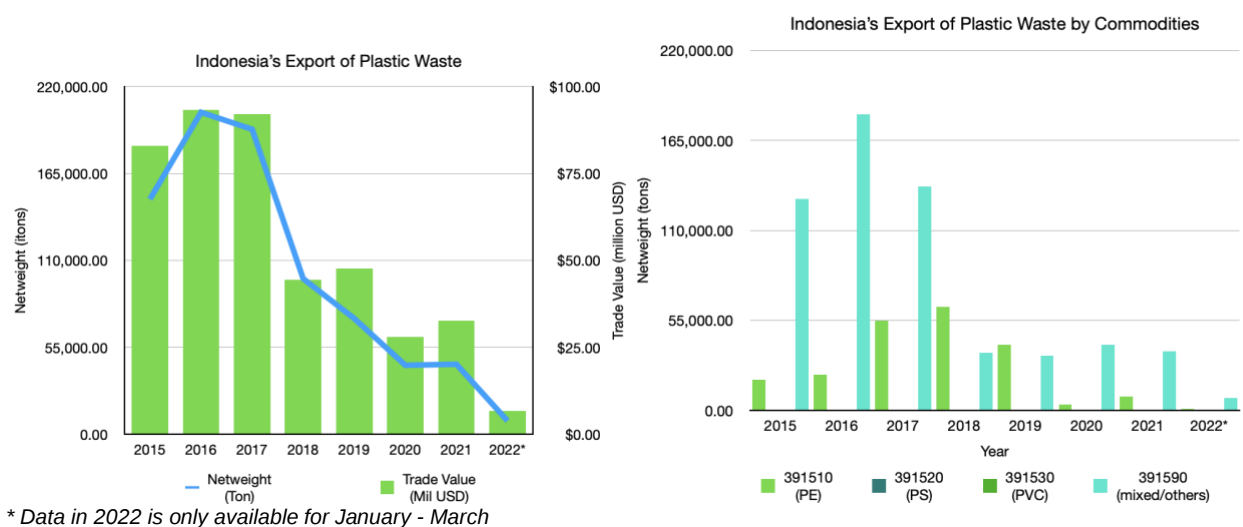


Figure 26. Indonesia's plastic waste export (HS Code 3915)

Source: Indonesia Statistics, 2022

Based on the data from Indonesia Statistics, Indonesia used to ship plastic waste mainly to China. However, in 2020, shipment to China dropped 87% to only 4,774 tons. As a result, the leading export destination countries of plastic waste from Indonesia is the United States in 2020, reaching more than 8,000 tons of plastic waste exporter, followed by the United Kingdom (5,721 tons) and China as the third largest export destination (4,774 tons). This situation has been confirmed by Interpol's report mentioning the decrease and/or disappearance of trade routes of plastic waste to China, both legal and illegally [17].

Table 7. Top ten countries partner of plastic waste export (HS Code 3915)

Rank	2016		2017		2018		2019		2020		2021		2022*	
	Destination	Netweight (Ton)	Destination	Netweight (Ton)	Destination	Netweight (Ton)	Destination	Netweight (Ton)	Destination	Netweight (Ton)	Destination	Netweight (Ton)	Destination	Netweight (Ton)
1	China	187,772	China	173,405	China	61,155	China	37,423	United States	8,154	Taiwan	9476.997	Ireland	1700.752
2	Hong Kong	10,104	Hong Kong	5,431	United States	6,107	Ireland	7,249	United Kingdom	5,721	United States	5794.717	Taiwan	1617.445
3	Taiwan	1,372	United States	2,730	Malaysia	5,330	United States	5,532	China	4,774	Ireland	5525.080	United States	1376.899
4	Korea, Republic Of	1,089	Malaysia	2,192	East Timor	3,921	Belgium	3,576	Ireland	4,479	Belgium	4891.893	Viet Nam	1202.728
5	United States	1,069	India	1,607	Viet Nam	3,722	Australia	2,607	Taiwan	3,944	Viet Nam	4009.705	Belgium	1098.120
6	Singapore	502	Korea, Republic Of	1,584	Thailand	2,251	Viet Nam	2,573	Australia	3,079	China	3473.445	Italy	303.600
7	Malaysia	388	Viet Nam	1,184	Korea, Republic Of	1,664	United Kingdom	1,809	Belgium	2,881	Australia	2731.565	Spain	184.392
8	Italy	332	Ukraine	1,101	Belgium	1,600	Malaysia	1,807	Viet Nam	2,070	Oman	1184.264	China	180.453
9	India	216	Taiwan	962	India	1,542	India	1,421	Portugal	1,388	Malaysia	1017.278	Thailand	177.999
10	Thailand	147	Thailand	590	Ireland	1,447	Italy	1,348	Malaysia	1,119	Italy	1015.476	Australia	149.351

* Data in 2022 is only available for January - March

Source: Indonesia Statistics, 2022

As shown in Figure 25 below, Indonesia's export market mainly concentrates in the East Asian Region, either China or Hong Kong. Hong Kong was one of the top transit-hubs for plastic waste shipment [111], usually re-exporting from the US, Japan, Germany, and the UK to mainland China.

After the waste import policy restriction in China, however, the destinations of plastic waste shifted to developing countries like Thailand, Malaysia, and Vietnam [112]. As a result, Indonesia used to export in high volumes to Hong Kong until 2017, which then dropped in the following year. Indonesia's shipment to China also dropped after China implemented the Blue-Sky Policy.

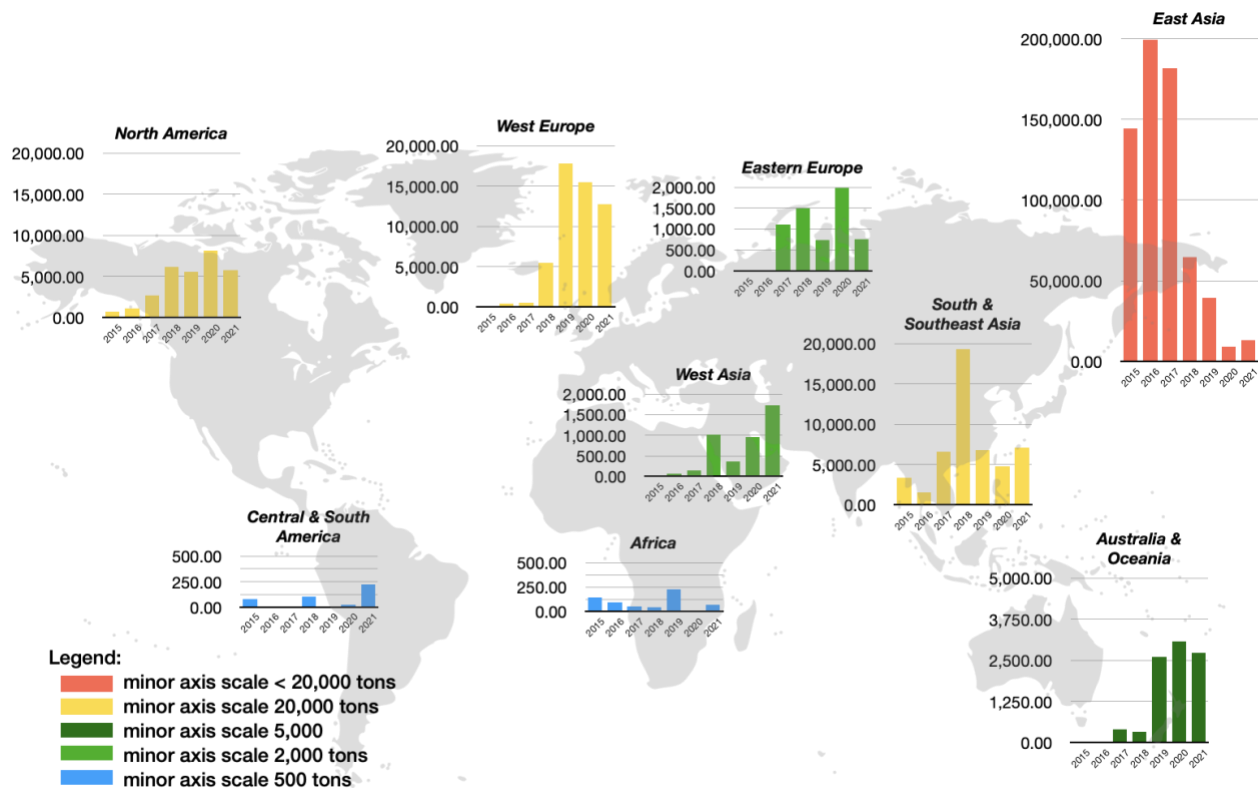


Figure 27. Indonesia's export of plastic waste (HS Code 3915) by region, in tons
Source: Indonesia Statistics, 2022

5.3 Indonesia's Import of Paper Waste

The investigations of paper waste imports in plastic waste trade arose due to multiple news coverage of plastic waste contamination in shipments [17]. Currently, Indonesia's paper mills and paper recycling companies demanded 320,000 tons for their processes [33]. The import of paper waste peaked in 2019, reaching more than 3,180,000 tons, tenfold higher than the demand from paper recycling companies. In 2020, the import volumes slightly decreased to 3 million tons.

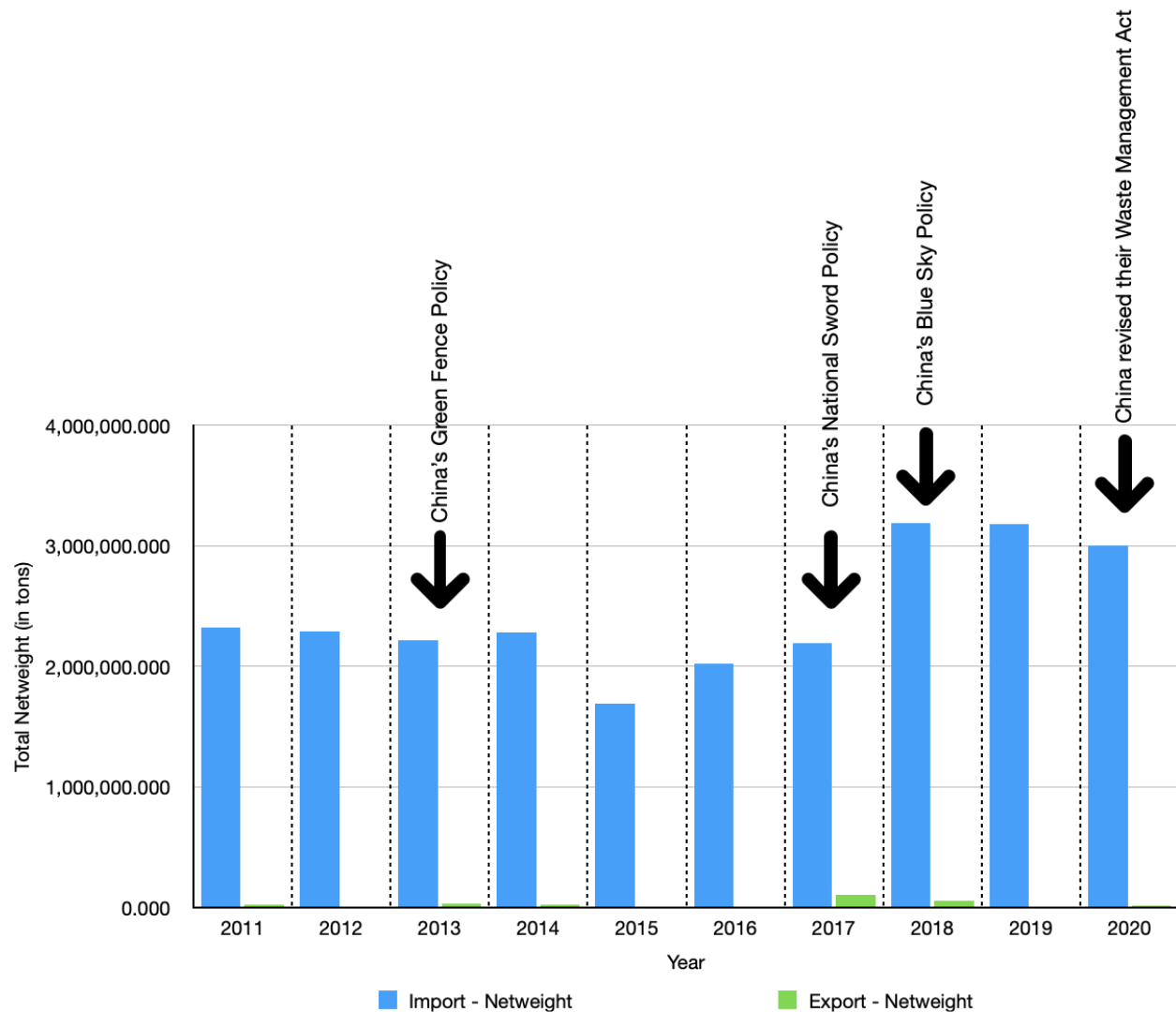


Figure 28. Fluctuations of Indonesia's export and import of paper scrap (HS 4707)
Source: Indonesia Statistics, 2022

Paper scrap imports predominantly consisted of paper waste under HS code 470710, which is non-bleached corrugated paper or cardboard. The import shipment proportion of mixed paper (HS code 470790) was higher before significantly decreased to 0.53% of the total paper waste shipments in 2020.

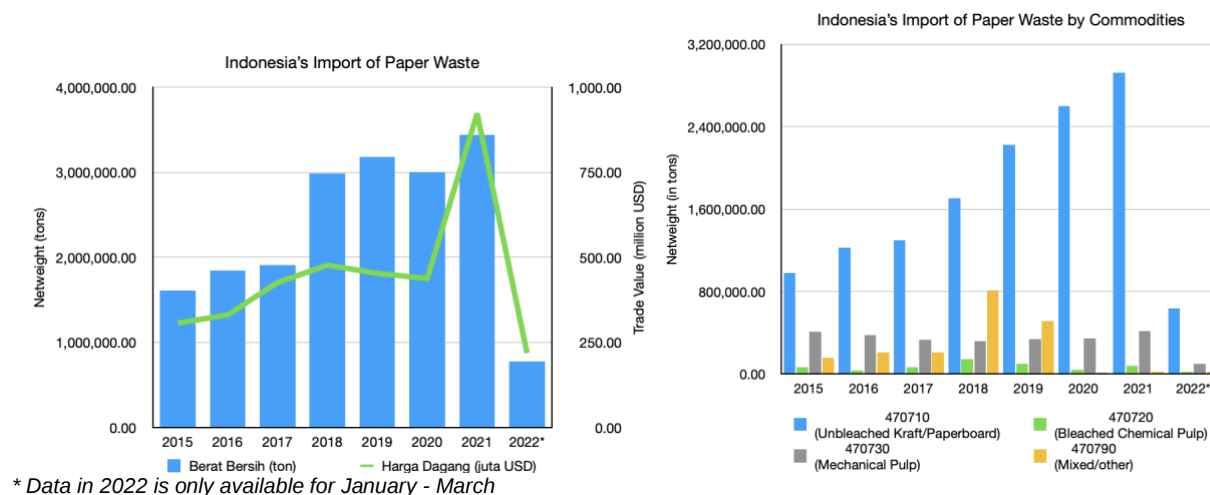


Figure 29. Indonesia's paper waste import (HS Code 4707)
Source: Indonesia Statistics, 2022

Indonesia receives paper waste shipments dominantly from Western European countries. Shipments from West Europe almost doubled in 2018 from the previous year to 1,158,306,926 tons. In 2018 and 2019, there was also a temporary increase in paper waste imports coming from North American Region with a little more than 2 trillion in total before dropping back down to 403 million tons in 2020.

Shipments from the North Americas are mainly sourced from the US, while Western European countries vary from the UK, Netherlands, Italy, France, Greece, and others. Paper waste imported from Asia predominantly originated from Japan and Singapore. In 2020, the three highest import volumes came from Italy, the US, and Australia.

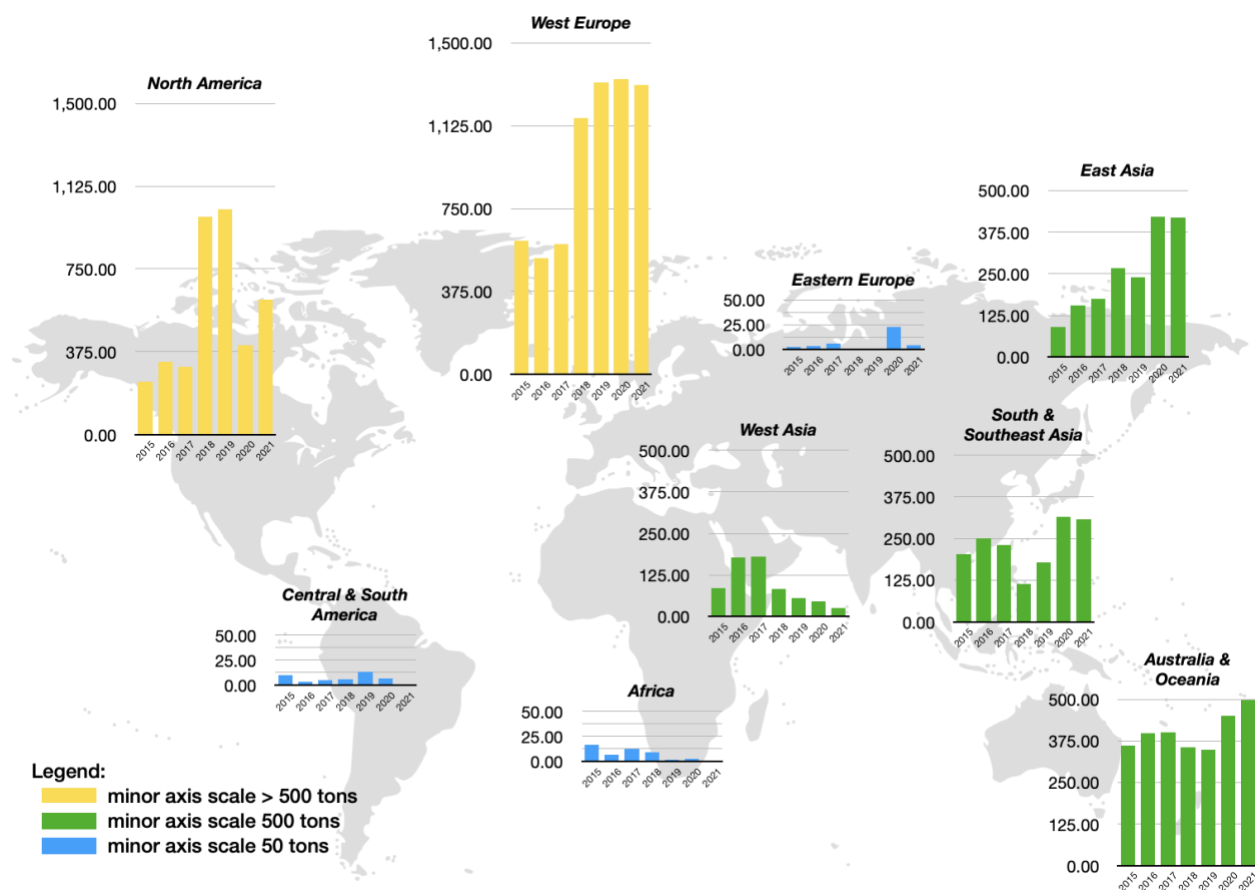


Figure 30. Indonesia's import of paper waste (HS Code 4707), by region, in thousand tons
Source: Indonesia Statistics, 2022

Table 8. Top 10 Indonesia country partner for paper waste import

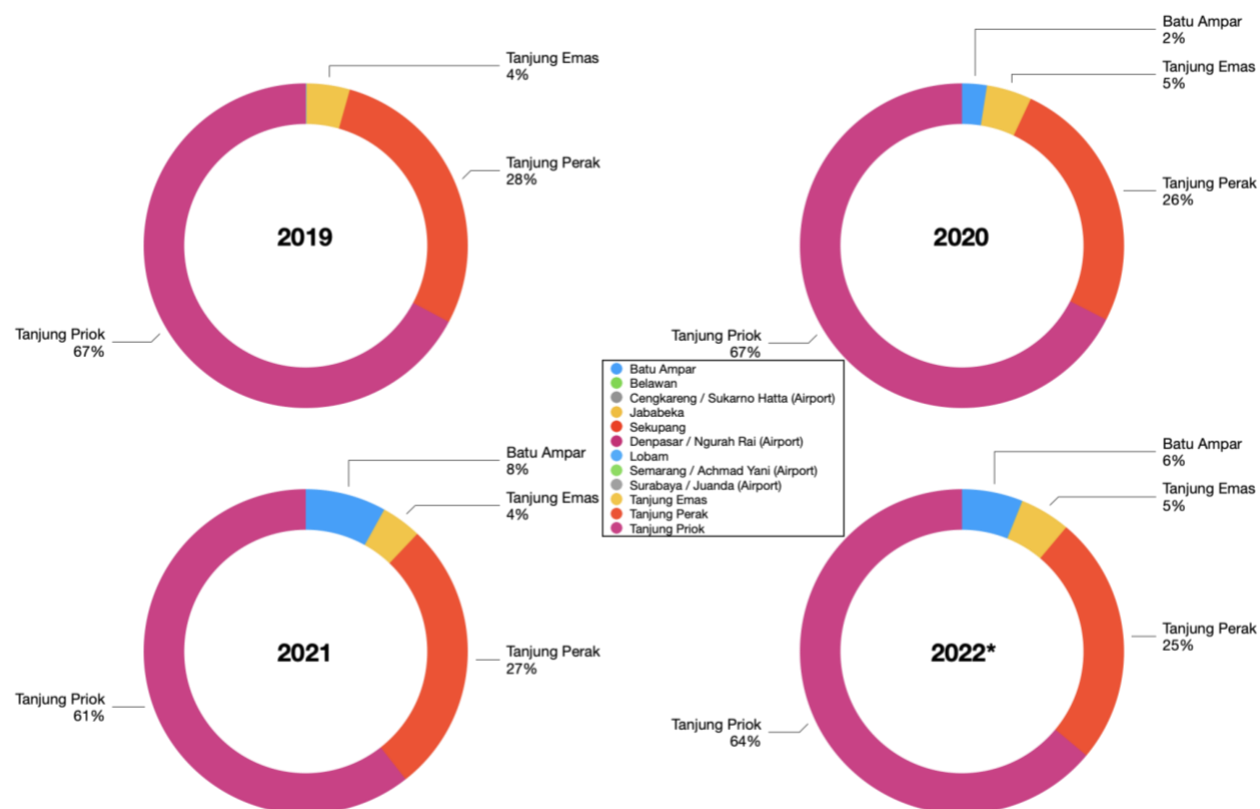
Rank	2016	2017	2018	2019	2020	2021	2022*
	Country Partner	Country Partner	Country Partner	Country Partner	Country Partner	Country Partner	Country Partner
	Netweight (In Tons)	Netweight (In Tons)	Netweight (In Tons)	Netweight (In Tons)	Netweight (In Tons)	Netweight (In Tons)	Netweight (In Tons)
1	United States	United States	United States	United States	Italy	Australia	Australia
2	Australia	Australia	United Kingdom	Italy	United States	United States	United States
3	Singapore	United Kingdom	Italy	United Kingdom	Australia	Italy	Italy
4	United Kingdom	Singapore	Australia	Japan	Japan	United Kingdom	Singapore
5	New Zealand	New Zealand	New Zealand	Australia	United Kingdom	Singapore	Japan
6	Italy	Italy	Japan	Singapore	Singapore	Japan	Netherlands
7	Japan	Korea, Republic of	Korea, Republic of	New Zealand	Netherlands	Netherlands	United Kingdom
8	United Arab Emirates	United Arab Emirates	Netherlands	Netherlands	Korea, Republic of	New Zealand	New Zealand
9	Netherlands	Japan	Greece	France	New Zealand	Korea, Republic of	Korea, Republic of
10	Korea, Republic of	Netherlands	Singapore	Greece	France	Spain	Spain

* Data in 2022 is only available for January - March

Source: Indonesia Statistics, 2022

About 67% of the paper scraps shipment's port of entry was Tanjung Priok both in 2019 and 2020 as displayed in Figure 30. The second highest port of entry receiving paper waste is Tanjung Perak in East Java, followed by Tanjung Emas in Central Java. The entry port for paper waste is dominated across Java Island and Riau Islands Province, where most of the paper industries located, as shown in Figure 30 [113, 114].

Figure 30 also shows that the entry points for imports were only Batu Ampar, Tanjung Priok, Tanjung Perak, and Tanjung Emas port, which went accordingly as the revised MoT Reg. No. 84/2019. A small quantity of paper waste imports is still observed in three airports in Bali, Tangerang, and Surabaya.



* Data in 2022 is only available for January - March

Figure 31. Indonesia's port of entry for paper scrap in 2019 (left) and 2020 (right)
Source: Indonesia Statistics, 2022

Like plastic scraps, the imported non-hazardous paper waste would be distributed to the paper production companies. Paper scraps are needed to produce various paper products, gypsum boards, asbestos boards, and recovered pulps. Fifty-two companies have a total production capacity of 12.6 million tons, although only produced 7.6 million tons of products in 2020 [108]. In 2020, total demand for paper scraps was 6.6 million tons with an import volume of 3 million, covering 50% of the total demand. The market for paper scraps is projected to increase to over 8 million tons in 2024 [108]. Figure 31 shows the nationwide distribution of paper production companies, which is concentrated in Java and Sumatera Island.



Figure 32. Locations of pulp and paper factories in Indonesia
Source: Sijabat, E.K., 2012 [113]

5.4 Indonesia's Export of Paper Waste

Compared to the import volume, Indonesia's export of paper waste is minuscule. Export of paper spiked in 2018 with more than 50,000 tons and declined since. In 2020, export of paper waste was only more 17,000 tons, mainly consisted of mixed paper waste.

These shipments are sent mainly to the South and Southeast Asian Region and Eastern Asia, mainly to Singapore, Japan, Hong Kong, Malaysia, and Korea. Like Hong Kong, Singapore also acts as a trade hub for many commodities, including paper waste [71, 72].

Indonesia's export to South Korea decreased almost ten-fold in 2020 (see Table 9), potentially due to the stricter inspection measures on the country's border after recognizing the large volume of debris within the incoming paper and plastic shipments [110]. South Korean Ministry of Environment also aims to ban industrial waste imports, especially paper, plastic, and coal ash, in 2022 and 2023 [111].

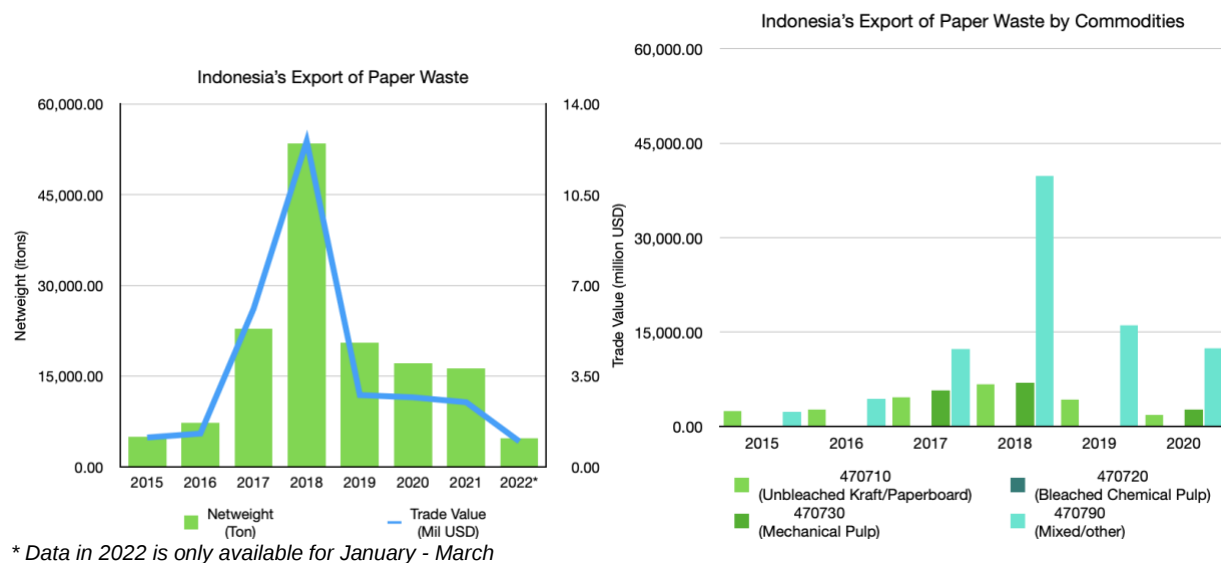


Figure 33. Indonesia's paper waste export (HS Code 4707)
Source: Indonesia Statistics, 2022

These shipments are sent mainly to South and Southeast Asian Region, as well as Eastern Asia, mainly to Singapore, Japan, Hong Kong, Malaysia, and Korea. Similar to Hong Kong, Singapore also acts as trade-hub for a lot of commodities, including paper waste [71, 72].

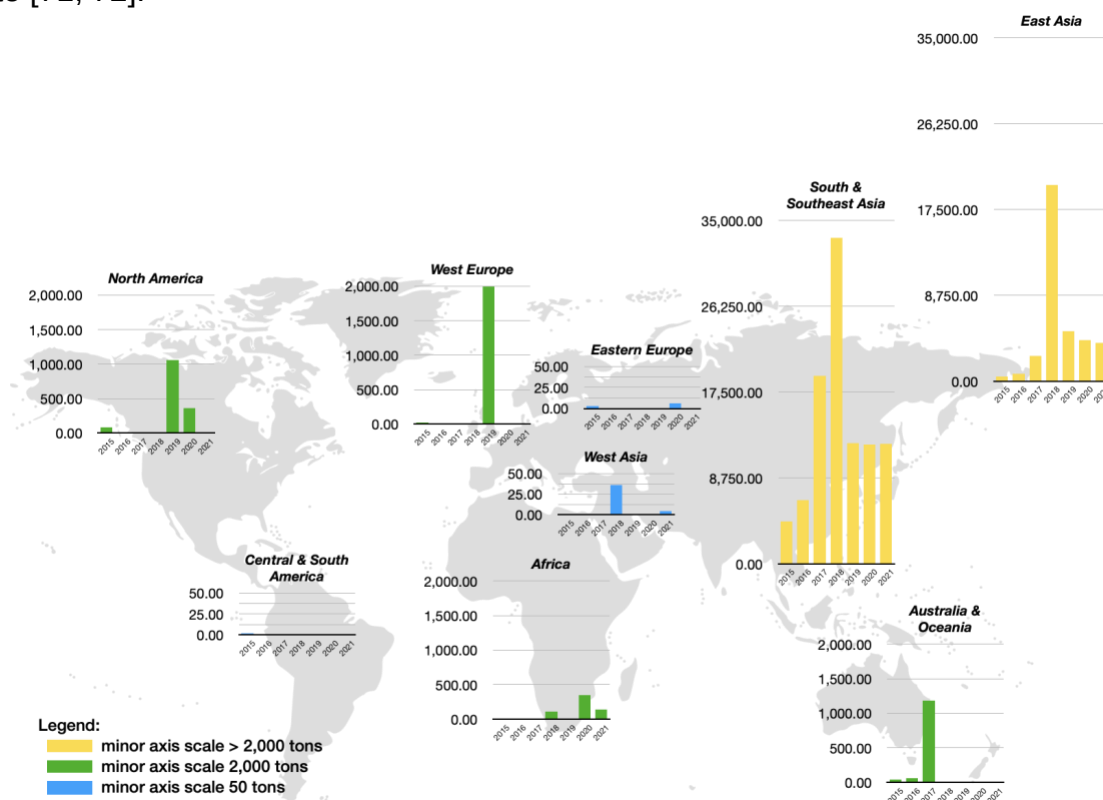


Figure 34. Indonesia's export of paper waste (HS Code 4707), by region, in tons
Source: Indonesia Statistics, 2022

Indonesia's export to South Korea decreased almost ten-fold in 2020 (see Table 7), potentially due to the stricter inspection measures on the country's border, after recognizing the large volume of debris within the incoming paper and plastic shipments [115]. South Korean Ministry of Environment also aims to ban industrial waste imports, especially for paper waste, plastic waste, and coal ash, in 2022 and 2023 [116].

Table 9. Top 10 Indonesia country partner for paper waste export

Rank	2016		2017		2018		2019		2020		2021		2022*	
	Country Partner	Netweight (In Tons)	Country Partner	Netweight (In Tons)	Country Partner	Netweight (In Tons)	Country Partner	Netweight (In Tons)	Country Partner	Netweight (In Tons)	Country Partner	Netweight (In Tons)	Country Partner	Netweight (In Tons)
1	Singapore	6,338.45	Singapore	14,530.45	Singapore	27,901.70	Singapore	12,312.01	Singapore	12,173.75	Singapore	11,954.679	Singapore	2274.434
2	Korea, Republic of	653.54	Korea, Republic of	2,152.61	Hong Kong	10,647.78	Japan	2,549.75	Japan	3,476.93	Japan	3,858.705	China	1430.995
3	Japan	103.48	Malaysia	2,033.38	China	4,161.10	Korea, Republic of	2,509.09	China	420.34	Thailand	260.740	Japan	1036.260
4	Malaysia	84.54	India	1,470.47	Viet Nam	3,791.00	United Kingdom	1,559.14	United States	366.22	Djibouti	138.465	Taiwan	0.110
5	Australia	56.67	Viet Nam	1,056.86	Japan	2,493.00	United States	1,062.61	Djibouti	349.96	Korea, Republic of	69.270	United States	0.050
6	Viet Nam	41.38	Australia	619.51	Korea, Republic of	2,488.20	Germany, Fed. Rep. of	490.95	Korea, Republic of	280.01	Qatar	4.200	New Zealand	0.020
7	Portugal	2.02	New Zealand	562.98	Malaysia	674.30	Viet Nam	11.14	Rep. of Macedonia	5.93	Brunei Darussalam	0.123875	Viet Nam	0.005
8	Germany, Fed. Rep. of	0.84	Japan	370.82	India	586.70	East Timor	1.02	East Timor	1.39	Australia	0.100	Australia	0
9	Slovakia	0.66	Philippines	46.57	Taiwan	239.50	Portugal	0.19	Czech Republic	0.13	Maldives	0.053	Belgium	0
10	East Timor	0.50	Hong Kong	24.71	Philippines	150.00	Slovakia	0.18	Taiwan	0.01	East Timor	0.040	Brunei Darussalam	0

* Data in 2022 is only available for January - March

Source: Indonesia Statistics, 2021

5.5 Indonesia's Trade of Plastic Waste with Several Region or Country

5.5.1 OECD countries

Since 2016, global export of OECD countries has been declining (Figure 34) from a little over 7 million tons in 2016 to almost 3 million tons in 2020, due to the China's restriction policy. However, the market for plastic waste export for OECD countries still exist in some European countries like Turkey and Asian countries, including in the ASEAN region.

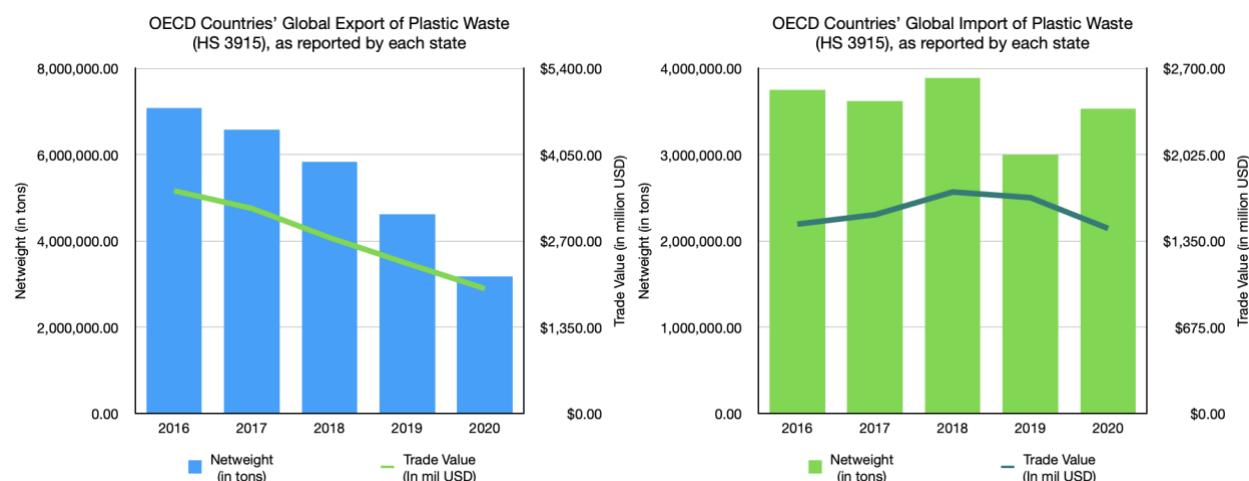


Figure 35. OECD countries' global export (left) & import (right) with the world
Source: UN Comtrade, 2021

Regarding their trade with Indonesia, OECD countries' export to Indonesia spiked in 2018, around the same time China enacted the Blue-Sky Policy. Among the OECD

country members, the three largest countries that exported their plastic waste were Netherland (58326.8 tons), Germany (42421.28 tons), and Japan (26718.625 tons). OECD countries also received plastic waste scraps from Indonesia increasingly from 2016 (6479.43 tons) to 2020 (23724.997 tons). In 2020, the three largest countries that imported plastic waste from Indonesia were the US (13140.644 tons), Belgium (4713.7 tons), and Ireland (3945.58 tons). These volumes were numbers reported by each country, retrieved from the UN Comtrade Database (see Figure 35).

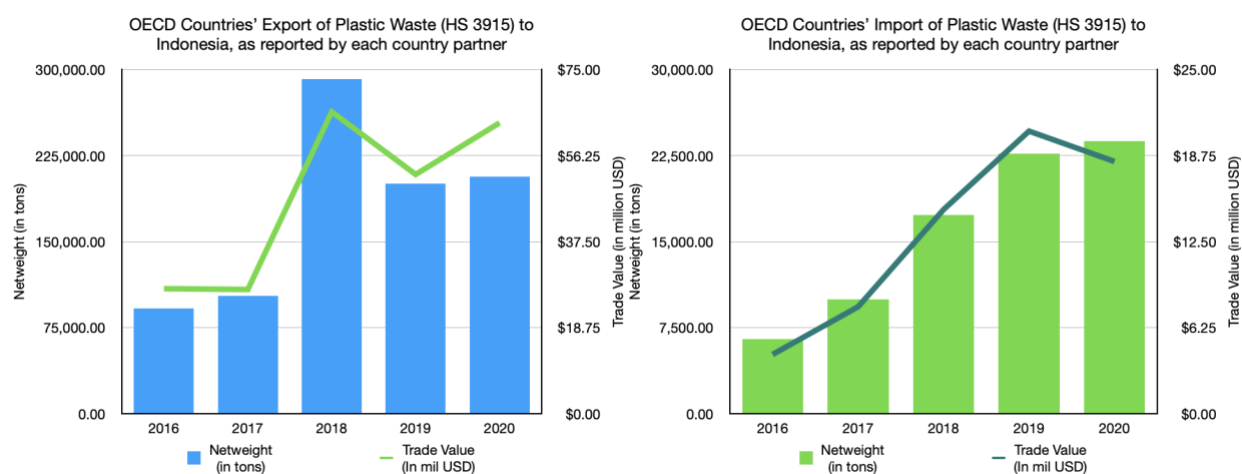


Figure 36. OECD countries' trade of plastic waste with Indonesia, as reported by the country of origin

Source: UN Comtrade, 2021

The OECD is reviewing progress on waste exports that would directly impact the traded waste to importing countries. Although the Basel Convention Amendments explicitly covered the recyclability of tradable waste commodities, the OECD might affect the types and quantity of commodities if they change the rules. For instance, plastic waste imports from OECD countries accounted for 62.17% of Indonesia's total import of plastic waste in 2020 alone, dominated by the Netherlands, Germany, Japan, the USA, and Slovenia.

Table 10. Top five OECD countries exporting plastic waste (HS 3915) to Indonesia, as reported by the country of origin

Rank	2016		2017		2018		2019		2020	
	Reporter	Netweight (In Tons)	Reporter	Netweight (In Tons)	Reporter	Netweight (In Tons)	Reporter	Netweight (In Tons)	Reporter	Netweight (In Tons)
	Total OECD	91,446.82	Total OECD	102,699.82	Total OECD	291,361.49	Total OECD	200,448.71	Total OECD	206,640.56
1	United Kingdom	36,473.60	United Kingdom	38,592.05	United Kingdom	71,929.27	Australia	35,378.43	Netherlands	58,326.80
2	USA	34,521.37	USA	29,174.87	Germany	64,458.86	Germany	34,337.97	Germany	42,421.28
3	Australia	10,798.62	Australia	14,921.73	Australia	46,519.78	USA	24,338.91	Japan	26,718.63
4	New Zealand	4,089.84	New Zealand	5,979.94	USA	27,385.17	Netherlands	24,319.96	USA	21,563.94
5	Ireland	1,654.90	Mexico	3,402.77	Netherlands	24,910.96	United Kingdom	22,537.93	Slovenia	17,595.04

Source: UN Comtrade, 2021

5.5.2 United States of America

One of the largest import partners of plastic waste of Indonesia is the United States. Being a non-party to Basel Convention, the dynamics of waste trade between Indonesia and US flag concerns of the legality under the Basel Convention [117, 118]. The US exported over 21,000 tons of plastic waste trade in 2020, declining 37% from their 2016 export to Indonesia (34,521 tons). Their import from Indonesia, however, shows an increasing trend from 2016-2020. Compared to 2016 imports from Indonesia (1,245.193 tons), their volume import rocketed 955% to 13,140 tons in 2020.

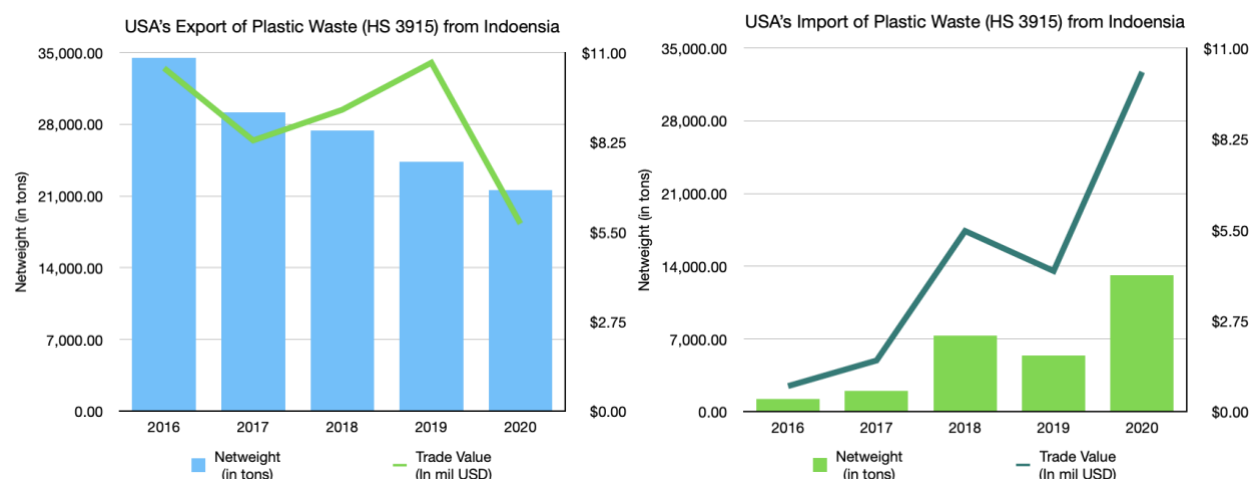


Figure 37. USA's trade of plastic waste with Indonesia
Source: UN Comtrade, 2021

Indonesia is one of USA's countries of interest, in terms of international waste trade. As shown in Figure 37, the US Census Bureau data shows that more than 25,900 tons of plastic waste were still exported to Indonesia in 2021 (until November 2021). As mentioned in section 4.2 and 3.2, there have been strong lobby from USA's plastic and paper industry associations during the discussion about contaminant standard process. In addition, the waste trade agreement between Canada and the US also increases the unknowns of international trade that is truly originated between these two countries.

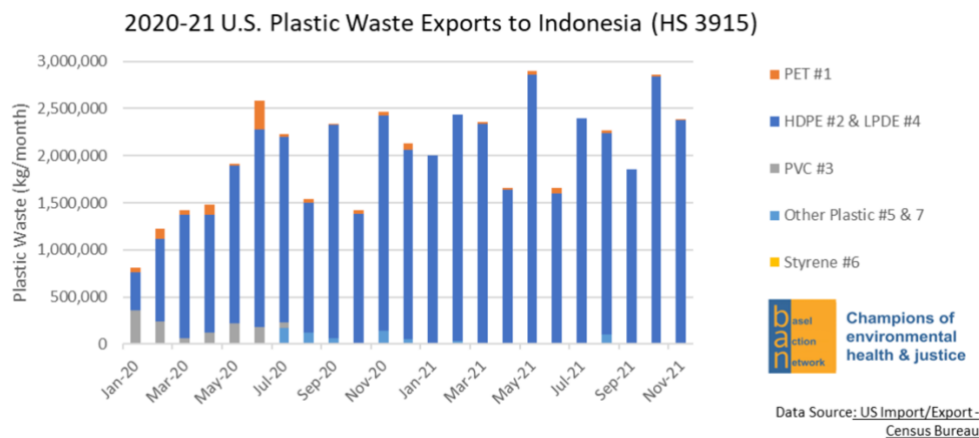


Figure 38. USA's plastic waste exports to Indonesia (HS 3915).
Source: BAN

5.5.3 ASEAN Country Members

After China implemented several policies on waste trade, countries in the Asian region, specifically Southeast Asia, became the destination of waste trade from big global exporters. However, only Indonesia, Singapore and Malaysia have ratified the Basel Convention among the ASEAN country members, which at least provides added environmental protection within the global environmental law framework.

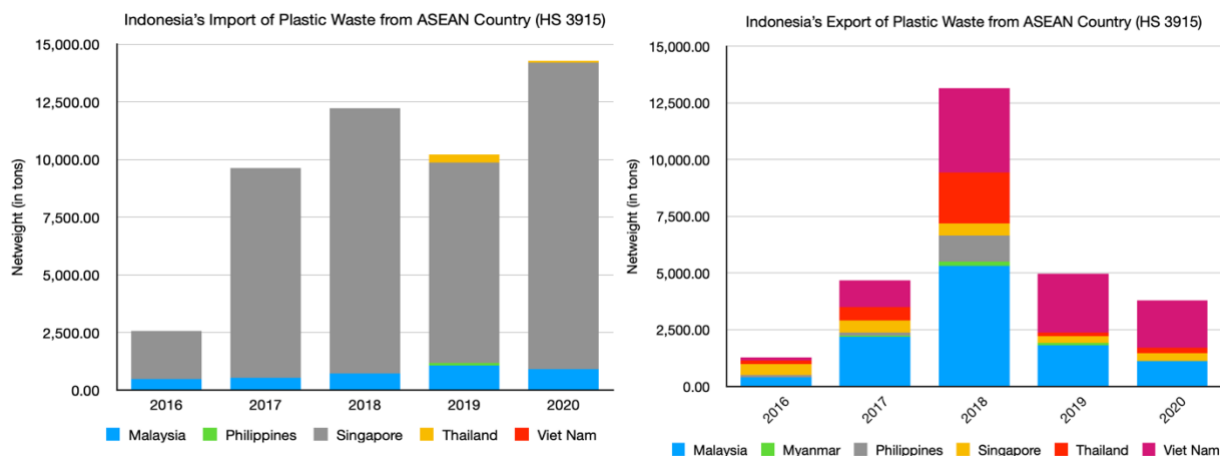


Figure 39. Indonesia's plastic waste import (left) and export (right) with ASEAN countries
Source: Indonesia Statistics, 2021

Figure 38 shows Indonesia's trade dynamics with ASEAN country members. As exporter of plastic scraps, Indonesia's export spiked in 2018 (13153.088 tons) to Malaysia (40,53%), Vietnam (28.3%), and Thailand (17.11%). Among the ASEAN countries, Indonesia exported to Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam.

Aside from export, Indonesia imported plastic waste from Malaysia, the Philippines, Singapore, Thailand, and Vietnam. Further, the import values from ASEAN countries shows increasing trend until 2020 (14,272.64 tons), mainly from Singapore and Malaysia. The high import volume from Singapore may also occur to the fact that Singapore plays a role as a trade hub among the Southeast Asian countries [71, 72].

5.5.4 Australia

Indonesia imported 11,464 tons of plastic waste from Australia in 2020, and then decreased approximately 33% from the previous year. The plastic waste imported from Australia fluctuated with recent peak in 2019, reaching 17,277 tons.

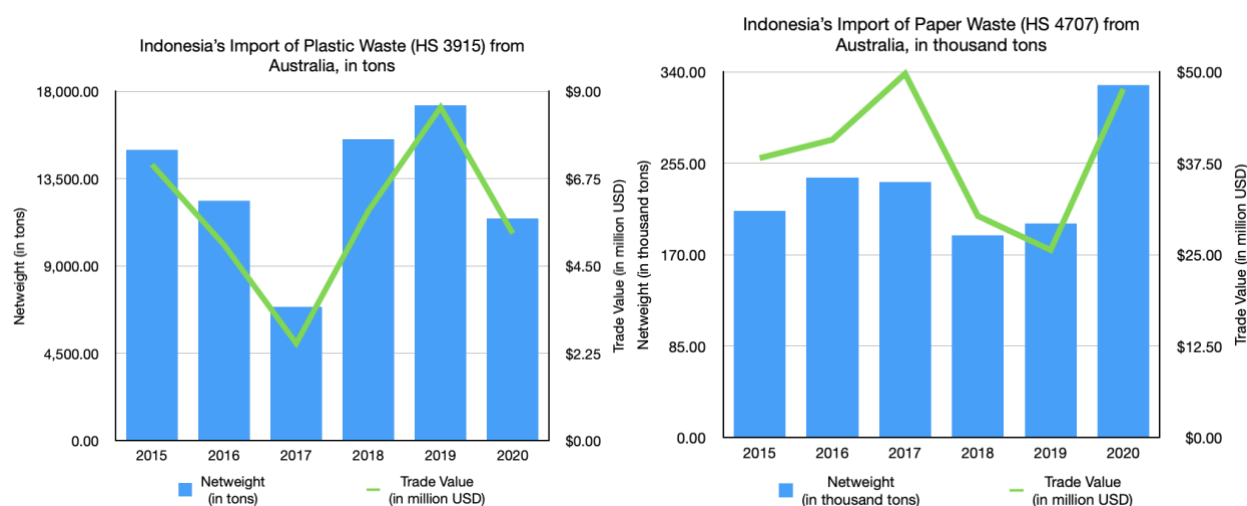


Figure 40. Indonesia's import of plastic waste (HS Code 3915) and paper waste (HS 4707) from Australia

Source: Indonesia Statistics, 2021

Indonesia has re-exported several containers back to Australia due to the contamination level violating the MoT Regulation standards and misdeclarations [119, 120] (also see Section 5.7). One of the observed impact of these shipment violations on the ground were the infamous use of as fuel in tofu-making processes, mostly from the imported paper waste [109, 121, 122]. Indeed, Australia's most exported waste-derived products to Indonesia is paper waste [123]. In March 2020, the Council of Australian Government responded to the complaints and protests from CSOs and the public pressures by prohibiting export waste commodities for an appointed date (see Table 8 below) [123].

Table 11. Export prohibition date of several waste-derived products from the Australian Government

Base Material	AHEEC Code*	Prohibition Date
Plastic	39151000	July 2022
	39152000	
	39153000	
	39159092	July 2021
Paper and cardboard	47071000	July 2024
	47072000	
	47073000	
	47079000	
Glass	70010000	January 2021
Whole tyres	40040000	December 2021
	40122000	
	40129000	

Note:

* Australian Harmonized Export Commodity Classification, which the last two digit represents Australia's supplementary information for international trade statistics [124].

Source: Australian Department of Agriculture, Water, and Environment, 2021 [123, 125]

Due to the prohibition of these waste-derived products, Australia will only export properly processed waste to prevent potential dumping or contamination of such shipment outside of Australian border [125].

At least two big known material recovery and recycling companies in Australia, RecycleCo Group and Cleanaway, has been shifting to produce process engineered fuel (PEFs) products, and some also aims to export them to Southeast Asian Regions [126-128]. This development raises concern on potential loophole in the MoT Regulation.

Considering PEFs are yet to be defined explicitly in the HS Code, these waste-derived products needed to be added to the Indonesian Government's watchlist. In addition, a report from a company in the Philippines has identified commodity code ATHN's 38251000 [129], which could also apply in Indonesia. If such commodities are being pushed and imported, the trade of RDF or PEFs will downplay the Indonesian Government's current measures to increase solid waste treatment capacity and recycling rate.

5.6 Data Discrepancies of Import and Export of Plastic Waste

We found discrepancies in plastic waste trade data in both export and import (Table 9 and 10). Database from Indonesia Statistics and UN Comtrade was compared for plastic waste import and export. Both Table 9 and 10 show three types of data: Indonesia Statistics, Indonesia reports in the UN Comtrade, and country partner reports in the UN Comtrade.

In this mirroring data analysis in import data, positive discrepancy values indicate that country reported more quantity than Indonesia received. For import, the highest discrepancy was found in the import data from the Marshall Islands in 2016, 2017, and 2018. However, no report of plastic waste export from the Marshall Islands was recorded [109]. The latest data in 2020 showed a difference of more than 32,000 tons, meaning the country's partner exported more plastic waste than Indonesia's import record.

Table 12. Indonesia's import of plastic waste report (HS Code 3915) period of 2015 - 2020

Year	Indonesia Statistics		UN Comtrade							
			Indonesia Report				Country Partner Report			
			Indonesia Report Data		Data Discrepancy		Country Partner Report Data		Data Discrepancy	
	Netweight (Ton)	Trade Value (Mil USD)	Netweight (Ton)	Trade Value (Mil USD)	Netweight (Ton) (4) - (2)	Trade Value (Mil USD) (5) - (3)	Netweight (Ton)	Trade Value (Mil USD)	Netweight (Ton) (8) - (2)	Trade Value (Mil USD) (9) - (3)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2015	88,240.19	\$39.20	97,146.23	\$42.74	8,906.04	\$3.54	115,095.70	\$47.87	26,855.51	\$8.66
2016	112,366.42	\$39.58	120,978.86	\$42.48	8,612.44	\$2.90	104,055.12	\$31.20	-8,311.31	-\$8.39
2017	117,383.43	\$42.91	128,951.34	\$45.87	11,567.91	\$2.95	121,567.81	\$33.54	4,184.37	-\$9.38
2018	283,152.25	\$91.02	320,451.81	\$102.37	37,299.56	\$11.35	320,259.04	\$79.43	37,106.79	-\$11.59
2019	249,618.37	\$83.22	249,618.39	\$83.22	0.02	\$0.00	231,639.45	\$66.75	-17,978.92	-\$16.47
2020	181,718.75	\$63.04					213,923.61	\$67.12	32,204.86	\$4.09

Source: Indonesia Statistics, 2021 and UN Comtrade, 2021

For export, negative values in the discrepancy shows that country partner recorded more plastic waste imported compared to what Indonesia exports. In 2020, for instance, there were negative 11,000 tons discrepancy between the data from Indonesia Statistics and country partner reports in the UN Comtrade data.

Table 13. Indonesia's export of plastic waste (HS Code 3915) period of 2015 - 2020

Year	Indonesia Statistics		UN Comtrade							
			Indonesia Report				Country Partner Report			
			Indonesia Report Data		Data Discrepancy		Country Partner Report Data		Data Discrepancy	
	Netweight (Ton)	Trade Value (Mil USD)	Netweight (Ton)	Trade Value (Mil USD)	Netweight (Ton) (4) - (2)	Trade Value (Mil USD) (5) - (3)	Netweight (Ton)	Trade Value (Mil USD)	Netweight (Ton) (8) - (2)	Trade Value (Mil USD) (9) - (3)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2015	148,734.61	\$82.95	148,734.61	\$82.95	-0.00	\$0.00	142,102.99	\$88.35	-6,631.61	\$5.40
2016	203,586.22	\$93.28	203,586.22	\$93.28	-0.00	\$0.00	213,009.76	\$113.97	9,423.54	\$20.68
2017	192,891.17	\$92.13	193,544.82	\$92.28	653.65	\$0.15	229,312.25	\$141.24	36,421.08	\$49.11
2018	98,450.21	\$44.34	98,516.36	\$44.34	66.15	-\$0.00	36,031.87	\$24.40	-62,418.34	-\$19.94
2019	73,275.20	\$47.67	73,277.24	\$47.67	2.04	\$0.00	33,509.40	\$25.75	-39,765.80	-\$21.92
2020	43,724.72	\$27.94					32,349.88	\$23.61	-11,374.84	-\$4.32

Source: Indonesia Statistics, 2021 and UN Comtrade, 2021

Discrepancies between import and export data from both countries may occur due to the differences in recording and documentation systems in each country (see Box 4). For example, Indonesia keeps import records by country origin and does not document transit

consignment of goods in the third country before arriving at the destination (see Table 14).

Table 14. Trading Partners Acknowledgement in Indonesia

Trade	Partner countries	Indonesia
Import	Country of origin + country of consignment	Country of origin
Export	Country of last-known destination + country of consignment	Country of last-known destination

Source: Direktorat Jendral Bea dan Cukai, Kementerian Keuangan, & Indonesia Statistics, 2015

Box 4. Discrepancies in the trade data

Discrepancies in any trade data, especially related to environmentally-sensitive commodities, may occur from several contributing factors, which are [17, 130-132]: • Errors from inadequate trade data collection and entry system. • Time of trade (e.g., change in fiscal year, time lag between export and import, etc.). • Product conversion and measures (e.g., unit of production, conversion factors, difference in scaling, etc.). • Product valuation. • Classification practices (e.g., mixed products, different HS code classification between region, etc.). • Trade routing (e.g., free trade zone and warehousing, triangular trade between three or more countries, etc.). • Mis-invoicing, misattribution, and transfer pricing. • Re-export and re-import, including shifting route between buyer/broker to different countries. • Illegal activities and trade data (e.g., under-invoicing, misdeclaration of HS Code, smuggling, etc.)

5.7 Cases of Illicit Imported Non-Hazardous Waste Shipment

Basel Convention Amendments took into force as of 1 January 2021. Consequently, parties of the convention, including Indonesia, cannot import plastic waste from non-parties, unless cleanly separated. Before it took into force, Indonesia received multiple suspected mislabelled shipments from various countries in 2019 and 2020 on hold in Tanjung Priok Port (North Jakarta), Batam (Riau Islands Province), and Banten Port. Along with The Indonesian House of Representative Commission IV, Customs and Excise, Ministry of Marine and Fisheries, and Ministry of Trade, MOEF inspected these containers. As a result, they found multiple ineligible imported plastic waste contaminated and consisting of domestic waste, other types of non-hazardous waste commodity, or hazardous waste, violating the eligible non-hazardous waste allowed to be imported as stipulated in the Ministry of Trade Regulation and Indonesian Waste Management Act [133].

Until 2019, there were unwanted plastic waste residuals that did not make the technical and economic feasibility for importing companies' recycling processes, which were either 'donated' or sold to the communities for further sorted, recycled, or in some cases, used in other informal industries. For example, in several locations in Java, these unrecyclable imported plastics were used as fuels in the informal chalk production SMEs, tofu

processing SMEs, and informal metal smelting processes as feedstocks for burners [121, 122].

The local EPA or government agencies do not control the emissions and releases from the informal small-scale industries. There are no proper emission or environmental protection control measures or these practices. In addition, there is no appropriate safeguard to prevent the release of several persistent organic pollutants (POPs) used as plastic additives. The communities burned the unrecycled plastic waste in the open spaces. As a result, samples of free-range chicken eggs collected in villages near the plastic waste dumping sites show the second highest dioxins and furans concentration globally, after the exposure to agent orange used in the Vietnam War [121, 122].

Box 5. The lengthy process of the imported waste repatriation and extermination

The investigations were prompted by several reports from Ecoton and Nexus3 about illegal dumping and burning of plastic waste properly in West Java, Banten, and East Java Provinces, which then covered by several national and international media. Several plastic types from the declared plastic (HS 3915) and paper waste (HS 4707) were not desired by the importing company due to the lack of technical and economic feasibility to recycle. These unwanted materials were then 'donated', sold, or dumped on the communities around the factories, violating MoT Reg. No. 31/2016 at the time [109, 121, 122].

In June 2019, there were 65 container shipments inspected in Batu Ampar Port, Batam from four different importing companies PT. Royal Citra Bersama, PT. Arya Wiraraja Plastikindo, PT. Tanindo Sukses, dan PT. Hongtay. The imported plastic scraps were suspected to be contaminated with hazardous waste, violating the MOT Decree 31/2016 at the time [134].

Indonesian customs and the MoEF seized another 102 incoming paper waste shipments in September 2019, imported by PT. Harvestindo International. The 23 containers were contaminated with hazardous waste, while 79 passed the clearance and continued to be processed. Further, the contaminated waste containers were re-exported to Australia (13 containers), the USA (7 containers), New Zealand (2 containers), and the UK (one container). In addition, 138 container shipments of mixed plastic also seized by Tangerang Region Customs. The import by PT. Harvestindo International was partially cleared (29 containers), while the remaining 109 containers were reexported back to Australia (80 containers), the USA (4 containers, New Zealand (3 containers) and the UK (22 containers) [135].

In addition, another 24 containers were also found lacking proper permitting documents in import shipments by PT. Advanced Recycle Technology, which 10 was contaminated, thus able to be traced back and reexported to Hong Kong (3 containers) and Australia (7 containers) [135]. The remaining 14 containers were cleared after their inspections. Due to the high influx of imported non-hazardous waste and the risk to the human health and the environment, an Indonesian Cabinet meeting was arranged in August 2019 discussed the matter. The meeting established general decisions to maximize domestic sources of waste, improve waste management, and implement stricter enforcement [136, 137].

Later in October 2019, authorities successfully identified two Singaporean, with an alias LSW and KWL, that were involved in the smuggling of the imported contaminated plastic scrap. The imported shipments were contaminated by used remote controls, used batteries, printed circuit boards, and used wires, on top of the lack of necessary import document [138]. LSW was subjected to Article 105 and 106 of the Environmental Management and Protection Act (Law No. 32/2009), with potential maximum sentence of 15 years and fine of IDR 15,000,000,000 (USD 1 million) [139]. However, their court paper works never been followed up.



*Prosecuted suspect for imported waste case on 3rd October 2019 on a press release from customs, national police, and the MoEF
Source: Nuraini, 2019 [140]*

Until early 2020, there was already 1000+ containers halted for inspection in Tanjung Priok Port (Jakarta). Such condition prompted the MoEF, Commission IV of the House of Representative, MoMF, MoT, and Customs officers to conduct unexpected inspection, specifically to KSO SCISI office in the port. Several containers were sampled and multiple violations to the MoT No. 84/2019 were observed. The visit concluded that [133]:

- Customs and Excise would organize for re-exportation, with Basel Convention focal point when found relevant;
- The House of Representatives agreed that contaminated imported waste was not eligible for plastic processing and recycling raw materials;
- Sanction for KSO-CSISI, the surveyor company, and possible replacement of surveyor companies; and
- Review of KSO-CSISI's performance in validating non-hazardous waste import shipments is needed.

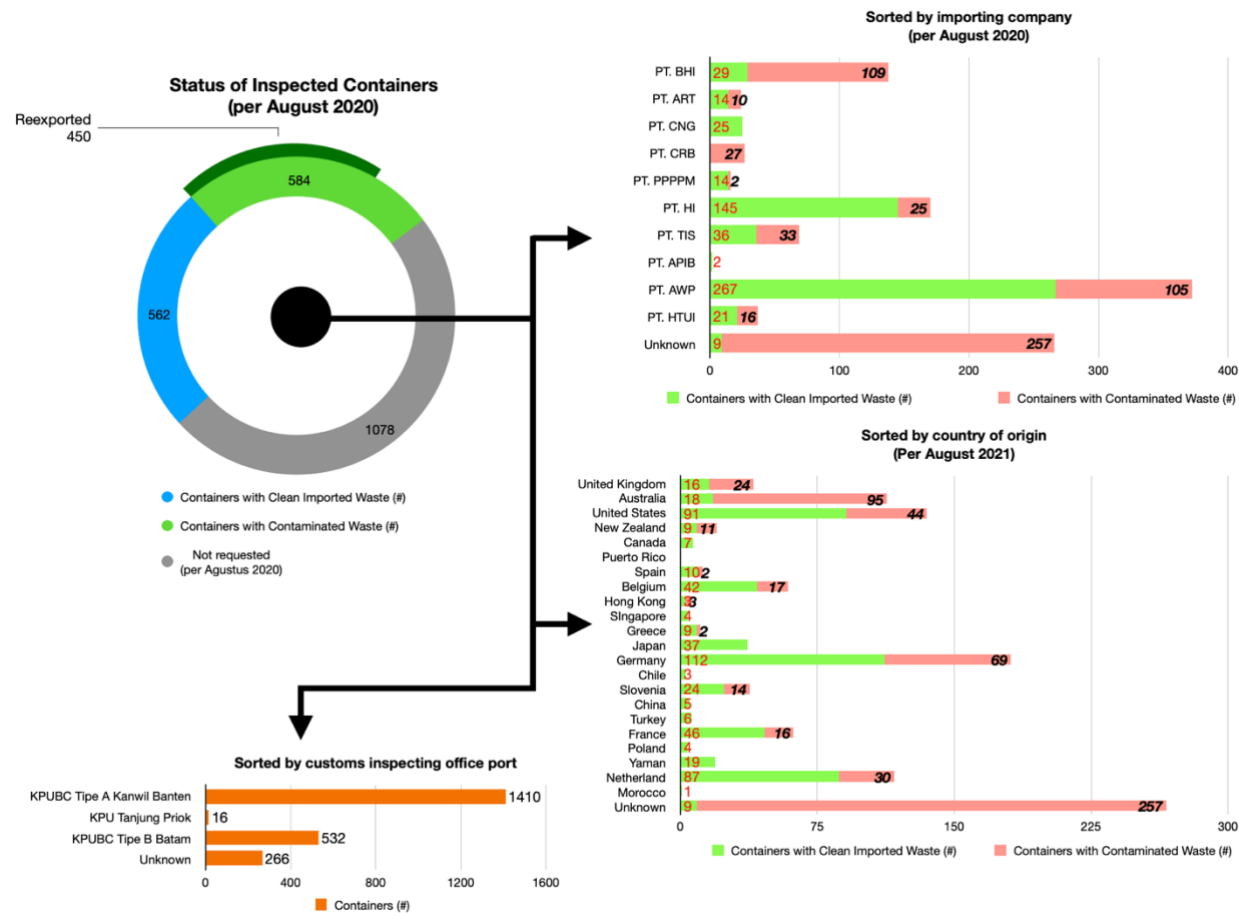
Series of meetings, with multiple ministries involved, was held in the matter. In May 2020, the restricted ministry coordination meeting established decisions to reexport and establish a scheme for extermination of imported waste that unclaimed and/or unable to be re-exported, based on Cabinet Secretariat Letter No. B.164/Seskab/Ekon/05/2020. The letter informed several decisions [88]:

- Start re-exportation process for the total 63 containers of PT. ART by that time, which did not have proper surveyor report and import permit document, with the lead from the MoEF;
- Continue the re-exportation process for 107 containers of PT. NHI, which once has requested to be exterminated, because the notification to do so was already submitted to the country of origins;
- Reinspect 20 containers of PT. AWP in Batam Customs;
- Reinspect 114 containers of PT. NHI (which later confirmed by the MoEF letter No. S.241/PSLB3/VPLB3/PLB.3/06/2020 [141] on June 2020);
- Exterminate 901 containers belonged to PT. NHI, which had no proper import permit document, with the lead from the MoEF. The cost for extermination would be burdened to PT. NHI (which later firmed from the MoEF letter No. S478/VPLB3/PLB.3/06/2020 [141] on June 2020).

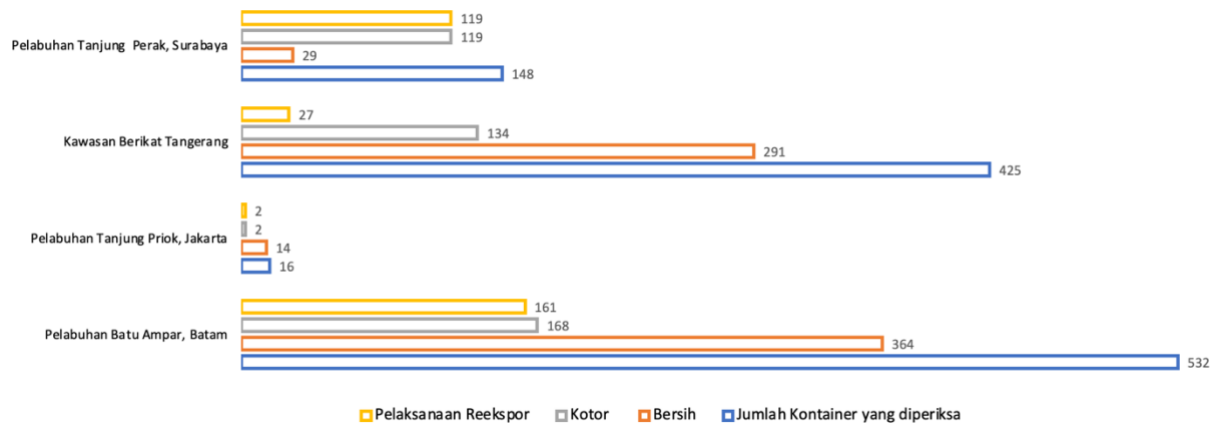
Furthermore, due to the continuous and large quantity of incoming flagged shipments, several multistakeholder meetings of central government continued for coordination. As of August 2020, the Indonesian Customs and the MoEF inspected in total 1,146 containers declared as non-hazardous waste and the remaining 1,078 uninspected at the time, making the total of 2,224 containers under their watch. Further, 562 of the inspected containers were cleared and 584 containers declared as contaminated with other types of waste commodities, such as household waste, or hazardous waste.

In 2020, in total, 450 containers had been reexported to the country of origin. The identifiable 'contaminated' containers came from multiple countries, and the highest volumes of shipment came from Australia, followed by Germany, the USA, the Netherlands, and others. Most of these containers were intercepted and inspected by Banten and Batam Customs Offices [88].

Thereafter, the second amendment of the MoT Regulation No. 84/2019 was enacted, along with the previously established Task Force for the Import of Waste [142], recently issued a joint-decree setting the maximum contaminant of 2%, and developed the technical guideline for import verification within the MoFA.



Status of Inspected Imported Waste Containers as of August 2020
Source: Direktorat Jenderal Bea Cukai, 2020 [88]



Status of Inspected Imported Waste Containers per December 2021

Source: Ministry of Environment and Forestry, 2022

Further, in July 2021, the Indonesian Customs and the MoEF started the extermination process of the unresolved investigation and repatriation containers. Therefore, the Indonesian Customs finally transferred the authorization of the enforcement process to the Directorate of Hazardous Waste Verification (MoEF) in July 2021, following the extermination plan that had been approved by the Task Force for Non-Hazardous Waste Import [141, 143].

Further, in July 2021, the Indonesian Customs and the MoEF started the extermination process of the unresolved investigation and repatriation containers. Therefore, the Indonesian Customs finally transferred the authorization of the enforcement process to the Directorate of Hazardous Waste Verification (MoEF) in July 2021, following the extermination plan that the Task Force had approved Non-Hazardous Waste Import [134, 136].

However, the case of PT NHI has never been processed and followed up in court or ordered to pay penalties for the violations they did in the past. Although the breach of illegal importation done by PT NHI is considered a criminal act, the only punishment given by the Indonesian government for PT NHI is cancelling their import permit. On the contrary, on 30 July 2021, the UK Court fined Biffa £1.5 million for exporting mixed household wastes to Indonesia and India. This fine is the highest penalty ever ordered by the court for a waste crime case. [41]

On the 24th of September 2020, local media, citraindonesia.com, covered the first event of PT NHI exterminating nine plastic waste containers in their mini-incinerator which took three days to burn them all. However, when the Nexus3 team tried to access the news for this study, the original link of this online information was no longer available and could not be displayed. Fortunately, the source is available to obtain using the archive search engine [144].

Updates from a trusted source stated that the mini-incinerator was broken several times and can only burn the plastic waste for a couple of hours in a day. Until May 2022, the Nexus3 team still found PT NHI in operation to exterminate the remaining confiscated plastic wastes.

The lengthy process in exercising the implementation of the earlier version of MoT regulation, which involves investigation of mis-declared and incomplete import document, affected containers availability for the trade. This tedious process in investigation waste repatriation process is common because exporter identification and the illegality of these shipments needs to be clearly justified. Waste repatriation should have an approval process by the country of origin to take back their waste shipment, which involves gathering evidence on the importing country, authority negotiation between the two countries, investigation on the exporting country for exporter entity verification [17].



*Process of waste re-exportation
Source: Arumingtas, 2019 [145]*

Since October 2019, Indonesia Maritime, Transportation & Logistics Watch (IMLOW) expressed their concern for the hazard of the lengthy holding time for these containers, posing risks of self-combustion due its material properties, per Indonesian Shipping Act (Law No. 17/2008). The lengthy process also affected the scarce in container availability for exports on the transfer depo [146, 147]. Even until June 2021 there were still hundreds on containers held in the Tanjung Priok port waiting for extermination [148]. Not to mention the safety of the practices should be uphold strictly, considering that these containers were stuffed with contaminated waste.

The unwanted plastic contaminants rose as a domino effect for local environmental problem [109]. In Eastern Java Province, for instance, Ecoton recorded that despite the contamination in the paper waste shipment ranging from 1.14-2.81% [149], there were emerging illegal dumping ground and sorting 'facilities' established by local communities to treat the unwanted plastic and other contaminants from these paper waste importers [119, 150-152]. The plastic contaminants consisted of food packaging (74%), personal care products (6%), and other household packaging (10%) [149]. These contaminants were used in home processing and industries, often not registered. In one village, some tofu home industries have been using these plastic contaminants in their tofu-making processes for SMEs, while another openly burned on an illegal dumping ground, posing the risk of dioxin and other POPs exposure to local communities and the food chain [121].

In Karawang, several news outlets reported several local waste collectors receiving residual from imported paper waste from PT. Fajar Suryawisesa and PT. Pindo Deli III in West Java in 2020-2021. Each waste collector was paid to receive ranging from 10 to 40 trucks daily. They were paid initially IDR 350,000 (approx. USD 24) per truck, until they had to pay to purchase IDR 500,000 (approx. USD 34) later in the process. Other entities that received these residuals were sometimes other industries or waste banks that were not registered to manage imported non-hazardous waste. The waste collectors could only resell 60% of the recyclables, while the remaining 40% are burned in the chalk combustion processes of SMEs and home industries in Karawang [153-156].



*Figure 41. Chalk combustion processes close to Pindo Deli III in Karawang, West Java
Photo: Nexus3 Foundation*

Later in February 2021, Basel Action Network and NGOs in Malaysia, Indonesia, and India flagged shipments from the United States (not a party to the Basel Convention) to those countries (parties to the Basel Convention), from a company Newport CH International. In total, there were five containers received by their Indonesian counterpart on Belawan Port, North Sulawesi. Despite the fact that the company declared the shipment as HS Code 391510 (plastic waste, parings, and scrap of polyethylene) [117, 118], the shipment was likely to be considered illegal due to the provisions of Basel Convention, considering the United States is yet to be the party of the international agreement.

Despite the government export to repatriate the violated shipments, some of the re-exported waste did not end up in the country of origin. There were 58 containers in June 2019 meant to return to the United States. Only 12 containers docked back to the United States. The remaining were re-routed to India, Thailand, Vietnam, South Korea, Mexico, Netherlands, and Canada (see our '*Global Shell Game*' report for further details) [157].

Successful litigation process in the UK for the exporter regarding shipments that would have been exported to Indonesia occurred in August 2021. A verdict from UK court sentenced Biffa Waste Services Ltd., a UK-based waste service company, for the attempt to smuggle mixed waste within paper waste shipment to Indonesia and India.

The investigation of UK Environment Agency uncovered that there were mixed waste consisting of soiled diapers, tins, hairpieces, plastics, as well as clothing and food packaging (0.9% contaminant by weight) within their shipment. UK EA successfully halted 23,000 tons in 26 containers declared as paper waste that would be exported to 2 paper mills in Indonesia and another one in India. Biffa then sentenced to be fined GBP 1,69 million, £38,388 confiscation order, and £153,827 in costs [41, 158-160].

In contrast, Indonesia as the importing company, is yet to be fully transparent in enforcing our own import restrictions. The cases are published in multiple media coverage, however, they cannot be found in the online directory of verdicts, neither in the supreme court, provincial nor city/regency court database.

6 ROADMAP OF NON-HAZARDOUS WASTE MANAGEMENT AS SECONDARY RAW MATERIALS FOR INDUSTRY

Indonesian Government, with the MOEF as the leading sector, is currently working with other relevant ministries to develop the roadmap for controlling future import quota while also looking at domestic recycling capacity. Recent joint decree of three ministries and the national police mandated this policy project, which then the MoEF looking at the issue from the perspective the upstream, middle stream and downstream within the sector (Figure 36 below). They focused on the same six commodities regulated under the MoT Regulation, which are paper, plastic, metal, textile, rubber, and glass.

Also acknowledging the enormous role of the informal sector in waste recycling, the MoEF enhances the role of '*waste bank*' to boost collection and waste segregation rate. The role of Waste Bank is also aimed to preserve the quality and continuity of each waste stream, which is also preferred by the recycling industries. Currently, waste banks only contributes to 2.7% of plastic and 0.93% of the paper waste stream in Indonesia [87, 114].

Thus, the MoEF issued MoEF Regulation No. 14/2021 on Waste Management on Waste Banks, providing financial schemes from the central and local government as well as guideline for standard facility, organization, and management.ⁿ There is also a recent online platform established to monitor the waste bank performances^o, in addition to the established general waste management performance.^p

ⁿ MoEF Reg. 14/2021

^o <http://www.simba.id>

^p <https://sipsn.menlhk.go.id/sipsn/>

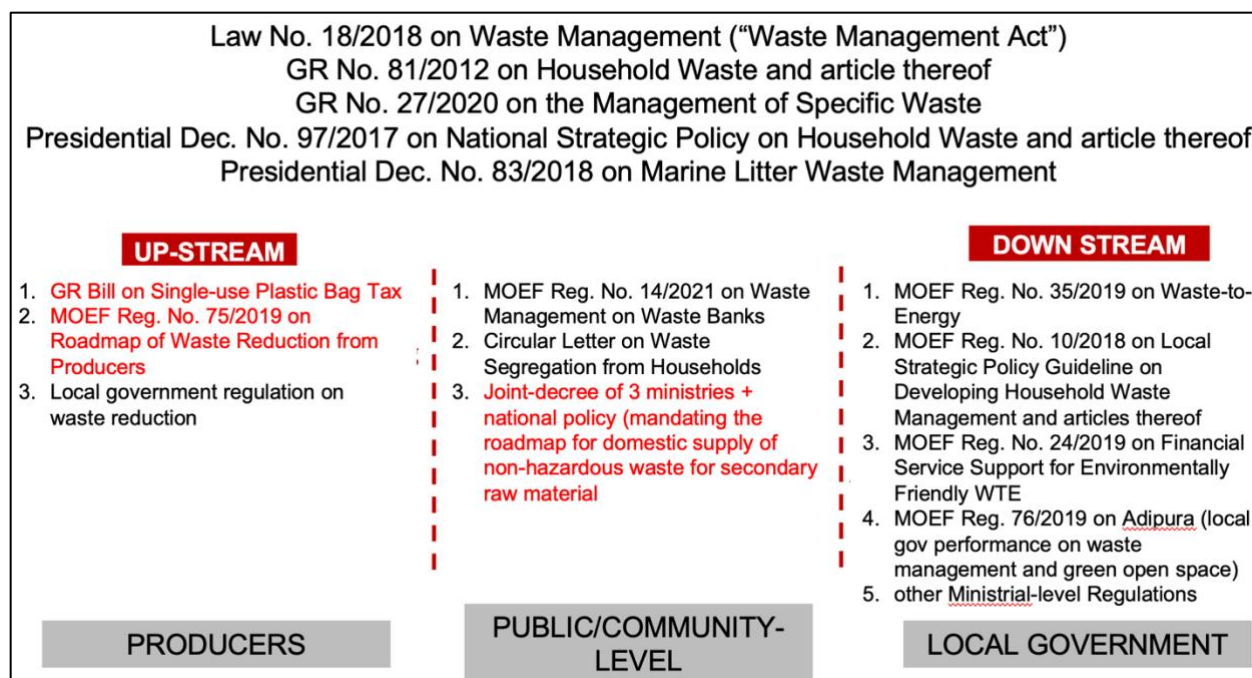


Figure 42. Regulatory framework basis in the development of the roadmap
 Source: Direktorat Pengelolaan Sampah KLHK, 2021 [114]

Within the roadmap, EPR scheme was also pushed with the regulatory framework provided in the MoEF Regulation No. 75/2019 on Roadmap of Waste Reduction from Producer. With the existing regulation, there are currently more than 30 companies, including Danone Indonesia and Superindo (one of Indonesia's biggest retail company), that have submitted their EPR proposal to the MoEF [50].

Based on the latest modelling by the MoEF, Indonesia would be able to provide secondary raw material for recycling industries fully from domestic sources by 2026 on the best-case scenario, given the domestic demand modelling at the same year. With the assumption of business-as-usual growth of post-industrial plastic waste on 10% per annum, post-consumer plastic collection needs to be increased 10% annually. This will boost domestic supply to 12% from currently 7%. The key indicator for the best-case scenario involves 70-80% increase in formal sector waste management capacity [114].

For paper waste, the best-case scenario modelling shows the cut-off year for domestically sourced paper waste fully in 2030. Assuming the growth of post-industrial paper waste on 7% per annum, post-consumer paper waste would have to be escalated to 30% per year from current state. This will boost domestic supply to 48% from currently only 12%. The key indicator for the best-case scenario involves 70-150% increase in formal sector waste management capacity [114].

Along with the modelling and the increased involvement of Waste Banks, the MoEF also recommended several policies tackling the downstream [85, 114]:

- Collection rate acceleration from the source, involving business model development, local government capacity building, as well as collection and waste separation facilities.
- Incentivizing policies on recycling products, especially on plastic and paper waste.
- Synergy and inclusivity of informal sector.
- Distributed collection measures from EPR efforts.
- Database management and increasing traceability of waste.

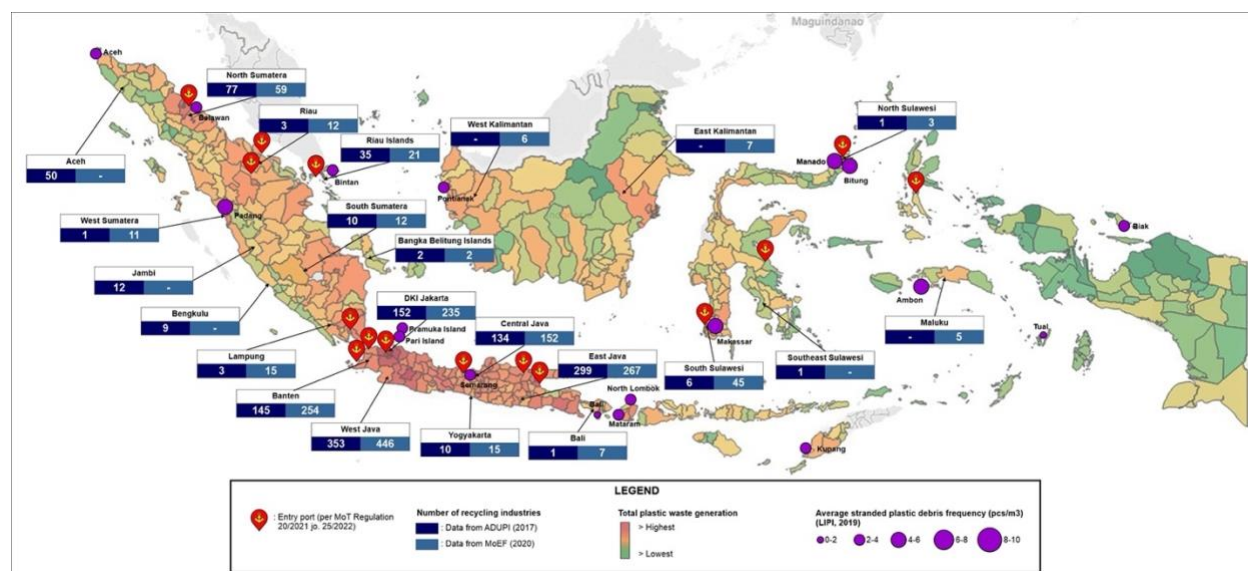
In addition to the framework of action for national and local government planned by the MoEF [85], there are several points that can be added in addressing waste import within the waste management framework in general:

- Addressing the material flow between the raw material used in petrochemical industries, the secondary raw material in the recycling sector, as well as the plastic waste, both imported and domestically sourced materials.
- Addressing the quality, quantity, and continuity gap aspect between imported waste and domestically sourced post-consumer plastic and paper waste.
- Strengthen coordination horizontally (between ministry) and vertically (to local government, with the involvement of the Ministry of Home Affairs) to address plastic production and waste issues.

From the post-consumer side, plastic waste is dominantly openly burned (48%), then followed by controlled disposal (20%), recycled (10%), treated in the official dumpsites (9%), and dumping on land (5%). The remaining 9% are leaked from the aforementioned waste treatment system into the water bodies [161]. Looking at the impact of mismanaged plastic, especially observed microplastic pollution distribution in the environment, LIPI Oceanography Center (now restructured to BRIN) detected microplastic contamination in coastlines over 50% in Padang, Makassar, Manado, Bitung and Ambon [162].

Looking at the national distribution and waste collection rate, plastic waste generation is concentrated at Java Island and then followed by several city/regency on the Sumatera, Kalimantan, and Sulawesi Island (Figure 37 below). Specifically addressing international trade of waste, NPAP already addressed the small percentage (3%) imports of plastic waste compared to plastic generation domestically. Considering the limitation of the port of entry for plastic waste imports are limited to only 13 points (see section 4.1), distribution of plastic recycler industry nationwide, and the plastic waste generation in each city/regency, the burden from imported plastic waste to the waste management system would be burdened to only several cities.

Some shipments leaked and handed over to unlicensed recyclers, therefore inspection and enforcement should be strictly implemented in all entry port allowing incoming waste imports (see overlay map between these considerations in Figure 37 below). For prioritization, however, the highest measures should be put into entry ports in Java Island and Batu Ampar port, among all others.



Looking at the supply side, Indonesian petrochemical companies produces more than 3 million tons in 2020 for middle stream petrochemical products, and more than 4 million tons for downstream plastic-associated products on the same year [163]. Indonesia Packaging Federation also aims to have a growth of 4-5% for the packaging industries [164], which has similar projection to available global market studies estimating from 4% to more than 6% growth [165, 166]. Considering the targets on the roadmap plan, the government also must consider the different quality between imported materials and recyclables from post-consumer waste to ensure the willingness of Indonesian recycling industry to use domestically sourced recyclable materials. Significant quality gaps between them, if any, should be addressed and became one of the top priorities for the Indonesian government to work on.

Box 6. Untapped potential in Indonesia's informal sector

A story from domestically-sourced plastic waste collector

The chain of post-consumer plastic waste goes may enter the formal sector (city/regency waste management services) or the informal sector. The informal sector usually starts from waste pickers, waste collectors, middlemen, this might also involve waste brokers/agents/supplier, and finally to the recyclers/pellet producers/plastic industry.

Currently, there are little more than 15 plastic waste collectors in Cikarang Barat District, Bekasi Regency, West Java Province. Back when he started in the business in 2005, there were only around 5

waste collectors in the district including Mr. T. Since then, waste generation in general has been increasing within the district.

Mr. T covers the collection and shredding part of the informal plastic waste recycling chain, mostly from domestic sources. He, then, sells the shredded plastic waste to a bigger collector, middlemen, or waste brokers, in which all of them ended up in a processing facility into plastic pellets. There have been fluctuations during all the time he has been in the business, both price and volume.

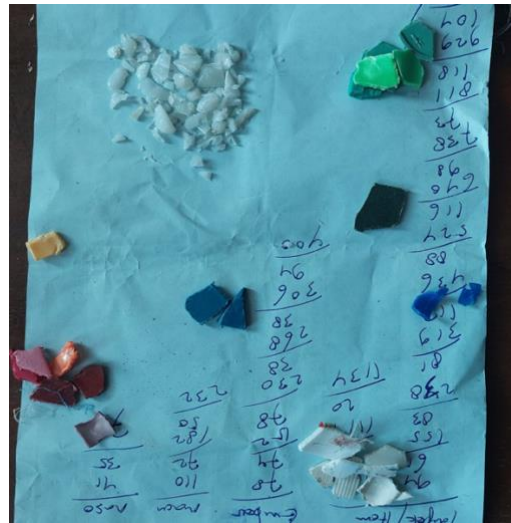


Mr. T's collecting field, shredding area, and holding warehouse

Regarding waste volume processed, he can collect and shred 1 ton plastic waste per day on average to the middlemen or waste brokers. Before the shredding process, the incoming plastic waste are separated based on the type and colour. In a month, the supplied waste could reach with the range of 20 – 30 tons. The shredded plastic waste is collected until reaching 5 tons, fitting one truck, then they will be collected by the higher chain. The transportation cost is bore to the bigger collector/middlemen/brokers. These entities will then transport the collected, shredded plastic waste to another bigger broker, or to the processing facility, usually pellet producer. Considering his financial capability and business scale, he usually transfers the shredded plastic waste directly to the next chain after reaching 5 ton. However, bigger collectors can halt the shipment waiting for better price period or supplying to the correct processing facility that processing certain types of plastic at the time. This is the main reason smaller plastic waste collectors need the role of bigger middlemen or waste broker.

There are also different types of waste collectors. One, who only collects from domestic municipal waste through waste pickers, and another who collects plastic waste from industrial scraps. The industry also depends, they can be packaging scraps, or even residual from other types of industry such as paper

A large pile of broken, colorful plastic and ceramic fragments, including a white plastic cap and a blue plastic piece, scattered on a white surface.



The price of collected and/or shredded plastic waste fluctuates. Before covid, for instance, the price is lower compared to after the pandemic. The highest price, however, was during the pandemic. There are multiple factors that plays into this other than the pandemic, but one of them is the supply from imported waste are less compared before the pandemic. The impact of decreasing plastic scrap import might occur and perceived on the ground after the revised Ministry of Trade in 2018 and 2019, as well as the 2% maximum contamination level that was set in 2020.

Plastic waste price fluctuation, based on the waste collectors

Plastic Type	Before 2020 (Before the pandemic)	2021 (During the 'peak')	2022 (Current price)
HDPE	IDR 6,000/kg (USD 0.42/kg)	IDR 10,500/kg (USD 0.73/kg)	IDR 9,500/kg (USD 0.66/kg)
PP	IDR 9,500 /kg (USD 0.66/kg)	IDR 9,500 /kg (USD 0.66/kg)	IDR 11,000/kg (USD 0.77/kg)
Colored	IDR 5,000/kg (USD 0.35/kg)	IDR 9,000/kg (USD 0.63/kg)	IDR 7,000/kg (USD 0.49/kg)

Waste Trade in Indonesia Updates

2-3 options for his usual buyer or agent (waste broker). Lack of financial support and access is also another challenge. Before 2015, bank credit access is easier to tap into compared to now. They also do not have sufficient access to relevant local government agency, which they should be able to get training for SMEs or home industries on financial management and technical aspects, for instance. Waste import also considered as hindering factor, since they decrease domestic price of plastic scraps.

During the peak of import, where the impact occurred on the grassroots by Mr. T, the paper waste factory close to his field sells residual unwanted plastic scraps from paper waste imports. In 2018, there were more than 50 tons of plastic unwanted residual plastic sold to local plastic waste collectors every day. In contrast, during his initial period of his business, the unwanted plastic residual from paper factory processes was only 1-2 tons per day in 2007. The increase was already occurring from 2010 but increased in 2013 and 2018. During the peak, one 40-ft containers of imported plastic waste was priced around IDR 100 million (USD 6,900) per containers, thus, only bigger players or waste collectors can tap into that.

Stories from domestically-sourced paper waste supplier

CMN, a wastepaper supplier provides 200 tons per day to a paper company in Cikarang District, Bekasi Regency. They sourced these supplies from domestic waste collectors from all over the country, including outside of the Java Island. The supply fluctuates from 120 tons to 300 tons in a day. The supply usually increases in national holiday, such as the Ied Al-Fithr, which is celebrated across the country. These supplies, like CMN, does not bear the transportation cost, but administration cost instead. Local wastepaper collectors transport trucks of paper waste, with letters provided by these suppliers, and connecting them to the receiving paper recycling/production company. They usually take the 30% margins of the priced supplied wastepaper, which is paid one business day after the receiving date through these supplier companies.

Another wastepaper supplier, MBI, provides the same paper company, which paperwaste are sourced from more than 300 waste collectors in Pekanbaru, Pontianak, Medan, Surabaya, Makassar, Manado, and several cities in Java Island. Shipments from outside of Java Island usually are using containers. MBI provide the wastepaper supply to 15 different paper company in different location and operating through one office branch for each paper company. The wastepaper supply fluctuates, with minimum 80 tons and maximum 200 tons daily, strictly cardboards, white papers, and duplex.

There are multiple types or paper that are supplied to paper companies, which are listed in the table below. Mixed waste, which might include metal or plastic, will generally be rejected by paper companies. Thus, local wastepaper collectors should sort the waste accordingly.

Price set by a paper company in Cikarang District on 21 May 2022 for paper waste for recycling in paper production

No	Codes	Remarks	Price/kg
1	OCB	Cardboards	IDR 3,370 (USD 0.23)
2	OCM	Cardboards, in containers (compressed)	IDR 3,370 (USD 0.23)
3	D1	Duplex, including art paper and laminated papers	IDR 3,220 (USD 0.22)
4	MXD	Mixed types of paper	IDR 3,120 (USD 0.22)
5	MXM	Mixed types of paper, in containers (compressed)	IDR 3,220 (USD 0.22)
6	ONP	Newspaper	IDR 3,970 (USD 0.28)
7	ONM	Newspaper, in containers (compressed)	IDR 4,070 (USD 0.28)
8	SWL	White paper, grade A	IDR 4,220 (USD 0.29)
9	SWB	White paper, grade B (printed or with inks)	IDR 4,120

			(USD 0.29)
10	SWM	White paper, grade A, in containers (compressed)	IDR 4,320 (USD 0.30)
11	SBM	White paper, grade B, in containers (compressed)	IDR 4,220 (USD 0.29)

Source: CMN, a paper waste supplier from domestic paper waste collector to paper factory

There might be occurrences where there are discounted prices from the receiving paper companies. The factor for these price cuts is looked over from the paper quality. Wet and mixed paper are priced relatively lower. Wastepaper is also priced relatively higher after covid, compared to before the pandemic.

Sources:

T, plastic waste collector, Cikarang District, Bekasi Regency, West Java Province

A & S, wastepaper supplier company resource person, Cikarang District, Bekasi Regency, West Java Province

As also previously discussed in Section 5.5.4, practices in waste pre-treatment and treatment have shifted to produce intermediary recycling products such as process engineered fuels (PEFs), at least currently pushed in Australia. At least two big groups of material recovery and recycling companies aimed to produce and create market export for PEFs in Southeast Asia. Considering the Government of Indonesia have national target to increase waste treatment and recycling rate, the import of these PEF products should be restricted, or further banned for Indonesian companies to do so. It would be counter-productive to not prohibit the imports of PEF as waste-derived product and not acknowledge them in future regulatory framework or within the roadmap. In addition, this will undermine currently pushed refuse-derived Fuels (RDF) plants as one of waste treatment in Indonesia, which is also one type of process engineered fuels (see our separate report on RDF [167]).

7 CONCLUSION AND RECOMMENDATION

The issue of non-hazardous waste has been partially addressed in the revision of MOT Regulation addressing lesson learned from past violation cases of waste importation in Indonesia, to deliver state's liability to protect human health and the environment [1]. The government have also established a new standard of maximum 2% contaminants in waste import shipments, as well as additional procedure such as exporter registration at MOFA's Indonesian Embassy on the country of origin, master list request for importer companies to the MOI, multiple parameter checklist from the MOEF for importer recommendation letter, and inspection procedure from the Customs, from the regulator's perspective.

In the future, Indonesia is also planning to incrementally reduce non-hazardous waste import and set import quota, for domestically sourced non-hazardous waste prioritization as recycling industries' secondary raw material. The plan will be embodied within the roadmap, currently developed by relevant ministries and agencies in the national level. To improve the roadmap, this report provides several recommendations below.

7.1 For the Government of Indonesia

Strengthen Basel Convention enforcement and compliance, especially the repatriation of contaminated waste shipments or return to senders. The current practice of re-exportation does not have a deterrent effect on importers who have illegally imported contaminated plastic or paper waste. Indonesian laws stipulate that confiscated goods must be destroyed. However, in the case of illegal plastic or paper waste importations, the administrative sanction for importers is not enough. As the focal point of the Basel Convention, the Ministry of Environment and Forestry should guide steps to repatriate illegal or problematic shipments. Further, the destruction of confiscated shipments needs to be done in an environmentally sound manner.

Implementation of current Minister of Trade Regulation on non-hazardous waste import should be strictly enforced, along with transparency to all stakeholders and the public. The reform of Indonesia's policy on waste trade has covered several loopholes on the previous regulation. Improved or newly established procedures are now in place including further definition on importable non-hazardous waste, exporter registration, maximum standard contamination in shipments, and surveyor validation guidance.

Lesson learned from previous repatriation cases of the hardship detecting shipments' country of origin has been patched with the procedure of exporter registration in the Indonesian Embassy. Previous lack of detailed definition of importable non-hazardous waste has also been further defined in the new MoT Regulation, providing better context

for field authorities in inspecting imported shipments, along with the 2% maximum contamination policy in the recently issued joint decree. In addition to that, relevant authorities should apply Prior Informed Consent (PIC) procedure, as stipulated in the Basel Convention, to strengthen and help controlling the imported non-hazardous waste, as well as making sure the incoming waste are recycled into value-added downstream products. Ministry of Trade should apply the detailed Y48 Basel Amendment classification, such as PVC for instance, into LARTAS scheme for PIC procedure.

Ministry of Trade and the DG. of Customs and Excise (Ministry of Finance) should be well coordinated in intensive monitoring of surveyor companies. Mislabelling and misdeclaration are the most occurring violations in regard to waste trade [17], similar to the recent case of Biffa on the UK, for instance [41]. Despite the validation process through surveyor companies as mandatory protocol for both Indonesian importer and exporter in the country of origin, household waste in plastic waste shipment, plastics in paper waste shipments, or other contaminants were still able to pass through inspection on the border. Strict enforcement should be uphold as stipulated in the joint decree, which is 2% maximum contamination of the incoming non-hazardous waste shipments, and the MoT Regulation No. 16/2021 (Technical Verification and Tracing in International Trade) and 20/2021 (Import Regulation and Policy).

Ministry of Trade, Ministry of Environment and Forestry, and the Ministry of Industry should uphold importer's transparency and document investigation, considering end-treatments option for the residual/unwanted fractions are allowed to be treated with third party companies [107]. Transparency of the imported residual fractions from the importer is highly needed, especially information of its quantity, quality, and the required third-party documents must be submitted to the Ministry of Environment and Forestry. This also includes the contamination within shipments, which is currently set at 2%. Such measures would tackle potential risks of releasing the unwanted fractions elsewhere, as previous cases had happened in the previous regime [27, 121, 149, 152-155]. In addition, there were news report mentioned importer claiming the leaked residual waste was instead done by their vendors [153]. Regardless of the claim, off-site transport documents for third party facilities would be useful to prevent or investigate violation risks in the future.

Exporter registration database, which is currently collected by the Indonesian Embassy Offices in the shipment country of origin, should also be integrated within the INSW platform to add the records from multiple exporters and its country of origin. Transparent reporting and working with relevant industry associations would add information on the track record of exporting companies and highly useful in the risk assessment system in random shipment inspection.

The Ministry of Trade and the Ministry of Foreign Affairs should notify the decision to set maximum contaminants to the Indonesian Embassy Officer, and other relevant stakeholders in the non-hazardous waste exporting countries. Information on the maximum contaminant limit is not considered a barrier-to-trade, because the definition and provisions of import of non-hazardous waste is aiming for the ease of the recycling sector. This also aligns with the Basel Convention Amendment Ban^q, where provisions on “*almost free from contamination*” may be provided with a specific national point of reference. Multiple ASEAN countries and other importing countries also have globally announce strong restrictions in regards to waste trade, such as Malaysia [62], Vietnam [68], and Singapore [73]. This will also push global regulations to improve, because the strict implementation in the global south countries will indirectly help shaping the global change and practices in the global north [168].

The Ministry of Trade, Ministry of Industry, and Ministry of Environment and Forestry should further restrict contamination limit to 0.5% or no contamination at all. Further restrictions on contamination limit should help importers to ensure their quality of secondary raw materials. This should not be considered as a barrier-to-trade, considering the Basel Convention Amendment Ban allows further national definitions on “*almost free from contamination*”. China’s decision on multiple policy trials in restricting waste-related commodities (see Section 1) should be set as an excellent example.

Ministry of Finance should apply disincentives to any contaminated non-hazardous waste shipments. Despite the available 2% maximum contamination limit, any contaminated shipments, including the ones below 2%, should be disincentivized financially. Such measure will be useful in the long-term enforcement and incremental improvement for further restriction or control on waste and waste-product shipments.

The Ministry of Environment and Forestry should prohibit imports of non-recyclable plastic, hard-to-recycle plastics, and waste-derived products (PEFs or RDF products). Mixed plastic and several types of plastic are indeed technically recyclable, but they have higher cost and the risk of releasing toxic chemicals on the process (see Table 13).

Considering Indonesia does not have full protecting regulatory framework from the emission standards for multiple POPs, emerging and carcinogenic chemicals – such as methylmercury, PBDEs, PCBs, PFAS, UV-328, and several others – precautionary principle should be held and implemented. Mixed plastic poses the risk of chemical

^q Basel Convention, Annex II and IX

contamination through plastic used in electronic products, for instance, despite the suitable physical appearance as importable non-hazardous waste definition. Chlorinated-based plastic, such as PVC, also release dioxins and furans during the thermal melting and shaping process, potentially harming recycling workers.

In addition, Indonesia already enacted MoEF Reg. 75/2019 that will prohibit the use of some plastics on products in 2030, such as polystyrene and PVC plastics. The use of such plastic types, along with its demand in recycling sector, will drop due to the regulating policy for the industry. Such policy implication should be included in consideration during the development of Indonesian Roadmap of Non-Hazardous Waste as Secondary Raw Materials for Industries.

PEF is a processed waste that are often utilized in energy production or co-firing in industrial processes, such as coal-fired power plants or cement kilns. In Indonesia, the most common type is Refused Derived Fuels (RDFs) in the form of pellets, shredded, briquettes, or fluffs. Considering the lack of safeguard in regulatory framework in public health and the environment for plastic-associated organic and other emerging pollutants, such commodities should be restricted to be imported to Indonesia.

The toxicity risks and emission impacts from these PEFs, RDF products and plants should be further studied to find comprehensive solution to waste management, as well as protecting the public health and the environment of Indonesian citizens. In addition, imports of the waste-derived products would be counter-productive to Indonesian Government's agenda to maximize the domestic source of waste products in achieving circular economy concepts (see our separate report on PEFs and RDF products [167]). Thus, PEFs and other waste-derived products import should be prohibited.

Table 15. Plastic waste type import eligibility based on the Basel Convention and MOT Decree No. 84/2019 (jo. MOT Decree No. 83/2020)

Import Condition	Plastic waste HS Codes*	Basel Convention Waste Codes	Current Eligibility	Recyclability	Recommendation
Plastic waste/scrap from household activities	3825.10	Y46	Not allowed*	N/A	Import prohibition, as currently regulated.
Plastic scrap from or contaminated with medical waste	382530	Y1	Not allowed*	N/A	Import prohibition, as currently regulated.
Hazardous waste or mixed with hazardous waste	Various codes, depending on contaminants	A3210	Not allowed*	N/A	Import prohibition, as currently regulated.
Ash and slag from processes, including from waste incinerators	2620 2621 3825		Not allowed*	N/A	Import prohibition, as currently regulated
Clean and homogeneous plastic waste and scraps (contaminant < 2%)	391510.10 (PE; non-rigid cellular products)	B3011	Allowed with maximum contaminant 2% and intended for recycling**	High [169]	Allowed, as currently regulated. Need to review max contamination standard to 0.5% or no contamination at all
	391510.90 (PE; others)	B3011	Allowed with maximum contaminant 2% and intended for recycling**		
	391520.10 (PS; non-rigid cellular products)	B3011	Allowed with maximum contaminant 2% and intended for recycling**	Low (Chemical recycling lab scale) [169-171] Packaging, production, and use will be banned on January 2030***	Phase out and further prohibited
	391520.90 (PS; others)	B3011	Allowed with maximum contaminant 2% and intended for recycling**		

Import Condition	Plastic waste HS Codes*	Basel Convention Waste Codes	Current Eligibility	Recyclability	Recommendation
	391530.10 (PVC; non-rigid cellular products)	B3011	Allowed with maximum contaminant 2% and intended for recycling**	Low (Feedstock for thermal treatment, PVC recycles with the risk of cadmium when waste is mixed, risk of dioxin formation due to chlorine) [172]	Phase out and further prohibited
	391530.90 (PVC; others)	B3011	Allowed with maximum contaminant 2% and intended for recycling**	Packaging, production, and use will be banned on January 2030***	
	391590.00 (PET)	B3011	Allowed with maximum contaminant 2% and intended for recycling**	High, especially when separated with the PP bottle cap and LDPE label [169]	Allowed, as currently regulated. Need to review max contamination standard to 0.5% or no contamination at all
	391590.00 (PP)	B3011	Allowed with maximum contaminant 2% and intended for recycling**	High for certain products, and should not be mixed with other types of plastic other than LDPE to not negatively affect the product [169].	Allowed, as currently regulated. Need to review max contamination standard to 0.5% or no contamination at all
	391590.30 (Polycarbonate plastic)	B3011	Allowed with maximum contaminant 2% and intended for recycling**	Despite the common use for food packaging [173], polycarbonate are hard to recycle [174, 175].	Import quota must be adjusted based on industrial process or demand, and 50% of installed production capacity max. More detailed commodity code should be created in the BTBMI for a clean, homogenous polycarbonate plastic.
	391590.40 (Polyvinyl Acetal plastic)	B3011	Allowed with maximum contaminant 2% and intended for recycling**	Used as adhesives, epoxy resin substitute, in the paper and wood industries [176, 177].	Import quota must be adjusted based on industrial process or demand, and 50% of installed production capacity max. More detailed commodity code should be created in the BTBMI for a clean, homogenous polyvinyl acetal plastic.
	391590.50 (Plastic with phenolic resin, amino resin, hardened proteins; of	B3011	Allowed with maximum contaminant 2% and intended for recycling**	Currently used in electronics, ballistics, mine ventilation, offshore water pipe systems, aerospace, rail and mass transit [178]. The resin itself cannot be remelted or dissolved after curing and setting process. The only three ways of recycling them are expensive, the recycled	Import quota must be adjusted based on industrial process or demand, and 50% of installed production capacity max. More detailed commodity code should be created in the BTBMI for a clean, homogenous such type of

Import Condition	Plastic waste HS Codes*	Basel Convention Waste Codes	Current Eligibility	Recyclability	Recommendation
	chemical derivatives of natural rubber			products are cheap, as well as creating secondary environmental and health problems. Physical recycling only results in low-value products, such as plastic fillers and concrete aggregates. Chemical recycling is expensive, high recovery, and hard to industrialize. Heat recycling results in low recovery and product use, as well as generate toxic organic gases [179].	plastic.
	391590.00 (Acrylonitrile butadiene styrene (ABS) plastic) (Yet to have 8 digit ATHN code)	B3011	Allowed with maximum contaminant 2% and intended for recycling**	ABS-based need to be mixed with 30% virgin materials for maximum strength and physical appearance [180]. ABS plastic recycling are also recommended once for automotive spare part and 3-6 times for other products with certain virgin-recycled ratio [181]. ABS plastic could also be mixed with 10-30% PP to reduce material cost [182].	Import quota must be adjusted based on industrial process or demand, and 50% of installed production capacity max. More detailed commodity code should be created in the BTBML for a clean, homogenous ABS-based plastic.
	391590.90 Other plastic type; homogenous	B3011	Allowed with maximum contaminant 2% and intended for recycling**	Hard to recycle when mixed. Have high risk of mixed contaminants	Prohibited unless there is further grouping in the HS/ATHN/BTBM for a specific, homogenous, highly recyclable plastic waste shipments.
Mixed plastic waste	391590.00	Y48, need PIC protocol	Now allowed**	Low and separation cost for mixed waste. High risk of import violation.	Import prohibition, as currently regulated.
Clean and homogeneous paper waste and scraps (contaminant < 2%)	470710.00 (Kraft paper or cardboard scrap)	-	Allowed with maximum contaminant 2% and intended for recycling**	High	Allowed, as currently regulated. Need to review max contamination standard to 0.5% or no contamination at all
	470720.00 (Paper scrap of chemical pulp; not colored in the mass)	-	Allowed with maximum contaminant 2% and intended for recycling**	High	Allowed, as currently regulated. Need to review max contamination standard to 0.5% or no contamination at all
	470730.00	-	Allowed with maximum	Use: newspaper, journal, etc.	Allowed, as currently regulated.

Import Condition	Plastic waste HS Codes*	Basel Convention Waste Codes	Current Eligibility	Recyclability	Recommendation
	(Paper scrap of mechanical pulp)		contaminant 2% and intended for recycling**	High	Need to review max contamination standard to 0.5% or no contamination at all
Mixed paper waste and scraps	470790.00 (Mixed paper scraps)	-	Allowed, only if intended for recycling**	High cost for separation. High risk of import violation.	Prohibited unless there is further grouping in the BTBMI for specific, homogenous, highly recyclable paper scraps shipments. Mixed paper scraps should not be allowed due to maximum contamination of 2%.
Refuse/solid-derived fuels or other waste-derived products	360690 ¹⁸ 382510 ¹⁹	-	HS Code for RDF/PEF/SRF are unknown in trade practice HS 360690 is currently allowed for imports. HS 382510 is currently prohibited for imports*	Not intended for recycling, but instead for alternative fuels in combustion processes	HS 382510 should be prohibited, as accordingly to current regulatory framework. HS 360690 should be prohibited, if used to identify RDF/PEF/SRF products, because its imports will be counterproductive to the national waste management targets, especially on plastic and paper waste recycling rate improvements

* See The Ministry of Trade No. 18/2021

** see The Ministry of Trade No. 20/2021 (jo. 25/2022)

*** see MoEF Regulation No. 75/2019 on Waste Reduction Roadmap for Producer (Industry)

BTBMI = Buku Tarif Bea Masuk Indonesia / *Indonesia Customs Tariff Book*

¹⁸ Singapore Customs Code rules RDF as HS 36069010 as an “article of combustible materials”, based on Letter from Singapore Customs to ResourceAsia Co. dated 15 June 2015 (Ref No. C17.16.V15)

¹⁹ Based on information from the Holcim Philippines, which is also an ASEAN country member. They have been importing PEF products under the ATHN justification. Available information here <https://www.holcim.ph/holcim-philippines-statement-alternative-fuels-held-other-ports>

Relevant ministries should conduct capacity building trainings for customs agents and field operators in identifying shipment violations should be conducted, as well as procure equipment for customs officer inspection in entry ports, to prevent waste commodities and environmentally sensitive goods trade violations in general. Aside from being mentioned as one of the challenges from the Directorate of Prosecution and Investigation (under the Ministry of Finance, DG of Customs and Excise), strong technical capacity is one of the keys to prevent violating shipments entering the Indonesian border. The inconsistencies of 8-digit HS Code used in various country regions [110], different standards use in waste scraps [149], lack of detail in Basel Codes for multiple types of plastic [17] also complicates the enforcement agents in identifying incoming shipments. Basel Convention already provided two useful guidelines for customs agents in 2006 [183] and 2014 [184], documents produced by the UN [185-187], as well as other guidelines available [188]. Providing such guidelines, for example with Indonesian translation and training, will create more effective environment for enforcement agencies to further inspect non-hazardous waste shipments.

In addition to that, considering there are risks of violation in the thirteen ports that is allowed for incoming non-hazardous waste, good quality equipment and tools should be purchased for them to conduct comprehensive inspection. For instance, container scanners and XRFs could be useful for customs officer to carry out inspections preventing violations of waste trade, especially in these ports.

The Ministry of Environment and Forestry should increase lab capacity to improve the safeguard of public health and the environment. Currently, Indonesia is still unable to analyze several persistent organic pollutants, organic metalloid, and other emerging chemicals. Increased capacity of commercial and educational laboratory in Indonesia would also lower the cost of lab instrumentation and analysis.

The Ministry of Environment and Forestry and the Ministry of Foreign Affairs should maximize the newly established exporter registry for waste repatriation/return-to-sender when violation occurs. Violation in waste shipment harms domestic recycling industries and the public. Perpetrators of the non-hazardous waste shipment violations should be put into justice. Ultimately, however, trade violations in the past burdened the cost for damage control to Indonesian importing companies and the public, when leaked into the surrounding communities. Lessons learned from past experiences should be able to plan for prevention and planned curative actions to pursue waste repatriation to the country of origin.

In addition, as one of the responsibilities of being a Basel Convention party, Indonesia should also pay close attention to the actual destination of repatriated waste. Our report

in 2019 shows past repatriation attempts that were rerouted to India, where it supposed to shipped back to the United States [157]. Several efforts that can be taken:

- Work with relevant authorities in major exporter countries
- Collect information waste repatriation protocol in major exporter countries
- Cross-referencing track records of exporter companies in the MoFA registry with list of violation occurrence in the DG of Customs and Excise (Ministry of Finance).

Include public reporting mechanism within the control and inspection of incoming waste trade. Inspection of non-hazardous waste import are conducted by both Customs agents and the MOEF on the alerted shipments. Despite several indicators on INSW and customs' risk management system on determining shipments to inspect, public reporting should be useful to include within the procedure as check and balance. Public reporting is also useful for Customs and Excise authorities to further identify violations of non-hazardous waste imports in the field [88, 189].

7.2 For Traders, Importers, Exporters, and Relevant Industry Associations
Creating industry standard for imported waste commodities for secondary raw materials. Not only this will be useful to fulfil the technical and financial specification for the recycling industries, but such standard would also help the government to shape and implement the non-hazardous waste import regulation. Industry associations should also work with their respective members to uphold high standards of the imported non-hazardous waste for high quality of secondary raw materials.

Intensively work with surveyor companies and relevant government authority to ensure the quality of imported non-hazardous waste, in this case plastic and plastic scraps. Volumes of contaminants within shipments are considered as losses for the production and recycling processes [107]. Industry reporting to the relevant government officials for exporter's violation would also optimize implementation of non-hazardous waste importation, as well as setting high precedent for national and global waste trade practices.

Exporting companies in the country of origin should register themselves in the Indonesian Embassy to fulfil administrative requirements and submits prior informed consent for each shipment as required by the Basel Convention. Exporter should comply and work with their respective government and as accordingly to the country of origin's regulation. The Basel Convention has been establishing necessary guidelines to prevent double standards or different regulations in the country destination.

Industry Associations and the Indonesian Chamber of Commerce and Industry should connect bigger recycling companies, especially plastic and paper

industries, with smaller waste collectors. Mostly untapped potential of smaller waste collectors needs to relate to larger scale business operations to maximize domestic recycling sectors. Despite recently established regulation standard on waste collection practices from waste banks from the public sector approach, business initiatives from the private sector should boost efforts in improving national waste collection, separation, and recycling rate. *Mall Sampah*²⁰ is one example of marketplace for waste access for the private sector. More similar initiative is needed to increase accessibility of separately collected waste into the proper recycling businesses.

7.3 For Civil Society Organizations (CSOs), Think-tank Organizations, and the general public

Think-tank organizations should stimulate research and establishment of a marketplace that specifically connects the informal sectors, smaller and bigger waste collectors, and waste brokers. This study shows anecdotal findings of the important potential of waste collectors in improving national collection and recycling rate of recyclable materials.

CSOs should continuously investigating and work with local and national authority, as well as industry associations, in protecting the public health and the environment from the hazard of mismanaged imported non-hazardous waste. Not only helping the implementation of the regulation, but this measure would also strengthen check and balances of waste import regulation.

The general public should also take part in improving and increasing the ease of collection and recycling of post-consumer waste. Cleanly separated waste should start in each household, community actions to segregate waste, maximizing the use of waste bank whenever available, and other initiative in the community-level would help increase domestic recycling rate, especially when organized and implemented in massive numbers in multiple areas.

²⁰ This marketplace connects waste generators, collectors, and ultimately recycling industries. See www.mallsampah.com for more detail

8 ANNEXES

8.1 Number of registered exporters (per August 2021)

<i>Country</i>	<i># of registered exporters</i>	<i>Country</i>	<i># of registered exporters</i>
United States	62	Norway	3
Japan	53	Belgium	3
Singapore	48	France	3
Australia	38	Portugal	3
United Kingdom	24	Greece	3
South Korea	18	Poland	2
Netherland	17	Bahrain	2
New Zealand	15	Philippines	1
Italy	10	Denmark	1
Canada	9	Papua New Guinea	1
Malaysia	9	Austria	1
Germany	9	Vietnam	1
Spain	7	Brunei Darussalam	1
Brazil	6	Jordan	1
Chile	4		

Source: Ministry of Environment and Forestry, 2022

8.2 Example of Exporter Company Registration Form from Indonesian Embassy in New Zealand



Embassy of The Republic of Indonesia Wellington
New Zealand

APPLICATION OF NEW ZEALAND COMPANY

REGISTRATION FOR NON-HAZARDOUS AND NON-TOXIC WASTE EXPORTER TO INDONESIA

1. NZ Company	:	
NZBN Number	:	
(New Zealand Business Number)	:	
2. Address	:	
Phone/Fax No	:	
Email address	:	
Website	:	
3. Nature of Business *) :		
	☐	Producer
	☐	Trader / Exporter
	☐	Producer and Trader
Product(s) offered **):		
with HTS Number		
4. Company's Trading Partner(s) in Indonesia **):		
Name of Company	:	
Address	:	
Phone/Fax No	:	
Email address	:	
Website	:	

I sincerely declare that the above statement is true.

(				)
Executive Signature	Name	Title		

City	DD	MM	YYYY

*) Please select one

**) Please use separate paper if you need more space

Source: Kementerian Luar Negeri, 2020 [99]

8.3 Example of Statement Letter Template from Indonesian Embassy in New Zealand

(Company Letterhead)

**LETTER OF STATEMENT
RELEASE, HOLD HARMLESS AND INDEMNIFICATION**

**EXPORT OF NON-HAZARDOUS AND NON-TOXIC WASTE
FROM NEW ZEALAND**

As stipulated in the Regulation of the Minister of Trade of the Republic of Indonesia No. 84 of 2019 J.O. No. 92 of 2019, concerning Provisions on the Import of Non-Hazardous and Non-Toxic Waste as Industrial Raw Material, we hereby declare and promulgate to wit:

A. The exported was as delineated under the following goods, identification and provisions:

1. The Non-Hazardous and Non-Toxic Material (Non-B3) waste exported to Indonesia from the Country of Exporting does not originate from landfill activities (not mixed with soil) and is clean;
2. The Non-Hazardous and Non-Toxic Material (Non-B3) waste exported to Indonesia is not rubbish and is not mixed with rubbish;
3. The Non-Hazardous and Non-Toxic Material (Non-B3) waste exported to Indonesia is not contaminated with B3 and/or B3 waste; and
4. The Non-Hazardous and Non-Toxic Material (Non-B3) waste exported to Indonesia is homogeneous.

B. We accept full responsibility for any and all rejected waste that is not in compliance with **Points A.1 through A.4**. Further, we are also liable for the repatriation of any and all rejected waste from the territory of the Republic of Indonesia, and will hold harmless and/or indemnify the rejecting party.

Issued by the NZ Exporter of the hereinabove to fore mentioned goods to wit.

Date of Issuance	:	
City/Country of Issuance	:	
Company Name	:	
Full Name	:	
Title	:	

(SIGNATURE AND STAMP)

Notarized by:

Source: Kementerian Luar Negeri, 2020 [99]

8.4 Indonesia's Import of Plastic Waste (HS Code 3915) and its trade value, in tons

Year	391510 (PE)	391520 (PS)	391530 (PVC)	391590 (Mixed/others)	3915 (Total)
2015	35,657.87	18.00	15.68	52,548.64	88,240.19
2016	33,902.53		120.94	78,342.95	112,366.42
2017	38,560.96	0.08	908.72	77,913.67	117,383.43
2018	147,634.22	4.56	1,939.14	133,574.33	283,152.25
2019	149,701.05	137.84	2,529.06	97,250.42	249,618.37
2020	162,150.97	454.04	984.18	18,129.56	181,718.75
2021	145,470.70	527.81	704.58	17,712.48	164,415.56
2022*	47,665.51	400.67	239.25	5,454.58	53,760.00

* Data from 2022 are only available for January - March
Source: Indonesia Statistics, 2022

8.5 Indonesia's Import of Plastic Waste (HS Code 3915) by regions, in tons

Year	Africa	Central & South America	North America	West Asia	South & Southeast Asia	East Asia	Australia & Oceania	Western Europe	Eastern Europe
2015	42.06	6,987.93	42,128.74	253.45	2,848.93	5,282.05	16,678.63	13,967.44	50.97
2016	79.91	2,189.19	54,009.89	349.02	2,611.61	4,872.00	39,554.82	8,360.49	339.50
2017	235.32	4,645.48	10,119.10	468.16	9,707.64	4,142.88	78,124.83	8,943.70	996.32
2018	432.33	2,157.48	52,605.03	159.23	12,215.43	19,374.51	105,798.74	89,282.51	1,127.00
2019	430.18	1,105.17	37,062.75	2,006.87	10,246.76	18,043.20	63,178.18	107,381.92	10,163.34
2020	318.69	1,193.30	16,798.76	223.03	14,272.64	8,762.51	13,122.73	104,233.72	22,793.39
2021			20,727.28	648.63	18,168.99	5,520.47	20,868.05	92,898.70	5,583.44

Source: Indonesia Statistics, 2022

8.6 Indonesia's Import of Plastic Waste (HS Code 3915) by entry port, in tons

Port of Entry	Net weight 2019 (in tons)	Net weight 2020 (in tons)	Net weight 2021 (in tons)	Net weight 2022* (in tons)
Batu Ampar	129,313.87	135,409.20	97,346.78	36346.97
Belawan	6,734.06	8,104.44	12,017.16	4532.95
Cengkareng / Sukarno Hatta (Airport)	3.92	1.85	1.03	0.42
Sekupang	717.33	0.01		110.00
Semarang / Achmad Yani (Airport)	0.15	0.01	0.02	0.00
Surabaya / Juanda (Airport)	1.36	0.00	0.05	
Tanjung Emas	808.72	2,750.67	1,824.98	617.83
Tanjung Perak	6,051.32	13,491.64	16,006.87	2732.03
Tanjung Priok	105,987.65	21,960.94	37,218.68	9419.80

* Data from 2022 are only available for January – March
Source: Indonesia Statistics, 2022

8.7 Indonesia's Export of Plastic Waste (HS Code 3915) and its trade value, in tons

Year	391510 (PE)	391520 (PS)	391530 (PVC)	391590 (mixed/others)	3915 (Total)
2015	18,865.21	19.00	528.53	129,321.86	148,734.61
2016	21,816.76	0.00	690.85	181,078.61	203,586.22
2017	54,879.73	752.56	276.97	136,959.90	192,869.17
2018	63,125.00	45.17	117.33	35,162.71	98,450.21
2019	40,086.06	10.92	0.00	33,178.21	73,275.20
2020	3,642.26	21.00	0.00	40,061.46	43,724.72
2021	8,285.02		39.42	36,030.16	44,354.60
2022*	981.80	0.002	112.00	7,510.41	8,604.21

* Data from 2022 are only available for January – March
Source: Indonesia Statistics, 2022

8.8 Indonesia's Export of Plastic Waste (HS Code 3915) by region, in tons

Year	Africa	Central & South America	North America	West Asia	South & Southeast Asia	East Asia	Australia & Oceania	Western Europe	Eastern Europe
2015	147.17	78.94	720.29	0.00	3,392.77	144,253.66	1.55	140.22	0.00
2016	90.13	0.00	1,069.06	68.06	1,539.52	200,360.66	0.75	455.66	2.38
2017	55.86	0.00	2,730.22	143.12	6,563.16	181,384.84	402.33	510.57	1,101.06
2018	42.61	105.01	6,130.29	1,015.15	19,364.20	64,518.75	333.15	5,450.92	1,490.15
2019	223.74	0.00	5,532.20	367.88	6,830.04	39,213.24	2,606.90	17,759.52	741.67
2020	0.00	22.00	8,162.50	946.13	4,794.86	9,080.83	3,079.62	15,498.46	2,140.32
2021	66.00	220.22	5,794.72	1,736.27	7,072.12	13,200.80	2,731.60	12,774.61	758.28

Source: Indonesia Statistics, 2022

8.9 Indonesia's Import of Paper Waste (HS Code 4707) and its trade value, in tons

Year	470710 (Unbleached Kraft/Paperboard)	470720 (Bleached Chemical Pulp)	470730 (Mechanical Pulp)	470790 (Mixed/other)	4707 (Total)
2015	979,671.99	63,310.39	408,878.54	158,705.69	1,610,566.61
2016	1,224,639.99	36,225.27	377,985.69	207,488.76	1,846,339.70
2017	1,294,626.94	68,457.62	331,330.04	211,931.79	1,906,346.39
2018	1,705,660.50	143,360.08	321,983.00	812,050.20	2,983,053.77
2019	2,227,293.99	101,708.29	341,470.49	511,577.94	3,182,050.70
2020	2,602,308.69	37,274.12	344,374.82	16,094.01	3,000,051.63
2021	2,927,576.07	80,967.99	415,932.82	18,703.39	3,443,180.26
2022*	633,866.44	20,457.39	97,243.43	21,434.93	773,002.19

* Data from 2022 are only available for January – March
Source: Indonesia Statistics, 2022

8.10 Indonesia's Import of Paper Waste (HS Code 4707) by regions, in thousand tons

Year	Africa	Central & South America	North America	West Asia	South & Southeast Asia	East Asia	Australia & Oceania	West Europe	East Europe	Total
2015	16.96	9.54	239.45	86.90	202.02	90.20	360.02	602.56	2.91	1,610.57
2016	6.69	2.77	328.35	176.83	250.40	154.90	398.68	523.74	3.98	1,846.34
2017	12.15	4.67	307.99	180.05	230.67	175.53	401.29	588.17	5.82	1,906.35
2018	9.27	5.52	986.81	84.00	113.84	267.74	356.85	1,158.31	0.72	2,983.05
2019	1.86	12.81	1,021.29	56.99	179.18	239.55	347.35	1,321.76	1.26	3,182.05
2020	2.04	6.76	403.35	45.31	314.10	420.83	450.54	1,334.42	22.70	3,000.05
2021	0.00	0.00	612.73	27.16	306.38	417.96	765.28	1,309.43	4.24	3,443.18

Source: Indonesia Statistics, 2022

8.11 Indonesia's Import of Paper Waste (HS Code 4707) by entry ports, in tons

Port of Entry	Netweight 2019 (in tons)	Netweight 2020 (in tons)	Netweight 2021 (in tons)	Netweight 2022* (in tons)
Batu Ampar	1,941.28	74,179.80	277422.012	46975.969
Belawan	0	0	89.520	88.980
Cengkareng / Sukarno Hatta (Airport)	0.12	0.40	0.189	0.005
Jababeka	489.62	0	0	0
Sekupang	0	0	0	0
Denpasar / Ngurah Rai (Airport)	0	0.04	0	0
Lobam	0.00	0	0	0
Semarang / Achad Yani (Airport)	0	0	0.031	0.021
Surabaya / Juanda (Airport)	0	0.01	0	0
Tanjung Emas	137,494.27	135,620.18	138879.078	38941.526
Tanjung Perak	902,901.30	766,027.38	941024.194	192753.658
Tanjung Priok	2,139,224.12	2,024,223.83	2085765.240	494242.029

* Data from 2022 are only available for January – March

Source: Indonesia Statistics, 2022

8.12 Indonesia's Export of Paper Waste (HS Code 4707) and its trade value, in tons

Year	470710 (Unbleached Kraft/Paperboard)	470720 (Bleached Chemical Pulp)	470730 (Mechanical Pulp)	470790 (Mixed/other)	4707 (Total)
2015	2,473.53	42.46	98.79	2,349.40	4,964.17
2016	2,720.94	57.21	115.63	4,388.54	7,282.33
2017	4,692.14	0.01	5,815.14	12,366.80	22,874.08
2018	6,678.09	0.00	6,952.00	39,787.98	53,418.07
2019	4,277.64	0.00	66.49	16,152.30	20,496.42
2020	1,922.35	0.13	2,732.09	12,420.09	17,074.66
2021	3,651.41	0.00	2,893.14	9,741.86	16,286.41

2022*	992.47	0.00	1,430.99	2,318.41	4,741.87
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* Data from 2022 are only available for January – March

Source: Indonesia Statistics, 2022

8.13 Indonesia's Export of Paper Waste (HS Code 4707) by region, in tons

Year	Africa	Central & South America	North America	West Asia	South & Southeast Asia	East Asia	Australia & Oceania	West Europe	East Europe	Total
2015	0.00	1.96	87.33	0.00	4,329.19	479.33	40.60	23.04	2.72	4,964.17
2016	0.00	0.00	0.03	0.00	6,464.88	757.03	56.67	3.06	0.66	7,282.33
2017	0.00	0.00	0.01	0.00	19,138.78	2,548.16	1,182.48	4.65	0.00	22,874.08
2018	112.00	0.00	0.07	36.22	33,237.56	20,029.52	0.00	2.69	0.00	53,418.07
2019	0.00	0.00	1,062.64	0.02	12,324.30	5,058.87	0.00	2,050.42	0.18	20,496.42
2020	349.96	0.00	366.22	0.00	12,175.14	4,177.28	0.00	0.00	6.06	17,074.66
2021	138.47		0.02	4.20	12,215.64	3,927.98	0.10	0.003	0.00	16,286.41

Source: Indonesia Statistics, 2022

8.14 Global Export of Plastic Waste (HS Code 3915), in tons

Year	Netweight (in tons)	Trade Value (In mil USD)
2016	7,076,739.87	\$3,485.11
2017	6,581,314.94	\$3,209.45
2018	5,839,287.98	\$2,752.51
2019	4,612,633.33	\$2,347.85
2020	3,178,888.68	\$1,952.66

Source: UN Comtrade, 2021

8.15 Global Import of Plastic Waste (HS Code 3915), in tons

Year	Netweight (in tons)	Trade Value (In mil USD)
2016	3,750,931.30	\$1,481.30
2017	3,625,217.30	\$1,554.89
2018	3,891,879.49	\$1,733.02
2019	2,999,856.06	\$1,688.60
2020	3,533,363.62	\$1,447.42

Source: UN Comtrade, 2021

8.16 OECD Export of Plastic Waste (HS Code 3915) to Indonesia, in tons

Year	Netweight (in tons)	Trade Value (In mil USD)	Avg price / tons (USD/tons)
2016	91,446.82	\$27.23	\$297.76
2017	102,699.82	\$27.05	\$263.42
2018	291,361.49	\$65.78	\$225.78
2019	200,448.71	\$52.12	\$260.01
2020	206,640.56	\$63.37	\$306.66

Source: UN Comtrade, 2021

8.17 OECD Import of Plastic Waste (HS Code 3915) from Indonesia, in tons

Year	Netweight (in tons)	Trade Value (In mil USD)	Avg price / tons (USD/tons)
2016	6,479.43	\$4.30	\$663.61
2017	9,950.62	\$7.76	\$780.23
2018	17,335.56	\$14.82	\$855.11
2019	22,650.79	\$20.52	\$906.03
2020	23,725.00	\$18.32	\$771.99

Source: UN Comtrade, 2021

8.18 USA's Export of Plastic Waste (HS Code 3915) to Indonesia, in tons

Year	Netweight (in tons)	Trade Value (In mil USD)	Avg price / tons (USD/tons)
2016	34,521.37	\$10.52	\$304.86
2017	29,174.87	\$8.31	\$284.74
2018	27,385.17	\$9.25	\$337.69
2019	24,338.91	\$10.69	\$439.24
2020	21,563.94	\$5.75	\$266.87

Source: UN Comtrade, 2021

8.19 USA's Import of Plastic Waste (HS Code 3915) from Indonesia, in tons

Year	Netweight (in tons)	Trade Value (In mil USD)	Price / tons (USD/tons)
2016	1,245.19	\$0.78	\$626.29
2017	2,014.98	\$1.55	\$771.37
2018	7,333.90	\$5.47	\$745.89
2019	5,455.47	\$4.26	\$780.94
2020	13,140.64	\$10.28	\$782.12

Source: UN Comtrade, 2021

8.20 Indonesia's Import of Plastic Waste (HS Code 3915) from ASEAN Countries, in tons

Year	Brunei	Cambodia	Lao	Malaysia	Myanmar	Philippines	Singapore	Thailand	Viet Nam
2016	0.00	0.00	0.00	491.03	0.00	0.00	2,090.99	0.05	0.40
2017	0.00	0.00	0.00	537.73	0.00	0.00	9,097.33	16.87	0.91
2018	0.00	0.00	0.00	738.55	0.00	0.00	11,475.35	0.00	1.53
2019	0.00	0.00	0.00	1,078.24	0.00	93.91	8,703.87	342.39	3.50
2020	0.00	0.00	0.00	915.90	0.00	0.04	13,271.95	83.30	1.45

Source: Indonesia Statistics, 2021

8.21 Indonesia's Export of Plastic Waste (HS Code 3915) to ASEAN Countries, in tons

Year	Brunei	Cambodia	Lao	Malaysia	Myanmar	Philippines	Singapore	Thailand	Viet Nam
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2016	0.00	0.00	0.00	387.80	0.00	105.25	501.97	146.66	129.24
2017	0.00	0.00	0.00	2,192.18	40.50	147.42	526.68	590.45	1,183.68
2018	0.00	0.00	0.00	5,330.31	162.20	1,151.01	536.48	2,250.85	3,722.24
2019	0.00	0.00	0.00	1,806.68	122.20	0.00	276.61	180.83	2,573.28
2020	0.00	0.00	0.00	1,118.90	0.00	0.00	341.92	257.22	2,070.28

Source: Indonesia Statistics, 2021

8.22 Indonesia's Import of Plastic Waste (HS Code 3915) from Australia, in tons

Year	Trade Value (in million USD)	Netweight (in tons)	Avg price / ton (USD / ton)
2015	\$7.12	14,985.36	\$ 474.95
2016	\$5.04	12,380.30	\$ 407.34
2017	\$2.51	6,879.39	\$ 364.14
2018	\$5.93	15,524.51	\$ 381.76
2019	\$8.59	17,277.58	\$ 497.19
2020	\$5.34	11,464.82	\$ 465.53

Source: Indonesia Statistics, 2021

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