
International Economic Law Clinic

IMPROVING ALIGNMENT BETWEEN THE BASEL CONVENTION PLASTIC WASTE AMENDMENT AND THE HARMONIZED SYSTEM

Proposed recommendations for updating the Harmonized
System Nomenclature with regards to Plastic Waste

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Executive Summary

Plastic waste pollution, accelerated by international trade, is a growing global concern. Countries that import plastic waste – mostly countries in the Global South – often do not have sufficient recycling capacity in place, leading to the to improper disposal of harmful plastics which causing great damage to human health and the environment. Reflecting this crisis, several initiatives have been adopted both at national and international levels that seek to better regulate plastic waste trade. Most notably, effective from 1 January 2021, the Basel Convention Members adopted Plastic Waste Amendments, which specify new categories of plastic waste that will be subject to the Convention.

Against this backdrop, this report examines the interplay between the Basel Convention’s Plastic Waste Amendments and the international trading classification categories of the World Customs Organisation’s (WCO) Harmonized System (HS). It highlights the existence of a fundamental disconnect between these two regimes, which is rooted in their different functions. While the HS nomenclature provides a standardized classification system for traded products based on physical characteristics, the Basel Convention’s Plastic Waste Amendment distinguishes between different types of controlled and uncontrolled plastic waste on the basis of predominantly technical characteristics.

This report explains why the disconnect in plastic waste classification between the HS and the Basel Convention is problematic and proposes various solutions to address this misalignment. It does so by (i) analyzing the Basel Secretariat’s current draft proposal which seeks to amend the HS chapter 3915¹ (HS3915); and (ii) by proposing an alternative approach to enhance alignment between the categorization of plastic waste under the HS and the Basel Convention.

Specifically, this report proposes an exclusionary list method of restructuring the HS codes to separate easy-to-recycle plastics from hazardous and hard-to-recycle plastics, which clearly distinguishes trade in easy-to-recycle plastic waste from hazardous and hard-to-recycle plastic wastes. The recommendations are as follows:

- Expand current HS classifications for plastic wastes to include specific trading codes for easy-to-recycle plastics, while deeming all other plastics that fall under the “other” category controlled plastics by default.

¹ The Basel Secretariat proposes HS trading codes for plastic wastes of interest, but this approach has shortcomings which this report will later highlight, and address in the proposed recommendations.

- Revise HS plastic waste guidelines used by customs officials, namely explanatory notes and HS plastics chapter definitions, to better define plastic waste and thresholds for mixed plastics.
- Encourage countries to establish hazardousness thresholds as well as national licensing and certification standards that must be complied with for plastic waste to fall within the “easy-to-recycle” HS codes.

By using the technical and physical characteristics of easy-to-recycle plastics to develop specific HS codes, the Basel Convention’s categorization between plastic wastes is better reflected in product classifications used by customs officials across different countries.

This proposed method of categorizing plastic wastes in the international trading codes allows for hazardous and hard-to-recycle plastic wastes to be clearly distinguished from the easy-to-recycle and non-hazardous plastic wastes. This not only allows for easy identification of situations in which Basel Convention’s Prior Informed Consent (PIC) procedure must be applied, but also enables countries to adopt more targeted trade policies relevant to plastic waste management and a transition towards a circular economy.

Table of Abbreviations

ESM	Environmentally Sound Management
GIR	General Interpretive Rules
HDPE	High-density polyethylene
HS	Harmonized Commodity Description and Coding System
HS3915	Harmonized System Chapter 39 Heading 15
IDP	Informal Dialogue on Plastic Pollution and Environmentally Sustainable Plastics Trade
ISO	International Organization for Standardization
OECD	Organization for Economic Cooperation and Development
PE	Polyethylene
PET	Polyethylene terephthalate
PFTE	Polytetrafluoroethylene
PIC	Prior Informed Consent
PP	Polypropylene
PU	Polyurethane
PVC	Polyvinyl-chloride
PWA	Plastic Waste Amendments
UNEA	United Nations Environmental Assembly
UNEP	United Nations Environmental Program
WCO	World Customs Organization
WTO	World Trade Organization

1. Introduction

1. The issue of cross-border plastic waste dumping has recently come to the forefront of international discussions, especially after 2018 when China introduced a ban on the import of certain types of plastic waste. This has resulted in increased attention paid to the environmental crisis generated by the mismanagement of plastic waste, including through plastic waste dumping in countries that do not have appropriate treatment facilities in place. To address these issues, various international plastic-related initiatives have emerged. For example, ministers will be voting on a global treaty to tackle the plastics crisis in February 2022 at the United Nations Environmental Assembly (UNEA).² Additionally, at the World Trade Organization (WTO), a subset of Members are developing a roadmap in support of global efforts to reduce plastic pollution known as the Informal Dialogue on Plastic Pollution and Environmentally Sustainable Plastics Trade (IDP).³
2. Moreover, in May 2019, the 187 parties to the Basel Convention – a treaty that seeks to control transboundary movements of hazardous and other wastes and their disposal – adopted Plastic Waste Amendments (PWA), which specify new categories of plastic waste that will be subject to the Convention. The PWA effectively adds most types of plastic waste to the list of controlled wastes under the Basel Convention.⁴
3. The PWA represents an important step undertaken by signatory countries to recognize the issue of plastic waste. However, it presents various implementation challenges. The PWA distinguishes between (i) plastic waste that is sorted, uncontaminated, and effectively designated for recycling—which are the types of plastic that can be traded freely—and (ii) other types of plastic waste that require the prior informed consent of importing and transit countries when traded. With the PWA, different types of plastic waste are distinguished on the basis of both physical and technical characteristics.
4. However, customs procedures, which are based on product descriptions set out in the World Customs Organization’s (WCO) Harmonized Commodity Description and Coding System (HS), are designed exclusively around physical characteristics that are easily verifiable by customs officials.

² Geneva Solutions., 2021, Ministers push for tougher treaty on plastics, September 2:

<https://genevasolutions.news/climate/ministers-push-for-tougher-treaty-on-plastics>

³ WTO., 2021, Plastics dialogue on track for very positive MC12 outcome ., WTO news items, October 22: https://www.wto.org/english/news_e/news21_e/ppesp_22oct21_e.htm.

⁴ WEF. 2020 Trade barriers are slowing plastic-pollution action. Here’s how to this, WEF plastics and the Environment, July 29: <https://www.weforum.org/agenda/2020/07/trade-barriers-are-slowing-action-on-plastic-pollution-here-s-how-to-fix-that/>.

5. Therefore, the HS lacks the specificity needed to distinguish sorted, uncontaminated, and designated for recycling plastics from other types of plastic wastes that may not be apt for recycling.⁵ Without further implementation and alignment efforts between the HS and the PWA, inadequate tracking of traded plastic wastes and data collection will persist and hinder the effect of targeted trade policies that discourage environmentally harmful practices. There is also the risk that increased trade frictions could stymie the development of the plastics recycling market.⁶
6. Against this background, this report seeks to better understand the misalignment between the PWA and the HS with respect to the issue of plastic waste categorization and present a proposal to address this misalignment. Specifically, this report is organized as follows: Section 2 seeks to contextualize the issue by providing background with respect to the current state of plastic waste trade flows; Section 3 provides background with respect to the Basel Convention's Plastic Waste Amendments; Section 4 provides background information with respect to the categorization of plastic waste under the HS; and Section 5 explains how the misalignment can potentially be addressed. Finally, Section 6 sketches out a relatively detailed proposal that could be considered in resolving the discrepancy of plastic waste categorizations under the PWA and HS.

2. The Urgent Problem of Plastic Waste

7. This section discusses the problems regarding plastic waste pollution and plastic waste trade flows. It provides context for this report's subsequent discussion of the misalignment of the HS and Basel Convention's treatment of plastic waste.
8. International trade in plastic waste presents the risk of aggravating existing plastic pollution in certain parts of the world. It is estimated that global annual plastic waste emissions range between 9 to 23 million metric tonnes in rivers, lakes, and oceans, while terrestrial environments received annually between 13 to 25 million metric tonnes of plastic in 2016. Without intervention, these emission rates are likely to double by 2025,⁷ with plastic potentially becoming a "poorly reversible pollutant". As plastic waste enters the ocean, residues escape the reach of cleanup

⁵ Global Plastic Action Partnership (2021), "Trade and the Circular Economy: A Deep Dive into plastics action in Ghana", Available at: https://globalplasticaction.org/wp-content/uploads/Ghana_NPAP_Trade_and_Circular_Economy.pdf.

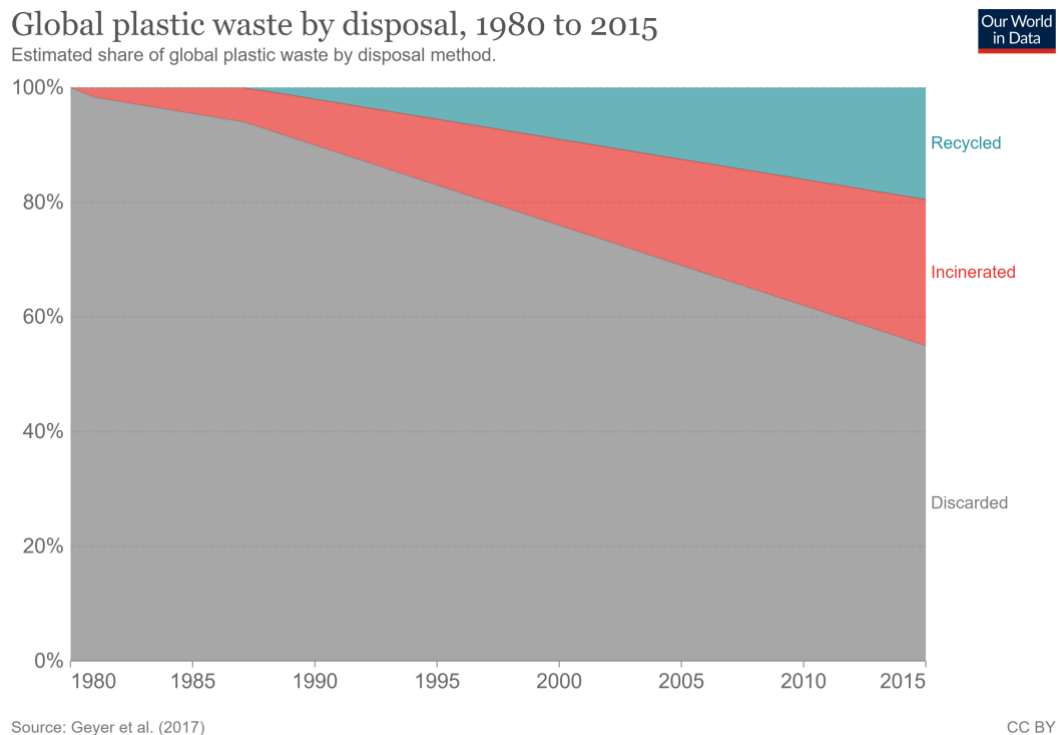
⁶ WEF. 2020 Trade barriers are slowing plastic-pollution action. Here's how to fix that, WEF plastics and the Environment, July 29: <https://www.weforum.org/agenda/2020/07/trade-barriers-are-slowing-action-on-plastic-pollution-here-s-how-to-fix-that/>.

⁷ MacLeod et al., 2021, The global threat from plastic pollution, *Science*, 373, 61–65.

actions. Plastic waste accumulation then increases in the environment over time, with its removal becoming increasingly difficult.⁸

9. Further, most plastic waste exports go to low-to-middle income countries with high rates of inadequate waste disposal. In fact, it has been estimated that between 80 to 90% of plastic is inadequately disposed in many countries in South Asia and Sub-Saharan Africa.⁹ Therefore, waste exports in those countries increase their likelihood to be inadequately disposed. Not only does improper plastic waste disposal and dumping to developing countries damage the environment and human health, but it also poses further long-term pollution and human development problems for countries already saddled by other development challenges.
10. As seen in Figure 1 below, plastic waste pollution remained largely unaddressed until the 1980s. Despite increasing rates of plastic waste recycling and incineration practices, the majority of plastic wastes are still discarded.¹⁰ Both incineration and landfill discarding practices pollute the environment, which reinforces the urgency and shows the extent of the global plastics problem.

Figure 1: Rates of global plastic waste disposal from 1980 to 2015¹¹



⁸ MacLeod et al., 2021, The global threat from plastic pollution, Science, 373, 61–65.

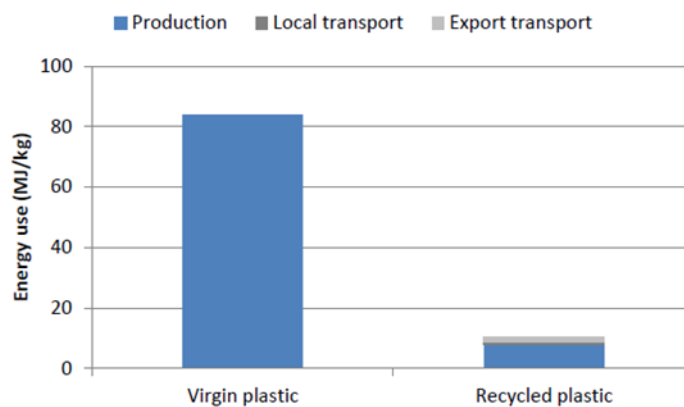
⁹ Hannah Ritchie and Max Roser., 2018, "Plastic Pollution". Published online at OurWorldInData.org. Retrieved from: '<https://ourworldindata.org/plastic-pollution>'.

¹⁰ Ibid.

¹¹ Ibid.

11. Trade in plastic waste also presents an opportunity. Provided it is well-managed, plastic waste trade can be used as feedstock for recycling plants, thereby enabling a country to increase recycled plastic waste. Environmental benefits of recycled plastic are significant from several perspectives. Firstly, and as set out in Figure 2 below, recycled plastics' production energy intensity is dramatically lower than virgin plastic one.¹² In addition, recycling activities' carbon footprint is lower than incineration and landfilling.¹³ Secondly, recycling plastic is most likely as effective as stringent landfilling and incineration practices in preventing waste leakage.¹⁴ Therefore, proper plastic waste recycling could reduce plastic waste pollution, limit resource extraction, and drastically reduce industries' carbon footprint.

Figure 2: Relative energy intensity of virgin and recycled plastics production¹⁵



Note: Data is for plastic resins only.

12. As mentioned, international trade is key to improving recycled plastic's competitiveness. One of the main obstacles to wider adoption of recycled plastic is its low economic competitiveness to plastic sourced from virgin materials. In the absence of proper regulations or economic incentives to level the playing field, efficient and environmentally viable plastic waste supply chains in low labor-cost countries have strong potential to expand the recycling plastic waste industry. Furthermore, plastic waste recycling provides developing countries with an opportunity to develop an industry with relatively high value-added services. Trade in plastic waste could potentially confer significant environmental and economic gains.

¹² OECD.2018. Background report: Improving plastics management, p.6.

¹³ Ibid, p.6.

¹⁴ Ibid, p.7.

¹⁵ Wong, C. "A Study of Plastic Recycling Supply Chain 2010. A Study of Plastic Recycling Supply Chain". 2009.

13. However, trade in plastic waste also risks aggravating plastic pollution and associated environmental and health problems. Specifically, plastic waste trade has been linked to environmental pollution in developing countries. In some cases, recyclable plastic waste shipments are managed in environmentally inappropriate recycling facilities.¹⁶ Frequently, plastic waste is not recycled, and instead, ends up being dumped in landfills, thereby aggravating countries' plastic pollution problems.¹⁷
14. In recent years, plastic waste trade and supply chains have seen dramatic changes. Until 2017, China and Hong Kong were the main export destinations for plastic waste. Since 1992, China and Hong Kong have collectively imported 72.4% of all plastic waste with China importing 45.1%. For the most part, Hong Kong acted as a port of entry to China, with most plastic waste imports to Hong Kong eventually entering China. High Income Countries (HIC) have exported 87% of plastic waste since 1988.¹⁸ In 2015, out of the 300 million plastic waste tonnes generated, 14 million were exported to countries outside the country of origin. In 2016, 8 million were exported to China, and 2 million to Hong Kong.¹⁹
15. However, in 2017, China implemented the National Sword policy, which banned the import of most types of plastic waste. This created disruptions in the global value chains of recyclable plastic waste worldwide. Consequently, plastic waste trade flows partly shifted toward other neighbouring Southeast Asian countries. In 2019, Malaysia was the largest importer of plastic waste followed by Hong Kong, Turkey, USA, Indonesia, and Thailand among others.²⁰ Southeast Asian countries also began imposing restrictions on plastic waste imports due to concerns of plastic waste contamination and the overwhelming of their waste management systems.²¹
16. Figure 3 below depicts the global trade flows of plastic wastes in kilotonnes. Here, the trade imbalance, particularly from major global trading countries to the Asia Pacific is illustrated. Figure 4 provides a graphical representation of the one-sided nature of current international plastic waste trading chains. Most countries in the figure are either heavy importers or exporters of plastic wastes.

¹⁶ Global Alliance for Incinerator Alternatives., 2019, Discarded: Communities on the Frontlines of the Global Plastics Crisis.

¹⁷ WEF(2020) - Plastics, the Circular Economy and Global Trade.

¹⁸ Brookes, Amy L., Jenna R. Jambeck and Shunli Wang (2018) - The Chinese Import Ban and its Impact on Global Plastic Waste Trade.

¹⁹ Ibid.

²⁰ Dominish, E., Retamal, M., Wakefield-Rann, R., Florin, N., 2020, Environmentally responsible trade in waste plastics Report 1: Investigating the links between trade and marine plastic pollution, Prepared for the Department of Agriculture, Water and the Environment, June 2020 – p.8.

²¹ Ibid, p.9.

Figure 3: Major trade flows of plastic waste in in 2019²²

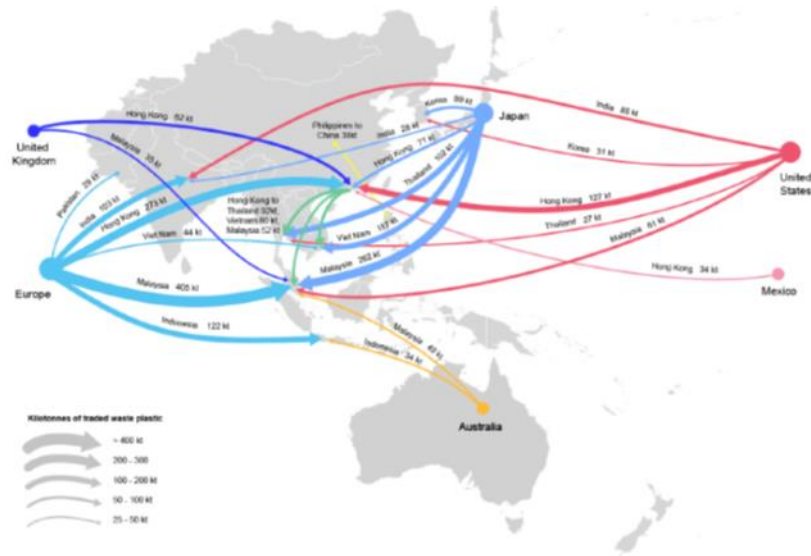
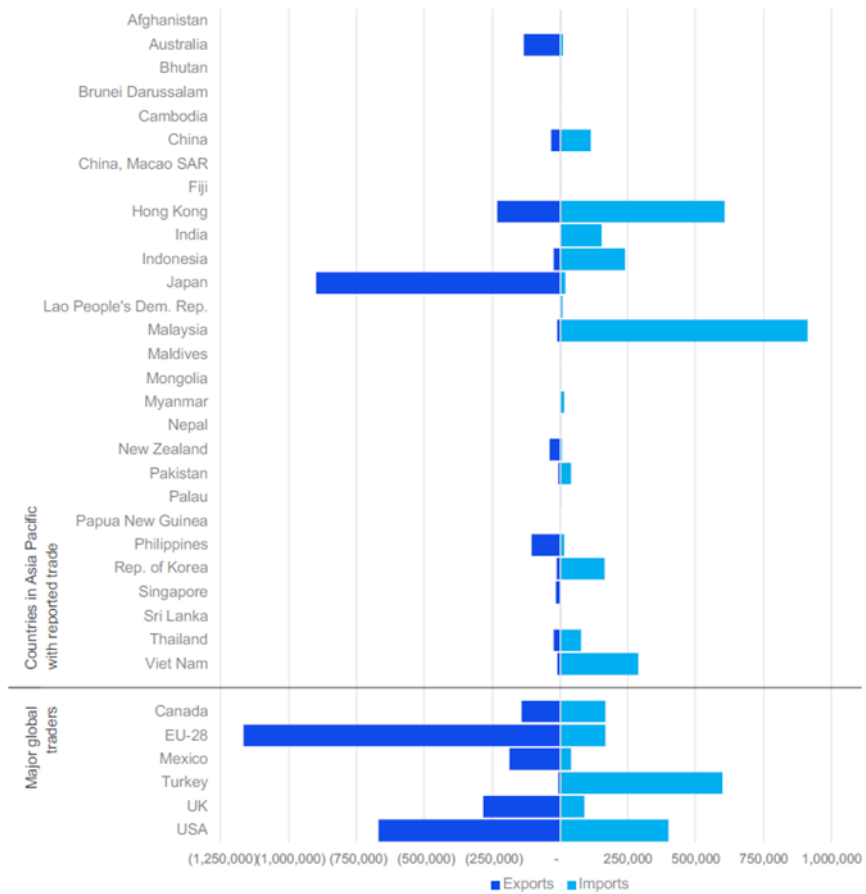


Figure 4: Exports and imports of plastic waste in Asia Pacific and major global traders in 2019²³



²² Ibid, p.11.

²³ Ibid, p.10.

17. In addition to the unbalanced dynamics of global plastic waste trade, import bans have occurred because exported plastic waste is often contaminated or hard to recycle. Typically, exported plastic waste are sent in unsorted bales for sorting by pickers and recyclers upon arrival to import countries.²⁴ Shipments usually contain mixtures of different types of plastic waste. Unsorted bales may contain recyclable plastics, but they are mixed in with dirty, contaminated, and hazardous plastic wastes. Valuable materials are recycled whereas the rest are often disposed in landfills or incinerated. Consequently, plastic waste management causes heavy environmental damage and health problems to communities that neighbor treatment facilities.
18. Cleaning plastic waste potentially pollutes water supply because plastics residues and hazardous constituents seep into waterways easily.²⁵ Unregulated plastic incineration also causes severe health problems to workers and inhabitants in the facility's vicinity, due to the release of toxic smoke.²⁶ Finally, plastic waste dumping often occurs in poorly regulated landfills, which eventually leads to contamination. After the Chinese government implemented the National Sword policy, plastic waste trade diverted towards Southeast Asian countries that have relatively lax environmental standards.²⁷
19. In this context, it has become increasingly evident that current governance and monitoring of plastic waste trade flows are inadequate. As mentioned, the parties to the Basel Convention adopted the PWA to enhance the scrutiny of plastic waste trade. Through the PWA, problematic plastic waste categories, i.e., hazardous and hard-to-recycle plastic waste, are subject to the Prior Informed Consent (PIC) procedure, which requires exporting countries to inform and obtain consent from importing countries in order to trade in controlled wastes.²⁸ Only plastic waste that is clean, unmixed, and destined for recycling is exempt from the PIC procedure. Through this amendment, it has become more difficult to trade problematic plastic waste.
20. While the PWA, which enhances the regulation of trade in plastic waste, is an important and positive development towards reducing plastic waste pollution, there are a number of implementation issues requiring attention. The subsequent sections will turn to the more technical parts of the PWA and trade in plastic waste to get a better understanding of these implementation challenges. Specifically, after providing background information on the Basel Convention's

²⁴ GRID-Arendal (2019). Controlling Transboundary Trade in Plastic Waste (GRID-Arendal Policy Brief). Retrieved from <http://www.grida.no/activities/311>

²⁵ Ibid.

²⁶ Ibid.

²⁷ Ibid.

²⁸ The issues of problematic waste categories and Basel Convention PIC procedure will be discussed in further detail in Section 3.1.

PWA (Section 3) and the HS codes used by international trade (Section 4), this report will turn to discussing in more detail the misalignment between the PWA under the Basel Convention.

3. Background on the Basel Convention and Plastic Waste Amendment

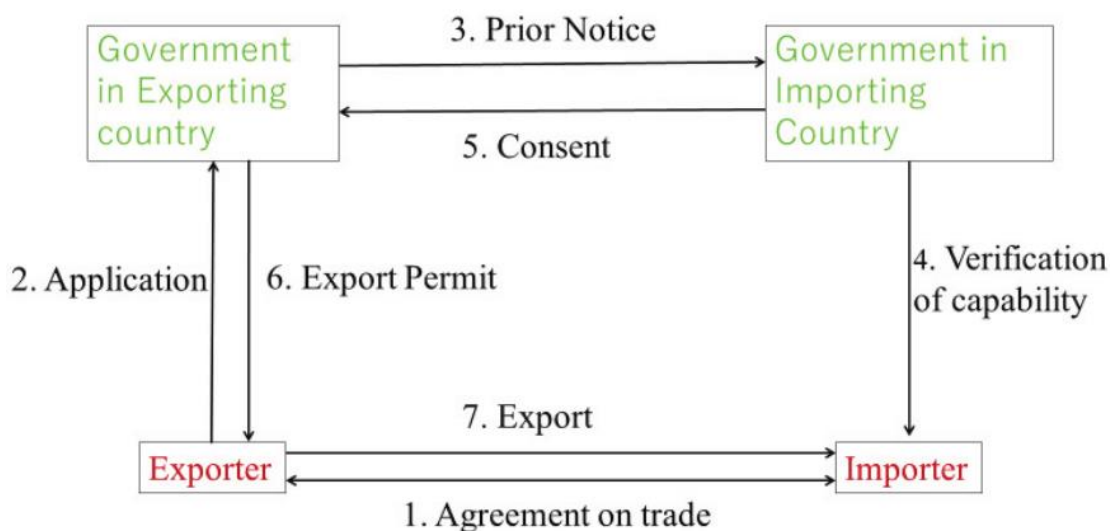
21. This section reviews the history of Basel Convention and its system of Prior Informed Consent (PIC) for plastic waste trade (Section 3.1), its recent PWA as amended to regulate plastic waste trade flows (Section 3.2), and the categorization of easy-to-recycle plastics with technical and physical properties (Section 3.3-3.4). This section covers Basel Convention understandings of plastic wastes which will contrast with Section 4's discussion of the categorization of plastics waste under the HS.

3.1. History of the Basel Convention and its Prior Informed Consent Procedure

22. The Basel Convention entered into force in 1992 with the purpose of protecting human health and the environment against the adverse effects linked with the generation and management of hazardous and other wastes (hereafter, "controlled wastes"). The main provisions of the Convention focus on (i) reducing the generation of controlled wastes and the promoting its Environmentally Safe Management (ESM) regardless of the place of disposal; (ii) the restriction of transboundary movements of controlled waste except where it is in accordance with ESM principles; and (iii) a regulatory procedure called Prior Informed Consent (PIC) that applies to cases where transboundary movement of controlled waste are permitted.²⁹
23. Trade in controlled waste is subject to the PIC procedure, i.e., a control system with strict requirements for transboundary movements of controlled waste. Figure 5 below illustrates the PIC procedure, which involves carrying out seven different steps that all countries involved (i.e. exporting, transit, and importing) must follow to monitor transboundary movement of controlled waste.³⁰

²⁹ M.S. Bank (ed.), *Microplastic in the Environment: Pattern and Process*, Environmental Contamination Remediation and Management, <https://doi.org/10.1007/978-3-03>.

Figure 5: Prior Informed Consent procedure under the Basel Convention



Source: Kojima 2020³¹

24. As outlined by the Basel Convention, the PIC procedure is operationalised and explained by these following processes:³²
- i. Agreement on trade: The firms in the exporting and importing countries agree to a trade of plastic waste (the "Shipment").
 - ii. Application: The generator/exporter of waste applies to its Competent Authority for a permit regarding the potential transboundary movement. Furthermore, the generator/exporter must conclude a legally binding control with regard to the ESM disposal of the Shipment.
 - iii. Obtain prior written consent from transport/importing states: If the exporting country's Competent Authority confirms the Shipment, it will inform the Competent Authority of the importing or transit country with detailed information on the Shipment.
 - iv. Verification of capability of the importing firm: The Competent Authority of the importing or transit country will then verify that the importing firm is able to process the imported plastic waste before consenting to the transboundary movement.

³¹ Kojima, M. "The impact of recyclable waste trade restrictions on producer recycling activities". *International Journal of Automation Technology*, 2020, 14(6), p.873-881.

³² Basel Convention., 2011, Controlling transboundary movements of hazardous wastes: <http://www.basel.int/Implementation/Controllingtransboundarymovements/Overview/tabid/4325/Default.aspx#>.

- v. Issuance of consent: The Competent Authority of the importing or transit country then issues its consent for the Shipment to take place.
- vi. Consent and issuance of movement document from point of export to disposal: Having verified that the movement of plastic waste complies with the requirements of the Basel Convention and is consented to by the Competent Authority of the importing country, the exporting country's Competent Authority can then issue the export permit containing the essential information about the Shipment, and which must accompany the consignment.
- vii. Export: The movement of plastic waste can finally occur following the successful completion of steps 1-6.³³

3.2.The Basel Convention Plastic Waste Amendment

- 25. Introduced to add the trade of plastic wastes into the Basel Convention's jurisdiction of regulating hazardous wastes, the PWA was adopted in 2019 under the decision *Basel Convention-12/14*. The amendment clarifies the definition of plastic waste under three respective annexes of the Basel Convention.
- 26. In broad terms the PWA defines three categories of plastic waste. There is "hazardous" and "hard-to-recycle" plastic waste which require special consideration of PIC procedure. There is then "easy-to-recycle" plastic waste which does not require special consideration. Hazardous and hard-to-recycle plastic are defined respectively in Annex VIII and Annex II of the Basel Convention, whereas easy-to-recycle plastic waste is defined in Annex IX.
- 27. The rest of the section will consider in further detail the technical subtleties of each category according to the PWA.
 - i. Annex II - Categories of Wastes Requiring Special Consideration: The amendment³⁴ defines all plastic wastes as requiring special consideration, except for plastic waste that is deemed non-hazardous and easy-to-recycle. Plastic waste in this category will be referred to as "hard-to-recycle plastic waste" for the rest of the report.
 - Annex VIII – Wastes Characterised as Hazardous: The amendment³⁵ defines plastic waste to be hazardous if it is contaminated to the extent

³³ Basel Convention., 2011, Controlling transboundary movements of hazardous wastes: <http://www.basel.int/Implementation/Controllingtransboundarymovements/Overview/tabid/4325/Default.aspx#>.

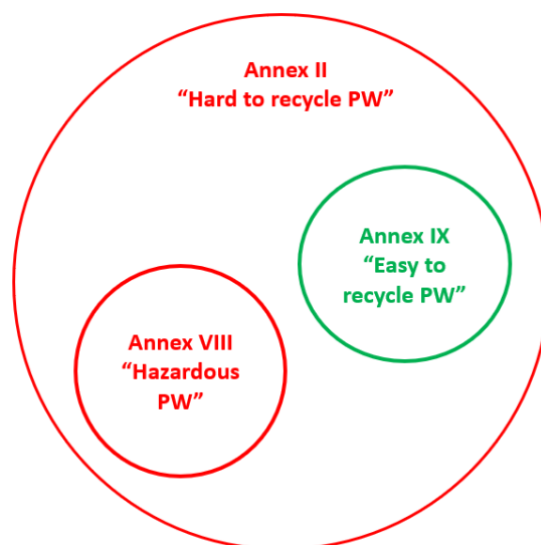
³⁴ Specifically, entry Y48.

³⁵ Specifically, entry A3210.

that it exhibits hazardous characteristics. Plastic waste in this category shall be referred to as “hazardous plastic waste” for the rest of the report.

- Specifically, plastic waste is characterized as being hazardous if (i) it contains hazardous materials from Annex I and (ii) it exhibits hazardous characteristics from Annex III. Annex I sets out a list of materials identified under the Basel Convention as being hazardous, such as lead or arsenic compounds, whereas Annex III sets out a list of hazardous characteristics identified under the Basel Convention, such as being explosive or toxic. As these criteria apply cumulatively, this means that plastic waste that is contaminated with lead compounds would not be considered to be hazardous plastic waste unless it also exhibits toxic characteristics.
 - ii. Annex IX – Wastes Characterised as Non-Hazardous: The amendment defines the physical and technical requirements for plastic waste to be characterized as non-hazardous. Plastic waste in this category will be referred to as “easy-to-recycle plastic waste” for the rest of the report.
28. The relationship among the three annexes is represented in Figure 6. By default, all plastic waste is considered hard-to-recycle plastic waste. Additionally, plastic waste is classified as hazardous plastic waste if the plastic waste has hazardous materials to the extent that it exhibits hazardous properties. However, plastic waste that fulfils certain physical or technical characteristics may be classified as easy-to-recycle plastic waste. Appendix I discusses each of the three types of plastic in further detail.

Figure 6: Relationship among PWA annexes



29. It bears emphasizing that all plastic waste by default is categorized as hard-to-recycle, **before** being otherwise classified as hazardous or easy-to-recycle depending on other criteria. It therefore follows that hazardous and easy-to-recycle plastic waste are **subsets** of hard-to-recycle plastic waste, because it implies that all plastic waste is subject to the PIC procedure unless shown to be easy-to-recycle plastic waste.

3.3. Basel Convention, Harmonized System, and Customs Authorities

30. The main purpose of the abovementioned PIC procedure is to ensure Environmentally Sound Management (ESM) of controlled waste across countries. Used by international waste disposal regulations, ESM is an international framework that ensures adequate disposal of hazardous and other wastes in a way that accounts for human health and the environment.³⁶ The Basel Convention mandates its signatory parties to adopt appropriate legislation that prevents and penalizes illegal traffic of controlled waste. Governmental authorities should also ensure that the relevant customs officials are versed in these regulations and of their implementation.
31. Customs officials play a key role in detecting illegal traffic of controlled waste by identifying suspect shipments not conforming to the PIC procedure and signaling them to the relevant authorities.³⁷ In this context, and to enforce other obligations of the Basel Convention, customs officials rely on the HS nomenclature to monitor, control, and collect information on the imports and exports of controlled waste.³⁸
32. The HS nomenclature, as it stands, cannot address all technical requirements to distinguish between “hard-to-recycle”, “easy-to-recycle”, and “hazardous” plastic wastes, as defined in the PWA of the Basel Convention.³⁹ This is because the HS nomenclature currently lacks the necessary technical characteristics to differentiate the three types of plastic waste.

³⁶ Basel Convention. Developing guidelines for environmentally sound management. : <http://www.basel.int/Implementation/CountryLedInitiative/EnvironmentallySoundManagement/Overview/tabid/3615/Default.aspx>.

³⁷ UNEP (2018). Green Customs Guide to Multilateral Environmental Agreements.

³⁸ UNEP (2021). Report on the implementation of the workplan of project group 3 on transboundary movements of plastic waste- UNEP/CHW/PWPWG.2/INF/5/Add.2

³⁹ For more detailed explanation, see Section 4 for a background review of the HS as it relates to plastic wastes.

Box 1: Physical vs Technical Characteristics

A physical characteristic is a property of an item that can be observed or measured. Technical characteristics are different, in that they typically refer to some form of requirement for the item that has to be fulfilled.

The HS classifies products in terms of physical requirements, while the PWA identifies easy-to-recycle plastic based on a combination of both physical and technical characteristics. This is the crux of the misalignment and will be discussed in more detail in the rest of the report.

33. The difference in classification by physical and technical characteristics represents the inherent misalignment of the HS and Basel Convention Plastic Waste Amendments. The HS assigns classification codes based on product descriptions that are determined by physical properties and allows for customs officials to properly identify products consistently. However, the Basel Convention's Plastic Waste Amendments employs technical characteristics such as "almost free of contamination" and "exclusively intended for recycling" as part of the criteria to categorise plastic wastes.
34. Since "easy to recycle" and "almost free of contaminants" are technical characteristics and generally not used by the HS in product classification, the same recyclable, clean plastic wastes are not separately classified from other potentially contaminated plastic wastes of the same chemical composition in the HS. The lack of distinction between technical characteristics in HS classifications in the manner of the Basel Convention's Plastic Waste Amendments is where the problem lies.
35. The subsequent Section 3.4 discusses specific technical characteristics required for effective monitoring and classification of "hard-to-recycling", "easy-to-recycling", and "hazardous". Moreover, as will be discussed later in Section 5, the current misalignment between the HS and PWA means that customs officials are unable to reliably monitor the trade in plastic waste based on the current HS. This results in lower effectiveness in combating illegal traffic or promoting ESM of plastic waste.

3.4. PWA's easy-to-recycle plastic characteristics as a key to alignment

36. As mentioned in the previous subsection, the current HS headings for plastic waste only addresses physical characteristics. The Basel Secretariat has therefore proposed physical and technical characteristics to identify "easy-to-recycling" plastic waste in accordance with the PWA. As will be further discussed in Section 6.2, this section first provides a necessary background for an understanding of the

easy to recycle plastic waste because it is crucial for the alignment between the Basel Convention’s PWA and the HS nomenclatures relating to plastic waste.

37. As shall be seen later, this report’s proposed solution for better alignment between the HS and the PWA hinges on the fact that easy-to-recycle is the only category under the PWA that does not require a PIC procedure. Consequently, the assumption here is that if the HS can classify easy-to-recycle plastic waste as one subheading, all other unclassified plastic waste would require the PIC procedure. This section focuses specifically on the definitional texts of easy-to-recycle plastic wastes located in Annex IX of the Basel Convention’s PWA, which uses technical and physical characteristics.
38. Table 1 below is an extract from Annex IX of the Basel Convention text that defines the physical and technical characteristics of easy-to-recycle plastic. **Physical characteristics are in bold** while technical characteristics are underlined.

Table 1: Annex IX from the Plastic Waste Amendment

<p>B3011</p>	<p>Plastic waste (note the related entries Y48 in Annex II and on list A A3210):</p> <ul style="list-style-type: none"> • Plastic waste listed below, provided it is <u>destined for recycling in an environmentally sound manner and almost free from contamination and other types of wastes</u>: <ul style="list-style-type: none"> - Plastic waste <u>almost exclusively</u> consisting of one non-halogenated polymer, including but not limited to the following polymers: <ul style="list-style-type: none"> ○ Polyethylene (PE) ○ Polypropylene (PP) ○ Polystyrene (PS) ○ Acrylonitrile butadiene styrene (ABS) ○ Polyethylene terephthalate (PET) ○ Polycarbonates (PC) ○ Polyethers - Plastic waste <u>almost exclusively</u> consisting of one cured resin or condensation product, including but not limited to the following resins: <ul style="list-style-type: none"> ○ Urea formaldehyde resins ○ Phenol formaldehyde resins ○ Melamine formaldehyde resins ○ Epoxy resins ○ Alkyd resins
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	<ul style="list-style-type: none"> - Plastic waste <u>almost exclusively</u> consisting of one of the following fluorinated polymers: <ul style="list-style-type: none"> ○ Perfluoroethylene/propylene (FEP) ○ Perfluoroalkoxy alkanes: <ul style="list-style-type: none"> ▪ Tetrafluoroethylene/perfluoroalkyl vinyl ether (PFA) ▪ Tetrafluoroethylene/perfluoromethyl vinyl ether (MFA) ○ Polyvinylfluoride (PVF) ○ Polyvinylidene fluoride (PVDF) • <u>Mixtures</u> of plastic waste, consisting of polyethylene (PE), polypropylene (PP) and/or polyethylene terephthalate (PET), provided they are <u>destined for separate recycling of each material and in an environmentally sound manner</u>, and <u>almost free from contamination and other types of wastes</u>.
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39. Therefore, easy-to-recycle plastic waste is defined by the PWA to have the following physical and technical characteristics:⁴⁰

- i. **Non-halogenated/cured resin or condensation product/fluorinated**: These three are the only physical characteristics that permit a largely homogenous plastic waste to be classified as easy-to-recycle. The physical characteristics are more restricted for mixtures, which may only consist of **PE/PP/PET** plastics.
 - ii. Destined for recycling in an environmentally sound manner: Easy-to-recycle plastic waste must be meant for recycling, or else they must be subject to a PIC procedure. In the case of mixtures, there is an additional requirement for the mixture to be sorted before being recycled separately.
 - iii. Almost free from contamination and other types of wastes: This implies that the plastic waste is free of hazardous materials to the extent that it *does not* exhibit hazardous characteristics.
 - iv. Almost exclusively consisting of: This means that the plastic waste is largely homogenous of a single type of plastic and can be recycled without prior sorting. In the case of mixtures, the plastic waste may only consist of three types of plastic (PE/PP/PET) and must be destined for separate recycling.
40. This section has explained the Basel Convention's PIC procedure for hazardous and hard to recycle wastes that is now applied to plastics following the

⁴⁰ The description in bold signifies physical characteristics and the description in underline signifies technical characteristics.

introduction of the PWA and illustrates the misalignment between the HS’s physical properties classification and the Basel Convention’s predominant use of technical characteristics in the PWA’s definition of easy-to-recycle plastic wastes. Having discussed the background on the Basel Convention and the Plastic Waste Amendment, the next section of the report will provide some background information on the classification of plastic wastes in the HS, before discussing the implications of applying the PWA to the current HS and examining viable solutions to this misalignment in Section 5.

4. Plastics and Plastic Waste in the Harmonized System

41. This section will introduce the WCO’s Harmonized System and the current system’s method of defining and classifying plastic wastes. In contrast to the PWA, the HS classifies plastic waste based on physical characteristics and chemical composition, not technical characteristics.⁴¹ Plastics not covered elsewhere in the HS are classified under Section VII – Chapter 39⁴² of the HS nomenclature.

Box 2: Introduction to the Harmonized System

The HS is key for the identification of goods, and among other functions is used for the attribution of customs tariffs, collection of trade statistics, and controlling the trade of certain products (such as explosives). The HS nomenclature is divided into 21 sections and 97 chapters. All traded goods can be classified by the HS nomenclature into a particular chapter with a six-digit code. The first two digits identify the chapter, the next two digits identify the heading, and the last two digits identify subheadings of a particular traded good. The six digits identifier in the HS nomenclature for a traded good is commonly referred to as a “HS code”.⁴³

HS codes play a large role for international standardization purposes and are regularly revised and updated by the WCO. Countries may elect to further specify their HS codes at the national level, adding up to six additional digits to the nomenclature. For example, India's system has eight digits, the United States has ten digits, while Turkey has 12 digits.⁴⁴

⁴¹ For the differences between physical and technical characteristics, see Box 1 in Section 3.3

⁴² It should be noted that articles products made out of plastic also exist not just in chapter 39, but also other chapters of the HS. However, these plastics outside HS chapter 39 are outside the scope of this report.

⁴³ UNEP., 2021. Report on the implementation of the workplan of project group 3 on transboundary movements of plastic waste- UNEP/CHW/PWPWG.2/INF/5/Add.

⁴⁴ Thomson Reuters Tax & Accounting, “Classification of Goods and Compliance Requirements in India International Trade,” Tax & Accounting Blog Posts by Thomson Reuters, June 19, 2018, <https://tax.thomsonreuters.com/blog/classification-of-goods-and-compliance-requirements-in-india-international-trade/>.

However, it should be noted that only the six-digit HS codes published by the WCO are internationally recognized, while conversely there is no obligation to recognize nomenclature of higher specificity defined by national authorities. Also, any traded good requires an annual trading volume of USD 50 million or more before it can be considered for inclusion as an amendment to the HS.⁴⁵

42. Under the HS nomenclature, “Plastics” refers to those materials in 3901 (chapter 39 heading 01) to 3914 “which are or have been capable, either at the moment of polymerisation or at some subsequent stage, of being formed under external influence (usually heat and pressure, and if necessary with a solvent or plasticiser) by moulding, casting, extruding, rolling or other process into shapes which are retained on the removal of the external influence”.⁴⁶ Plastics must also have the properties of being a single thermoplastic⁴⁷ in primary form.⁴⁸
43. HS chapter 39 can be thought of as having two sections – Plastics and not-Plastics. Section I contains HS codes for Plastics in headings 3901 to 3914 and refers to single thermoplastics in primary forms. Section II contains HS codes in headings 3915 to 3926, these sections refer to goods that are **not** considered as Plastics in the HS. These include “waste, parings, and scrap”, and “semi-manufactures and articles”.⁴⁹ Plastic waste is currently classified under the HS heading 3915 – waste, parings and scrap. The scope of the PWA is mostly concerned with plastic waste covered by the heading 3915. However, as will be discussed, there are discrepancies between the PWA and the heading 3915.
44. The remainder of this report will focus on the analysis of plastics and, specifically, “waste, parings, and scrap” with the corresponding HS headings ranging from 3901 to 3915. In this report’s analysis, understanding the criteria corresponding to the heading 3915 is crucial, as it provides a starting point to identify the limitations of current HS classification against PWA specifications. For ease of exposition, heading 3915 for “waste, parings, and scrap” will be referred to as HS3915 for the rest of the report.

⁴⁵ FAO, 2002, Expert Consultation on developing an action program towards improved bamboo and rattan trade statistics. FAO <https://www.fao.org/3/y4782e/y4782e.pdf>

⁴⁶ WCO – Notes Chapter 39 – Plastics and articles thereof.

⁴⁷ If material of this Chapter can be softened repeatedly by heat treatment and shaped into articles, e.g., by moulding, and then hardened by cooling, it is termed “thermoplastic”. If it can be or has already been transformed into an infusible product by chemical or physical means (e.g., by heat), it is termed “thermosetting” - WCO – Notes Chapter 39 – Plastics and articles thereof.

⁴⁸ Relating to primary forms, the products of headings 39.01 to 39.11 are obtained by chemical synthesis and those of headings 39.12 and 39.13 are either natural polymers or are obtained therefrom by chemical treatment. Heading 39.14 covers ion exchangers based on polymers of headings 39.01 to 39.13 - WCO – Notes Chapter 39 – Plastics and articles thereof.

⁴⁹ UNEP., 2021. Report on the implementation of the workplan of project group 3 on transboundary movements of plastic waste- UNEP/CHW/PWPWG.2/INF/5/Add.

45. HS3915 covers waste, parings, and scrap consisting of:
- i. Any single thermosetting material in any form.
 - ii. Any single thermoplastic material provided it has not been transformed into primary form; or
 - iii. Two or more thermoplastic materials mixed together in any form.⁵⁰

Box 3: The issue of "waste, parings, and scrap" and the definition of plastic waste

The inclusion of plastic “parings” and “scrap” beyond “plastic waste” within the plastic waste product description creates further confusion regarding the determining threshold for products in HS3915. In the current HS, there is no consensus or clear explanation as to when a shipment of plastic waste is considered paring or scrap – shipments will be classified as “waste, parings, and scrap” when they cannot satisfy the criteria to be classified as “Plastics” (single thermoplastic in primary form). Further, the PWA language covers only plastic waste and does not mention plastic parings or scrap, which creates a rift between the understandings of plastic waste classified under HS3915 and the PWA-relevant types of plastic waste.

Therefore, an issue arises concerning the differences in definition among plastic “waste”, “scrap”, and “parings” in HS3915. Appendix II compares definitions in the U.S, OECD, and ISO, and tries to identify where these differences may exist. In conclusion, the definitions of these terms are relatively similar and thus the difference in diction between the Basel Convention’s “plastic waste” and HS’s “plastic waste, parings, and scrap” is unlikely to pose a substantive challenge to aligning the Basel Convention and HS.

46. Taken together, the product descriptions for “plastic waste”, which is “[plastic] waste, parings, and scrap”, implies that the HS Nomenclature already has an implicit classification of plastic waste with additional layers of criteria. Any plastic shipment that is not a single thermoplastic and not in primary form will be categorized under HS3915 as plastic waste under HS3915 (iii) above. Hence, a consignment of *crushed* used PET bottles, which is a single thermoplastic, will be categorized as plastic waste, because it is not in primary form under HS3915 (ii) above. However, should the used PET bottles be in the form of blocks, flakes,

⁵⁰ UNEP., 2021. Report on the implementation of the workplan of project group 3 on transboundary movements of plastic waste- UNEP/CHW/PWPWG.2/INF/5/Add.p.4

or granules, then it would be in primary form single thermoplastic and thus classified as a “Plastic” under the HS39, and not as “waste” under HS3915.

47. Additionally, HS3915 has subheadings for polymers of ethylene/styrene/vinyl chloride. Any plastic waste not of these polymers will be classified into “of other plastics”. Therefore, the category “of other plastics” consists of:
 - i. Mixtures of primary form (not single thermoplastic)
 - ii. Mixtures not of primary form (neither single thermoplastic nor in primary form)
 - iii. Single thermoplastic not of primary form and not polymer of ethylene/styrene/vinyl chloride
48. To summarize, the HS defines plastic waste according to physical characteristics under the heading 3915. Determining whether shipment is classified as a plastic waste depends upon a two-step process: (i) whether the shipment is composed of a single thermoplastic and (ii) if this single thermoplastic shipment is in primary form.
 - a. A single thermoplastic import is a shipment composed of **one** substance (especially synthetic resins) that becomes plastic after heating and hardens after cooling, and it can undergo this process repeatedly. If the shipment is **not** composed of **one** type of thermoplastic, it can then be considered as plastic waste. When the shipment is composed of a single thermoplastic, an assessment of whether this single thermoplastic is in primary form is required.
 - b. A single thermoplastic shipment in primary form is composed of (a) liquids and pastes, including dispersions (emulsions and suspensions) and solutions, or (b) blocks of irregular shape, lumps, powders (including moulding powders), granules, flakes and similar bulk forms. If the single thermoplastic shipment is **not** in primary form then it is considered as plastic waste. However, if it is in primary form, then it can be categorized according to the appropriate heading from 3901 to 3914. It is essential that the shipment is a single thermoplastic, though mixtures of several thermoplastics in primary form are also considered as plastic waste under the current HS.
49. This section has explained the current qualifications for HS 3915 plastic wastes. The product description and explanatory notes for HS chapter 39 provides an understanding of the physical characteristics of plastics to be considered as plastic wastes. In contrast to the Basel Convention PWA that includes technical

characteristics, the HS focuses solely on physical properties to determine plastic wastes. The condition of a single thermoplastic not being in primary form to qualify as a plastic waste in the current HS as illustrated in this section shows the major discrepancy between HS and Basel Convention understandings of plastic waste. This misalignment is explicitly covered in the next section.

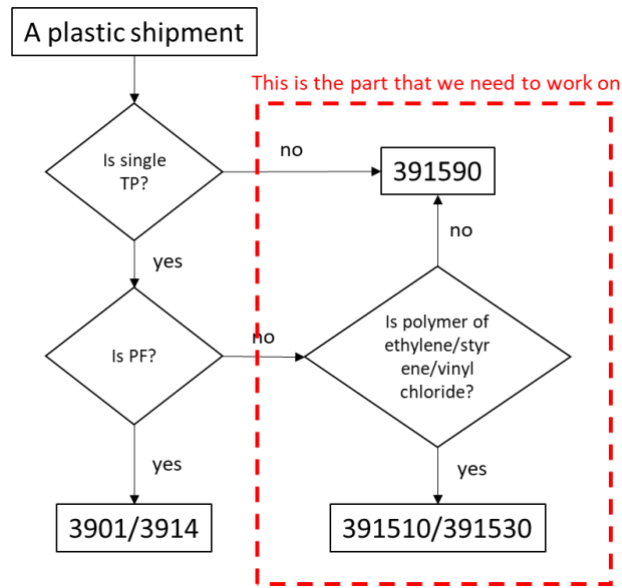
5. Misalignment between the Basel Convention Plastic Waste Amendment and the HS Classification of Plastic Waste

50. This section discusses the current misalignment between the Basel Convention's determining factors of hazardous, easy-to-recycle, and hard-to-recycle plastic wastes and the HS's classification of plastic waste based on physical characteristics. Section 5.1 covers the challenges and implications of applying the current categorization systems of the HS and Basel Convention PWA for plastic wastes. Section 5.2 then discusses the viability of existing potential amendments to HS3915 by other proposals.

5.1. Issues between the current HS3915 and plastic waste

51. A key issue between the PWA and HS concerns the issue of plastic waste categorization. On the one hand, customs procedures follow the WCO HS product descriptions that are determined based on physical characteristics and which can be tested and verified by customs officials. On the other hand, the PWA identifies types of plastic waste on both physical and technical characteristics. The problem of identification is made worse for plastic waste because its physical characteristics are also somewhat intangible. For example, it is often difficult to differentiate between halogenated and non-halogenated plastics.
52. Figure 7 illustrates the categorization of plastic waste under HS3915. The issue lies in that these HS codes do not reflect the criteria for easy-to-recycle plastic, which the proposal in Section 6 will use as the main category to distinguish between plastic waste that require PIC and those that does not. Additionally, the HS code 391590 ("of other plastics") is too wide and does not track a large proportion of polymer families.

Figure 7: How HS currently categorizes plastic waste⁵¹



53. Moreover, the HS currently does not enable for differentiation between hard-to-recycle, hazardous, or easy-to-recycle plastic waste. Indeed, under the current HS classification system, it is irrelevant whether plastic waste is hard-to-recycled, hazardous, or easy-to-recycle – elements that are critical to determine whether plastic waste is subject to the Basel Convention’s PIC procedure. Rather, and as illustrated in Table 2 below, what matters for classification purposes is whether the waste consists of ethylene (HS 391510), styrene (HS 391520), vinyl chloride (HS 391530), or “other (HS 391590)”.

Table 2: Current HS classifications of plastic wastes with Basel Convention’s hard-to-recycle, hazardous, and easy-to-recycle definitions

Types of Plastic Wastes	HS codes	Hazardous?
Hard-to-recycle	391510 ethylene; 391520 styrene; 391530 vinyl chloride; 391590 other	Yes, subject to Basel Convention PIC
Hazardous		Yes, subject to Basel Convention PIC
Easy-to-recycle		No

54. The poor classification of plastic waste under the current HS3915 gives rise to the following issues:

- i. No differentiation between homogenous and mixtures of plastic waste: As previously mentioned, the current HS nomenclature leaves the issue of mixture composition undefined. There is no clear guideline for classifying mixtures in

⁵¹ Notes: TP – thermoplastic; PF – primary form.

the HS, which creates a challenge in properly identifying mixed plastics containing hazardous or hard-to-recycle plastics. Hence, there is a need to define threshold compositions for what constitutes a mixture of plastic in order to differentiate between homogenous and mixtures of plastic waste.

- ii. Difficult to determine if PIC procedure applies: HS3915 currently classifies plastic waste according to its polymer type (ethylene, styrene and vinyl chloride). This means that there is no differentiation between easy-to-recycle waste which do not require the PIC procedure, and other types of waste which require the PIC procedure. This is problematic because the HS then falls short of its objective of assisting customs officials in tracking the inflow or preventing illegal trade flows of plastic waste. Hence, the redesign of HS3915 would ideally be able to separate easy-to-recycle plastic waste from the other types and improve the effectiveness of the PIC procedure.
55. Poor tracking of plastic waste trade flows: Plastic waste of only three polymer families currently have their own subheadings in HS3915. This means that a large proportion of plastic waste are lumped together into the category “of other plastics”. The redesign of HS3915 should have as many separate subheadings for polymer families as possible to improve tracking statistics and enable a better picture of the flows in plastic waste.
56. Improving alignment between HS and PWA plastic waste categorization is important for a number of reasons. Firstly, failure to do so hampers customs officers’ inspection and enforcement activities, limiting the potentially beneficial impacts of the PWA. Secondly, appropriate classification allows for better tracking and statistics of plastic waste trade flows and supports more effective policymaking.⁵² Lastly, it may enable new avenues for regulating trade in plastic waste. For example, if HS codes can be designed for easy-to-recycle plastic waste, then customs tariffs can be designed to incentivise or deter the trade of different types of plastic waste, depending on governmental priorities.
57. The HS classification is updated regularly at intervals of around five years on average. However, plastic waste was not included in the most recent update in 2022, and thus it will be another few years before any proposed amendments to HS3915 can be considered for the next HS revision. Absent of amending the HS, governments can add additional details on different types of plastic waste within their national tariff schedules based on this proposal, though these HS codes would be based on descriptions and codes that are not internationally consistent.⁵³

⁵² Ronald P. Steenblik (2020) - Code Shift: The environmental significance of the 2022 amendments to the Harmonized System - International Institute for Sustainable Development

⁵³ Ibid - p.2

5.2. Ongoing initiatives to updating the HS for plastic waste

58. Having set out the problem of misalignment between the classification of plastic waste in the Basel Convention and the HS, this section focuses on discussing past proposals aimed at resolving the misalignment. The analysis first centers on a proposal submitted by the Basel Convention Secretariat in 2020 and aims to highlight its strengths and weaknesses.
59. Following the PWA, the Basel Convention Secretariate prepared a draft proposal for amending the 3915 subheadings for the purpose of consultation with Parties to the Basel Convention.⁵⁴ Their proposal⁵⁵ sought to specify new HS codes that reflect the changes introduced by the PWA as accurately as possible⁵⁶, and are listed in Table 3.

Table 3: Basel Convention Secretariat proposed HS amendments for PWA

Heading	HS Code	HS Classification	
3915	Waste, parings and scrap, of plastics.		
	391540	- Containing one or more of the following constituents: hexavalent chromium compounds; zinc compounds; arsenic and its compounds; cadmium and its compounds; antimony and its compounds; mercury and its compounds; lead and its compounds; asbestos (dust and fibers); organohalogen compounds	
		- Other waste, parings and scrap, consisting of single unmixed non-halogenated plastics:	
		391551 -- Of polymers of ethylene	
		391552 -- Of polymers of styrene	
	391560	391559 -- Of other single unmixed plastics	
		- Other waste, parings and scrap, consisting of single unmixed halogenated plastics:	
		391561 -- Of polymers of ethylene	
		391562 -- Of polymers of styrene	
		391563 -- Of polymers of vinyl chloride	
	391564 -- Of other fluorinated polymers		

⁵⁴ Basel Convention, Call for comments and follow-up to the online segment of the twelfth meeting of the Open-ended Working Group:
[http://www.basel.int/TheConvention/OpenendedWorkingGroup\(OEWG\)/CallforInformation/FollowuptoOEWG12/tabid/8530/Default.aspx](http://www.basel.int/TheConvention/OpenendedWorkingGroup(OEWG)/CallforInformation/FollowuptoOEWG12/tabid/8530/Default.aspx)

⁵⁵ UNEP., 2020, Report on the status of the work of the World Customs Organization on the Harmonized Commodity Description and Coding System in relation to the Basel Convention - UNEP/CHW/OEWG.12/INF/10, annex III

⁵⁶ UNEP-CHW-HSC-Waste-OEWG.12-Followup-Comment-EU-2021.English

		391569 -- Of other single unmixed plastics
	391580	- Other waste, parings and scrap, consisting of mixtures of plastics:
		391581 -- Mixtures of two or more of the following polymers: polymers of ethylene; polymers of propylene; poly (ethylene terephthalate)
		391589 -- Other mixtures

60. Their proposal attempts to transpose the main features of the PWA into the HS by including additional HS3915 subheadings to track certain types of hard-to-recycle, hazardous, and easy-to-recycle plastic wastes. However, the proposal is limited for a number of reasons.

- i. 391540 is the subheading for hazardous plastic waste but does not accurately incorporate the PWA’s definition of hazardous plastic waste. The listed compounds are entries relevant to plastic waste from Annex I of the Basel Convention that specifies a list of hazardous materials. However, the issue here is that the PWA requires that hazardous plastic waste to also exhibit hazardous characteristics. Hence, there might be plastic waste which have acceptable amounts of contamination but would still be classified as hazardous plastic waste. This classification also does not distinguish among polymer families, nor homogenous or mixtures of plastic waste.
- ii. 391550 is the subheading for homogenous non-halogenated plastic waste but is limited to only two polymer families. Non-halogenation is one of the three physical characteristics that are permitted for a homogenous plastic waste to be classified as easy-to-recycle under the PWA. However, the HS codes are limited to ethylene and styrene only, with all other polymer families being lumped into the category “of other single unmixed plastics”.
- iii. 391560 is the subheading for homogenous halogenated plastic waste but is limited to only two polymer families. This means that plastic waste of this subheading is classified as hazardous plastic waste under the PWA. Again, the HS codes are limited to ethylene, styrene, and vinyl chloride only, with all other polymer families being lumped into the category “of other single unmixed plastics”. Additionally, it is unclear why halogenated plastic waste is singled out and assigned its own subheading.
- iv. 391564 is the HS code for fluorinated polymers but does not distinguish among different polymer families. Fluorination is one of the three physical characteristics that are permitted for a homogenous plastic waste to be classified as easy-to-recycle under the PWA. There are no further specific HS codes for

polymer families with the fluorinated physical characteristics. Additionally, it is puzzling that this HS code for easy-to-recycle plastic waste is parked under the subheading for hazardous halogenated plastic waste.

- v. 391581 is the HS code for mixtures but does not distinguish among hazardous and non-hazardous mixtures. The description limits mixtures to only consist of PE/PP/PET, which are the only plastics that can be in a mixture form and still be classified as easy-to-recycle under the PWA. However, the issue here is that there is no differentiation between hazardous and non-hazardous plastic waste mixtures of PE/PP/PET.
61. The Basel Secretariate’s proposal also has a number of other issues. Firstly, the proposal does not include the category of "cured resin or condensation product", although they may have had a reason for doing so. Secondly, their proposal puts first the technical characteristic (non-halogenated polymer/cured resin or condensation product/fluorinated polymer) followed by the specific HS code related to the polymer, which is the opposite to how the HS is currently organized where subheadings first refer to the polymer family. However, the structure should ideally resemble what customs officials are familiar with and subheadings should be assigned to polymer families. Lastly, their proposal includes only a few specific polymer groups, and the problem remains that much plastic waste will still be classified as “Other”.⁵⁷
62. There have also been at least two other proposals to align HS and the PWA, but they also take the approach to identify plastic waste of concern for inclusion into the HS, and hence also require justification about why particular plastic wastes are included and not others.
- i. There was an earlier proposal by the Basel Secretariat in 2017⁵⁸ for HS amendments to include hazardous wastes. Because the PWA did not yet exist, only their proposal regarding A4130⁵⁹ is relevant to our work. Their proposed amendment is hence very narrow in scope, and the proposal in this report is more general, thus able to accommodate a larger family of plastic waste.

⁵⁷ Although the proposal in this report does not have these issues, there is a possibility that the Basel Secretariat with more domain knowledge in this regard may have had their justifications for their proposal for which is not accounted for here.

⁵⁸ UNEP., 2019. Report on the status of work of the World Customs Organization on the Harmonized Commodity Description and Coding System to the Basel Convention - UNEP-CHW.13-INF-19

⁵⁹ Waste packages and containers containing Annex I substances

- ii. There is an as-yet unpublished paper by Eyzaguirre and Birkbeck⁶⁰ that proposes changes to HS3915. Their proposal incorporates all example items in Annex IX of the PWA into HS3915, and also touches on Persistent Organic Pollutants (“POP”) covered by the Stockholm Convention to the extent that the Stockholm Convention pertains to plastic waste.
63. As further elaborated upon in Section 6 below, the proposal in this report differs from other efforts regarding classifying plastic waste into the HS. Existing proposals try to identify plastic waste of concern to include into the HS, therefore requiring justification into why a particular plastic waste is included and not others. However, this report proposes distinctly separating easy-to-recycle plastic waste from all other types of plastic waste in the HS, of which are subject to special consideration, and requiring accompanying certification documents for all plastic waste shipments. This proposal has the advantages of improving tracking of plastic waste trade and streamlining customs processes regarding plastic waste.

6. Recommendations to Improve Alignment between the Basel Convention Plastic Waste Amendment and Classification of Plastic Waste under the HS

64. This section builds on the analysis of the PWA submitted by the Basel Convention and proceeds as follows: it first explains the various ways in which HS Chapters can be amended, including through explanatory notes, which will inform the possible strategies for the proposed amendments (Section 6.1). Thereafter, a discussion of the PWA tries to identify the required criteria for plastic waste to be included in Annex IX of the PWA, which identifies easy-to-recycle plastics from the rest (Section 6.2). Finally, the analysis leads to our proposal to enhance alignment between HS and PWA (Section 6.3).

6.1. Different options to amend the HS

65. There are a number of different ways in which amending the HS can be approached. An approach as set out in the proposed amendments by the Basel Secretariat focuses on amending individual codes for a specific good that is included in the HS nomenclature. In addition, amendments can focus on adding clarity to the section, chapter, heading, and subheading notes. Specifically, there are two types of notes that exist at each level of the HS nomenclature. The first is “Legal Notes” which define the scope and limits and have legal force. The second is “Explanatory Notes” which are the official interpretation of the HS

⁶⁰ Eyzaguirre, C.V., Deere Birkbeck, C., 2021. Improving the Classification, Monitoring and Reporting of Global Plastic Trade Flows, mimeo.

Nomenclature as approved by the Customs Cooperation Council and are meant to help understand the Legal Notes but are not legally binding. Legal Notes perform the following functions:⁶¹

- i. Define the limits of a Heading
 - ii. Provide lists of goods to be included or excluded from a particular Section, Chapter, or Heading
 - iii. Direct the user to the appropriate Section, Chapter, or Heading for a particular product
 - iv. Subheading Notes specifically define what is to be included or excluded from given Subheadings after classification to the Heading level has taken place
66. While the Legal Notes serve the four specific purposes above, the Explanatory Notes help clarify its meaning and interpretation, aiding in the implementation. The Chapter on plastics contains several Notes that are relevant to our discussion which are reproduced in Table 4 along with their implications on the recommendations:

Table 4: Relevant Notes and applicability to proposed HS amendments

Note	Analysis
Chapter Note 1 <i>Throughout the Nomenclature the expression “plastics” means those materials of headings 39.01 to 39.14 which are or have been capable, either at the moment of polymerisation or at some subsequent stage, of being formed under external influence (usually heat and pressure, if necessary with a solvent or plasticiser) by moulding, casting, extruding, rolling or other process into shapes which are retained on the removal of the external influence.</i>	There is a usage criterion inbuilt into HS 39.01 to HS 39.14. We may be able to incorporate a similar criterion for plastic waste.
Chapter Note 6	The list of primary forms permissible for 3901 to 3914 is well-defined. This means that

⁶¹ Customs IQ, Harmonized Tariff Legal Notes:
<https://www.customsiq.com/ciq/LegalNotes.cfm?fullweb=1>

<p><i>In headings 39.01 to 39.14, the expression “primary forms” applies only to the following forms:</i></p> <p><i>(a) Liquids and pastes, including dispersions (emulsions and suspensions) and solutions;</i></p> <p><i>(b) Blocks of irregular shape, lumps, powders (including moulding powders), granules, flakes and similar bulk forms.</i></p>	<p>any shipment that does not conform to this list will be deemed as plastic waste.</p>
<p>Chapter Note 7</p> <p><i>Heading 39.15 does not apply to waste, parings and scrap of a single thermoplastic material, transformed into primary forms (headings 39.01 to 39.14).</i></p>	<p>Anything not of single thermoplastic or not in primary form is categorized as plastic waste.</p>
<p>Subheading Note 1</p> <p><i>Within any one heading of this Chapter, polymers (including copolymers) and chemically modified polymers are to be classified according to the following provisions:</i></p> <p><i>(a) Where there is a subheading named “Other” in the same series:</i></p> <p><i>(1) The designation in a subheading of a polymer by the prefix “poly” (for example, polyethylene and polyamide-6,6) means that the constituent monomer unit or monomer units of the named polymer taken together must contribute 95 % or more by weight of the total polymer content.</i></p>	<p>There is a formal definition for “Other” in the Subheading Notes.</p> <p>There is a way to assign a single polymer to an otherwise mixed polymer by a weight threshold (>95%).</p>

67. Having discussed the available options with which we can propose amendments to the HS Nomenclature, we now turn to providing more explicit recommendations on how to better reflect the criteria for plastic waste set out in the PWC in the HS.

6.2.Rationale to focus on “easy-to-recycle” plastic waste HS codes

68. As emphasized throughout this report, easy-to-recycle plastic waste is the only category of plastic waste exempted from the PIC procedure requirement. Therefore, our assumption is that the new HS will be able to align with the PWA of the Basel Convention if it can identify “easy-to-recycle” plastic waste, with all

other plastic waste requiring the PIC procedure. To reflect this better in the HS, we recommend updating HS3915, which covers plastic waste, by creating an additional plastic waste subheading for easy-to-recycle plastic waste as set out in Annex IX of the PWA. The remainder of this section discusses the proposed amendments while suggested text regarding its implementation is contained in Appendix III.

69. This strategy will require that each plastic waste shipment be certified that it is clear of hazardous material to the extent that it does not exhibit hazardous characteristics, levels of which are set by the standards of the importing country. For example, **Singapore** specifies limits by weight for different types of contaminants, such as 0% for household waste, 2% for water, and a total allowable limit of 2.5%. At the same time, the certification process can determine the physical (non-halogenated/cured resin/fluorinated polymer) and technical characteristics (free from contamination and proportion composition of each polymer) of the plastic waste shipment. Plastic waste shipments without certification by default cannot be classified as easy-to-recycle and will require an accompanying PIC documentation. Also, plastic waste that fail the certification to meet the standards of the State of Import will also require a PIC procedure.
70. Another example of domestic restrictions to only certified plastic waste shipments is **Taiwan's** approach of only allowing licensed domestic companies to import waste from their own subsidiaries abroad. For all other plastic wastes, only import by licensed companies of unmixed, single-sort plastic that is not contaminated with soil is allowed.⁶² This came in response to the influx of imported plastic wastes to Taiwan, after China's plastic waste import ban in early 2018 forced waste shipments to other countries. By requiring importing firms to obtain licenses from the Environmental Protection Administration and limiting the imports to single-material plastics or waste from licensed firms' subsidiaries⁶³, domestic restrictions for import shipments curb the import of hazardous and hard-to-recycle plastics altogether.
71. On the part of customs, the official can then classify the plastic waste shipment into the appropriate HS code based on details in the certification or PIC Certification in plastic waste trade is not new. For example, following the enactment of the Basel Convention PWA, **Hong Kong** now requires accompanying certification of prior registration with their Environmental Protection Department for plastic waste imports for all non-easy-to-recycle

⁶² Plasteurope.com, 2018, Plastics Recycling Taiwan restricting imports of plastics waste, December 14: https://www.plasteurope.com/news/PLASTICS_RECYCLING_t241334/

⁶³ The Strait Times, 2021, Shell breaks ground on Asia's largest plastic waste to chemical feedstock plant, November 23: <https://www.straitstimes.com/business/economy/shell-breaks-ground-on-asias-largest-plastic-waste-to-chemical-feedstock-plant>

plastics. The registration requires supporting documents, shipment paperwork, and pictures of the shipment that properly identify the importing waste disposal facility, the intended use of the shipment, and its physical composition.⁶⁴ This domestic requirement guarantees that incoming waste is uncontaminated and transported for the purposes of recycling or reprocessing, and hazardous plastic waste trade goes through PIC procedure.⁶⁵ Such requirement of prior registration ensures the importation of only clean and recyclable plastics that do not require PIC procedure and allows customs to easily identify and control plastic waste imports.

72. Moreover, there are Customs Rulings by the **US Customs** referencing the application of certification requirements on a wide range of products such as aircraft parts, reclosable plastic bags, and geometric kits. From case rulings of import products requiring accompanying certification documents, existing certification requirements are adaptable for plastic wastes. These requirements of additional certifications are typically enacted through domestic law and then enforced by customs officials.
73. While previously a PIC procedure only had to be done for hard-to-recycle or hazardous plastic waste, there was effectively no enforcement mechanism that ensures imported plastic waste without an accompanying PIC document was actually easy-to-recycle. With this proposal, the obligation for the exporter to either obtain certification that the plastic waste is easy-to-recycle or apply the PIC procedure for every plastic waste shipment is now built into HS3915, enabling better tracking of the transboundary movement of plastic waste.

Box 4: Certification or licensing

Singapore uses both certification and licensing to manage the transboundary movement of plastic waste. Firstly, companies are required to “*provide or obtain ... testing or certification services have been carried out to ensure that the plastic waste complies with the specifications of plastic waste exempted from the Basel*”

⁶⁴ Brian Taylor, “Hong Kong Issues Plastic Scrap Import Rules,” Waste Today (Waste Today, September 18, 2020), <https://www.wastetodaymagazine.com/article/hong-kong-plastic-scrap-recycling-regulations-2021/>.

⁶⁵ Environment Protection Department (EPD), 2020, Guidelines on Import and Export Control of Waste Plastics: https://www.epd.gov.hk/epd/sites/default/files/epd/english/environmentinhk/waste/guide_ref/files/WastePlastics_Guidelines_eng.pdf

Convention's transboundary movement control".⁶⁶ All facilities processing plastic waste must also obtain a license to operate since 1 August 2018.⁶⁷

The certification and licensing requirements may not be as onerous as imagined, seeing as to how Shell just built Asia's largest plastic waste to chemical feedstock plant in Singapore.⁶⁸

74. Before proposing an updated to HS3915 that reflects easy-to-recycle plastic waste, it is important to revisit the types of plastic waste that are set out in Annex IX of the PWA. Specifically, Annex IX can be summarized into the following four criteria which must all be present for plastic waste to be considered easy-to-recycle and hence exempt from the PIC procedure:
- i. Non-halogenated polymer/cured resin or condensation product/fluorinated polymer
 - ii. The plastic waste has to “almost exclusively” consist of a polymer or resin from criteria (i)
 - a. If instead the plastic waste is a mixture, then it can only consist of PE/PET/PP that possesses technical characteristics from criteria (i).⁶⁹
 - iii. The plastic waste has to be “almost free from contamination and other types of wastes”
 - iv. The plastic waste has to be “destined for recycling in an environmentally sound manner”
75. Figure 8 illustrates the categorization of plastic waste under the PWA with the four criteria. All plastic waste is required to undergo the PIC procedure except plastic waste that possess all four characteristics. Therefore, the next task is to decide how each of these four characteristics can be mapped to the available options with which to propose amendments to the HS nomenclature.

⁶⁶ Singapore's “Technical Guidelines for the Import and Export of Plastic Waste”, page 6, available at <https://www.nea.gov.sg/docs/default-source/our-services/pollution-control/hazardous-waste/technical-guidelines-for-transboundary-movement-control-of-plastic-waste.pdf>.

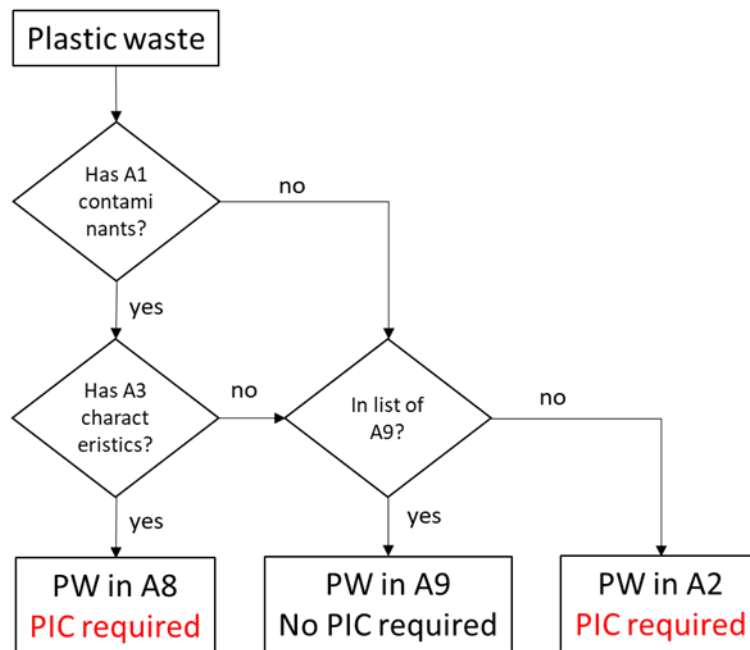
⁶⁷ National Environment Agency, Waste Disposal: General Waste Disposal Facility :

<https://www.nea.gov.sg/our-services/waste-management/waste-3r-programmes-and-resources/waste-management-infrastructure/refuse-disposal-facility/waste-disposal/general-waste-disposal-facility>

⁶⁸ The Strait Times, 2021, Shell breaks ground on Asia's largest plastic waste to chemical feedstock plant, November 23: <https://www.straitstimes.com/business/economy/shell-breaks-ground-on-asias-largest-plastic-waste-to-chemical-feedstock-plant>

⁶⁹ The “technical characteristics from criteria (1)” is implied and not stated explicitly in Annex IX B3011.

Figure 8: Categorization of plastic waste under the PWA⁷⁰



6.3. Proposal to redesign HS 3915 for easy-to-recycle plastic waste

6.3.1. Technical explanation of the proposed amendments

76. As discussed in Section 6.2 above, the proposed HS3915 aims to distinguish the “easy to recycle” plastic waste by using certification system (see Section 6.3.1) as the main link to the PWA under the Basel Convention. This is because this is the only category under the PWA that does not require PIC procedure in plastic waste trade. There are six specific parts to this proposal as follows:
77. Part 1: Define ‘waste, parings, and scrap’ in Chapter Legal Notes as material being meant for either recycling to become Plastics (as defined in Chapter Note 1), or final disposal without further processing. This proposal to provide a definition for the use of goods imported under HS3915 is not entirely novel, because Chapter Note (1) specifically defines the intended use for "plastics" that fall under HS headings 3901-3914.
78. Adding this Note translates the “recycling” requirement of Annex IX into what the HS system implies, which is to process plastic waste into Plastics⁷¹ for reclassification into 3901-3914. Some plastic waste has commercial value and can be processed to re-enter the manufacturing process as raw material inputs. For example, a shipment of plastic waste consisting of crushed PET bottles may

⁷⁰ Notes: A1/2/3/8/9 – annex I/II/III/VIII/IX; PW – plastic waste.

⁷¹ Recall that the HS definition for Plastics is “single thermoplastic in primary form”.

be cleaned and broken down into flakes, which would then fit the criteria of being a “single thermoplastic in primary form” and become reclassified within 3901-3914. Additionally, the words "or final disposal without further processing" covers the rest of plastic waste which are imported and not meant for processing to become inputs and re-enter the manufacturing process.

79. Defining the use for plastic waste in HS3915 also provides an additional detail when applying the General Rules of Interpretation on the “essential characteristic” of plastic waste.
80. Part 2: Borrow the existing criteria within the Subheading Notes to define in the Subheading Notes “almost exclusively” as having 95% or more by weight as threshold. Subheading Notes 1(a)1 in Table 4 states that a plastic can be classified under a particular monomer as long as that monomer constitutes 95% or more by weight. It is straightforward to apply the same rule for the PWA definition of “almost exclusively”. Instead of classifying a plastic according to the monomer that predominates by weight, the plastic waste shipment can be classified according to the plastic that predominates by weight, applying the same 95% threshold.⁷²
81. Part 3: Define “mixture of PE/PET/PP” in the Subheading Notes to be a combination of two or more polymers of PE/PET/PP, with any one polymer consisting of more than 5% by weight as threshold. This follows from the previous definition of “almost exclusively”, because in a mixture with one polymer having more than 5% by weight, the other polymers must be less than 95% by weight, which would fail the “almost exclusively” criteria and be classified as a mixture.
82. Part 4: Define “certified free of contaminants” and/or “certified free of hazardous characteristics” in the Subheading Notes as standards which are defined by the Competent Authority of the importing country.⁷³ As it is unlikely that an absolute measure for such certification is accepted by all WCO countries, the next best option is to set such a certification to be defined by national government themselves. This approach also resolves the problem of what standards to set, because it is likely that national governments already have existing standards that are relevant for wastes of concern in their own contexts. The applicable standards should be those of the “State of Import” because the PIC has to be approved by

⁷² Note however, that some countries already have thresholds in this regard, and can be much more stringent. For example, Singapore's "Technical Guidelines for the Import and Export of Plastic Waste" stipulates a threshold of not more than 0.5% by weight.

⁷³ For example, Singapore's "Technical Guidelines for the Import and Export of Plastic Waste" specifies limits by weight for different types of contaminants, such as 0% for household waste, 2% for water, and a total allowable limit of 2.5%.

the State of Import before the plastic waste shipment can proceed. Lastly, this certification has to be made clear to not apply to the “Other” category, which is where we propose that all hazardous waste be classified.

83. Part 5: Expand HS3915 to include polymers from subheadings in 3901 to 3914.
The PWA does not distinguish between polymers, but instead specifies the physical and technical characteristics of non-halogenated polymer/cured resin or condensation product/fluorinated polymer. Annex IX of the PWA contains examples of plastics for each characteristic. Table 5 maps each example to its corresponding HS code within 3901-3914 (i.e., if the polymer were a single thermoplastic and in primary form) under the column named “Plastic”, its HS code if it were plastic waste under the column named “Plastic Waste”, and its HS code under this report's proposal under the column named “Proposal”.

Table 5: Annex IX plastic waste and HS categorization under different schemes

Category	Polymer	HS code for		
		Plastic	Plastic Waste	Proposal
1. Plastic waste almost exclusively consisting of one non-halogenated polymer, including but not limited to the following polymers:	Polyethylene (PE)	3901	391510	391511
	Polypropylene (PP)	3902	391590**	391521
	Polystyrene (PS)	3903	391520	391531
	Acrylonitrile butadiene styrene (ABS)	3903	391520	391531
	Polyethylene terephthalate (PET)	3901	391510	391511
	Polycarbonates (PC)	3907*	391590**	391561
	Polyethers	3907*	391590**	391561
2. Plastic waste almost exclusively consisting of one cured resin or condensation product, including but not limited to the following resins:	Urea formaldehyde resins	3909	391590**	391572
	Phenol formaldehyde resins	3909	391590**	391572
	Melamine formaldehyde resins	3909	391590**	391572
	Epoxy resins	3907*	391590**	391562
	Alkyd resins	3907*	391590**	391562
3. Plastic waste almost exclusively consisting of one of the following fluorinated polymers:	Perfluoroethylene/propylene (FEP)	3902	391590**	391523
	Perfluoroalkoxy alkanes:			
	Tetrafluoroethylene/perfluoroalkyl vinyl ether (PFA)	3904	391530	391543
	Tetrafluoroethylene/perfluoromethyl vinyl ether (MFA)	3904	391530	391543
	Polyvinylfluoride (PVF)	3904	391530	391543
	Polyvinylidene fluoride (PVDF)	3904	391530	391543
4. Mixtures	Mixtures of plastic waste, consisting of polyethylene (PE), polypropylene (PP) and/or polyethylene terephthalate (PET), provided they are destined for separate recycling of each material and in an	NA	391590	391591/9 2/93/94

environmentally sound manner, and almost free from contamination
and other types of wastes.

Notes: Columns "Plastic", "Plastic Waste", and "Proposal" are HS codes for polymer of the form "not waste", "waste under current HS3915", and "waste under proposed HS3915" respectively. * indicates examples of plastics from one heading that may belong to two or more Annex IX categories. ** indicates plastic waste from multiple headings that will be categorized as "of other plastics" in the current HS3915.

84. Even in the list of Annex IX, there are polymers that may have more than one technical characteristic (3907, indicated with *). We also see that most of the plastic waste in Annex IX are currently lumped into the "Other" category in HS3915 (indicated with **). Comparing the classification in the columns "Plastic Waste" and "Proposal", it is apparent that there is much more variation with the proposed HS, which enables better tracking of plastic waste from different polymer families. Lastly, it should be noted that postconsumer wastes for fluorinated polymers are excluded from the list of easy-to-recycle plastic waste. However, this report will not examine what this exclusion means for the proposed recommendations.
85. Therefore, HS3915 should be expanded to include as many polymer subheadings from 3901-3914 as possible to enable better tracking statistics, especially since the certification requirement now facilitates identification of the polymer families by customs officials. Seven subheadings from 3901/02/03/04/05/07/09 can be added to HS3915 and are chosen based on the number of HS codes in each subheading as a measure of their relative importance.⁷⁴ An 8th subheading called "Polymers N.E.C." can be added to capture other polymer families not explicitly included. A 9th subheading can be added for mixtures of PE/PET/PP.
86. Part 6: Assign four HS codes to each subheading related to each of the three physical characteristics of Annex IX. The name for each HS code may be attached with a suffix of "certified free of contaminants" and/or "certified free of hazardous characteristics", which were previously been defined in the Subheading Notes. A category of "Other" captures all other shipments.⁷⁵

Box 5: Threshold of USD50 million annual trade

Many hazardous wastes currently do not meet the USD50 million annual transboundary trade threshold required to for consideration as a new product-specific HS code, so this approach of proposing new HS codes will only capture the Plastic waste that are common and currently tracked. Additionally, the USD50 million threshold cannot be properly applied to identify hazardous wastes that are worth tracking, because of the poor state of the current data where the trade of most hazardous wastes remains untracked.

A possible solution could be to look at the national report of the PIC procedure that all Basel Convention signatories submit annually and attempt to build a more granular picture of the types of plastic waste that are being traded. This information may be able to provide justification and meet the USD50 million requirement for

⁷⁴ It is less appropriate to use trade flows as a measure of relative importance between polymer families because trading patterns are different across countries. The approach of using the number of HS codes in each polymer heading may be a more appropriate measure, based on the assumption that their relative importance across different importance criteria is reflected in a higher degree of differentiation in the HS.

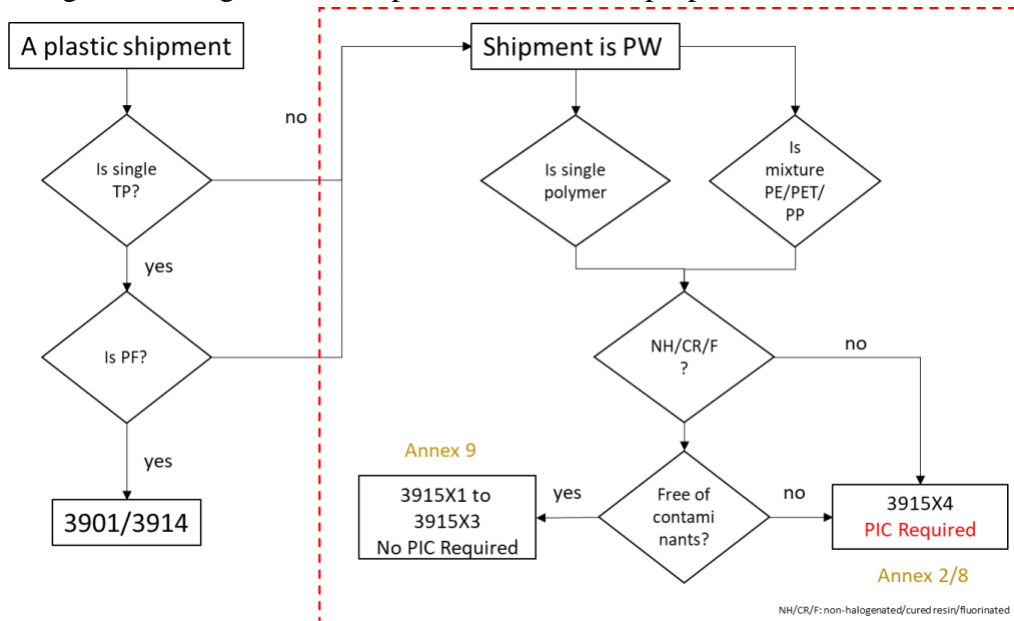
⁷⁵ The usage of "Other" here is in line with the definition of "Other" in Subheading Note 1.

WCO to consider adding the HS codes proposed here to the upcoming revisions of the HS.

87. The updated HS3915 codes take the form of **3915.XY**, where:
- i. X ranges from 1-9
 - a. 1-8 are single polymers
 - b. 9 is for mixtures
 - ii. Y ranges from 1-4
 - a. 1-3 are non-halogenated/cured resin or condensation product/fluorinated
 - b. 4 is for “Other”
88. Therefore, all hard-to-recycle and hazardous plastic waste will go into the "Other" bin. This is because by definition, all named entries in HS3915 fulfil Annex IX criteria and are easy-to-recycle plastic, and those that do not enter the “Other” bin and will require the PIC procedure.
89. This approach removes the difficulty of setting a definition for hazardous by requiring all plastic waste shipments to be certified as non-hazardous. The tracking of trade in hazardous waste can be done through the PIC procedure and annual national reporting requirements of Basel Convention countries, which is exactly the intended mechanism of the Basel Convention PIC procedure.⁷⁶
90. Figure 9 illustrates the categorization of plastic waste after incorporating all parts of the proposed amendments. The result is that triggering of the PIC procedure now happens by default for Basel Convention signatory countries and maintains the status-quo for non-signatory countries.

⁷⁶ This is exactly what the “Electronic approaches to the notification and movement documents” at the Basel Convention is for:
<http://www.basel.int/Implementation/Controllingtransboundarymovements/eapproachesfornotificationandmovement/Overview/tabid/7375/Default.aspx>

Figure 9: Categorization of plastic waste under proposed HS amendments⁷⁷



91. In summary, the proposed amendments to HS3915 incorporate all four Annex IX criteria. The physical characteristics (non-halogenated polymer/cured resin or condensation product/fluorinated polymer) are implemented by expanding the HS code in HS3915. Definitions for “Destined for recycling in an environmentally sound manner”, “almost exclusively”, “mixture of PE/PET/PP”, and “almost free from contamination and other types of wastes” are defined in the Chapter and Subheading Notes. Appendix III contains the sample HS3915 incorporating the proposed amendments.

6.3.2. Requiring certification for all plastic waste shipments

92. Certification should be undertaken by the company seeking to export the plastic waste shipment, according to the standards of the importing country, and is similar to the PIC procedure also requiring application by the exporter. A certification requirement will help customs officials categorize the plastic waste shipment according to its technical characteristic, because the laboratory certification may also be co-opted to include details such as “non-halogenated polymer/cured resin or condensation product/fluorinated polymer” or “percentage composition of polymer by weight of the plastic waste shipment”. In other words, the difficulty of defining a HS code based on technical and not physical characteristics is incidentally obviated by a certification requirement, and the requirement is necessary for the requirement of easy-to-recycle plastic waste to be “certified free of contaminants and/or certified free of hazardous characteristics” in the first place.

93. It is unlikely that adoption of a certification requirement will be a problem. This is because the certification requirements are set by those of the importing country.

⁷⁷ Notes: TP – thermoplastic; PF – primary form; PW – plastic waste; NH/CR/F – non-halogenated/cured resin/fluorinated; Annex 2/8/9 – Annex II/VIII/IX.

Assuming that more stringent standards will lead to higher costs of certification, the incremental cost of plastic waste imports to countries that have lax standards are unlikely to be high.⁷⁸ Countries with stringent standards will see a greater increase of the cost of importing plastics, but these countries are unlikely to object to a certification requirement in the first place.

94. The proposal still leaves certification as “implicitly” optional, even if certification is stated in the legal notes. Countries are free to selectively enforce the certification policy such as by setting less stringent standards of testing (especially in the importing country) or issuing licenses that allow firms to import plastic waste without testing. Firms can also get around the certification requirement by simply importing the plastic waste with a PIC procedure. However, note that at least Singapore already requires all imports of plastic waste to be certified as non-hazardous (or at least some form of proof to that effect), so this proposal is not entirely without precedent.
95. In summary, requiring certifications for all plastic waste shipments to be “certified free of contaminants” and/or “certified free of hazardous characteristics” is unlikely to face objection because countries can set their own standards and degree of enforcement, which implies that it is possible for certification in practice to remain as an optional requirement.

6.3.3. Benefits of the proposed amendments

96. The need to define hazardous plastic waste in the HS is removed in this proposal because anything not certified to be non-hazardous is presumed to be hazardous. All possible scenarios are also captured, because there is no longer ambiguity as to whether a plastic waste shipment is hazardous or not (through certification) or whether a shipment can be considered waste if it is meant for processing to be recycled as inputs again in the plastic lifecycle.⁷⁹
97. Both HS and PIC systems are leveraged to track statistics on plastic waste. Given the great heterogeneity of hazardous waste, it is impractical to leverage on HS to track hazardous waste. The proposed amendment uses the HS system to track the transboundary flows of certified plastic waste, while national reporting requirements of the PIC procedure tracks the transboundary flows of hazardous waste. There is now 100% tracking of plastic waste, especially since the aggregate of the “Other” category in our proposed HS3915 should be approximately equal to the aggregate of hazardous plastic waste reported through the PIC procedure.

⁷⁸ The cost of certifying a plastic waste shipment is unclear. While there exists information on the cost of testing for specific compounds, research did not uncover any testing service that is able to test for all Annex I constituents. However, since the Competent Authorities of certain countries have mandated certification for plastic waste entering their borders (e.g., Singapore and Hong Kong), such certification is likely to be both technically feasible and economically viable.

⁷⁹ Specifically, plastic imports meant for processing to be recycled as inputs again will now be classified under HS3915 as plastic waste because the new subheading Note clarifies its purpose (recycling).

98. The proposed HS3915 is easy to be implemented by customs officials because it is now very clear which shipments belong to this chapter and which HS codes require the PIC procedure. However, the current proposal is still in terms of technical characteristics of the shipment and not the physical characteristics as is the norm in the HS, but the argument remains that certification requirements can also state these technical characteristics to aid customs classification.

6.3.4. Challenges our proposal does not address

99. The main obstacle from incorporating PWA to HS is that Annex IX is stated in terms of physical and technical characteristics. However, HS3915 is stated in terms of the polymer family, which prevents a straightforward transposition of the PWA into HS.
100. The recommendations above do not resolve this tension, because the proposed amendments to HS3915, namely adding Note definitions, remain in terms of technical characteristics of Annex IX. However, our proposal enables better visibility of the PIC procedure by defining all shipments in “Other” be hard-to-recycle or hazardous waste and hence require an accompanying PIC notification before being allowed entry to the importing country.
101. It may be possible to define an analogous definition of “primary form” for plastic waste, as it exists for Plastics in 3901 to 3914, which in other words entails a translation of plastic waste’s physical characteristics to the HS. Such an attempt may benefit from an examination of how the physical characteristics of E-waste have been incorporated into the next update of the HS nomenclature (HS2022). Successfully defining a unique “primary form” for plastic waste will complement the other elements of the proposal and improve the classification of plastic waste under HS3915.

7. Conclusion and Areas for Further Research

102. This report has provided an overview of the misalignment between the way in which the Basel Convention PWA and the WCO’s HS code classify plastic waste. New global challenges, including ever-growing plastic waste pollution and environmental degradation, call for enhanced alignment between these regimes.
103. Specifically, this report has proposed one way in which the HS code can better reflect environmental and health concerns embedded in the Basel Convention’s PWA. While this proposal focuses on a technical solution, it does not go into detail with respect to any political implications this proposal may have. These must be further analyzed. In addition, the proposal set out in this report call for additional research with respect to a number of different issues, including the following:

- Since the proposed HS3915 now implicitly categories plastic waste into hazardous and non-hazardous waste, the next question is how other policy instruments such as tariffs can be designed to regulate or control the transboundary movement of different types of plastic waste. For example, tariffs on “Other” plastic waste can be increased to reduce the relative cost of certifying a plastic waste shipment as non-hazardous.
- The certification requirement increases the relative price of plastic waste compared to virgin plastic and may negatively impact the market for recycled plastics, so further research is required to carefully consider the different second-order impacts of our proposal.
- Further research is important to find out where this proposal situates with other working groups at the IDP, WTO, and UNEP for this proposal to gain visibility and also secure buy-in from multiple stakeholders, thus improving its chances of being adopted by the WCO.
- As discussed in Box 4, it appears that licensing to control the operations of companies engaged in the trade and processing of plastic waste may also be a viable approach that can complement the certification requirement. However, because the PIC procedure is required for all states through which the plastic waste shipment passes through, including transshipment states, different control regimes are likely to increase the cost of compliance. It may be meaningful to examine the impact of harmonizing certification schemes or combining certification and licensing requirements on improving the effectiveness of the PWA.
- Plastic waste exists in other HS chapters such as 401700 and 550510⁸⁰, which may require further thought before incorporating into HS3915. The impact of the post-consumer waste exclusion of fluorinated polymers is not examined in this paper. There are also many plastic materials not addressed by the proposal such as blended polymers, which are two or more polymers mixed together and composites, which are polymers with wood or fibers added to give better structural strength. Further research can refine the current proposal to better account for these other plastics.
- Lastly, it should be noted that this proposal is a broad one and leaves many specifics unanswered. Some of them are: There is likely to be impossible combinations of 3915XY (perhaps it is impossible for ethylene polymers to exist as cured resins?) which need to be removed from the proposed HS3915 amendment; without more specific knowledge on plastic polymers, this is unable to be done.

⁸⁰ Barrowclough, D., Deere Birkbeck, C. and Christen, J., 2020. Global Trade in Plastics (No. BOOK). UNCTAD.

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Appendix I: Details on the three types of plastic waste defined in the Basel Convention Plastic Waste Amendment

1. The following subsections describe each of the three types of plastic waste in further detail.
Hard-to-recycle plastic waste

An innovation of the PWA is the introduction of the hard-to-recycle plastic waste under Annex II, which sets out controlled wastes that are subject to the PIC procedure. This entry aims to address one of the major issues in the trade of plastic waste - the trade of **unsorted** mixed plastic waste. Mixtures of plastics hinder the process of recycling by reducing the quality and value of the product and also are the type of plastic waste most likely to end up in open-air landfills due their arduous recycling requirements. By subjecting trade in most mixtures of plastic waste to the PIC procedure, the Basel Convention seeks to limit trade in hard-to-recycle plastic waste.

Hazardous plastic waste

2. Hazardous plastic waste generally need to be subjected to treatment processes to convert them to a form in which they are suitable for recycling and from which values can be obtained. Disposal operations are required in the case that ESM recycling is not possible. Those wastes which do not contain constituents from which it is possible to extract materials of value can in many instances be processed to convert them to be amenable to ESM disposal techniques.⁸¹
3. Under the PWA, hazardous plastic waste is defined as “Plastic waste, including mixtures of such waste, containing or contaminated with Annex I constituents, to an extent that it exhibits an Annex III characteristic”. In other words, for plastic waste to be considered hazardous, it would need to i) be contaminated with hazardous materials listed in Annex I, and ii) to the extent that the plastic waste exhibits an Annex III characteristic. For example, a plastic waste that is contaminated with lead compounds is not considered to be hazardous plastic waste unless it also exhibits at least one characteristic from the list in Annex III. This implies that there may exist a small tolerance for plastic waste to be contaminated with hazardous material before actually being considered to be hazardous plastic waste.
4. Annex I contains the list of materials considered to be hazardous under the Basel Convention. Firstly, hazardousness can be assessed according to the source of the waste - some types of waste sources are considered inherently hazardous, such as clinical wastes from medical care in hospitals or wastes from production, formulation and use of resins, latex, plasticizers, glues/adhesives, among others.⁸² Secondly, wastes containing certain materials as constituents or compounds would be deemed as hazardous. For example,

⁸¹ UNEP(2003) - UNEP/CHW/OEWG/1/INF/11

⁸² UNEP – Basel Convention (2018) p.34

wastes containing, among others, asbestos, mercury, halogenated organic solvents would be considered hazardous.⁸³

5. Annex III contains the list of characteristics against which plastic waste that is contaminated with hazardous materials may be assessed – some characteristics are flammable, oxidizing, poisonous, corrosive, or toxic.
6. As plastic waste is used in a vast array of contexts, from construction to medical equipment, there is an important number of plastic waste prone to be covered by the scope of this definition.

Easy-to-recycle plastic waste

7. The physical and technical characteristics for easy-to-recycle plastic wastes are listed in Annex IX of the PWA. Trade in easy-to-recycle plastics is exempted from the PIC procedure. These include products which have either reached the end of their useful life (end of life goods) or are residual by-products arising from particular manufacturing processes (off cuts, waste and scrap). Easy-to-recycle plastic waste may be regarded as secondary raw materials that can be processed directly to provide primary products that otherwise would have to be obtained from basic raw materials.⁸⁴
8. More specifically, the PWA defines easy-to-recycle plastic waste as “almost free from contamination” from hazardous constituents and “almost exclusively consisting of one ... polymer”. In other words, easy-to-recycle plastic waste are those types of waste that are considered non-hazardous (i.e. do not exhibit hazardous characteristics) and do not constitute plastic mixtures. Furthermore, plastic waste must be traded only for recycling or reclamation operations of organic substances or temporary storage so long its subsequent recycling is proven through documentation.
9. Annex IX also contains one entry for mixtures of PE, PP, and PET that can be exempted from the PIC procedure if they do not exhibit hazardous characteristics. However, the PWA also does not have a specified threshold to define a mixture, though a general reference to international or national specifications is made.

⁸³ Ibid – p. 34

⁸⁴ UNEP/CHW/OEWG/1/INF/11

Appendix II: Further discussion on the meaning of "Scrap" and "Parings"

1. Given the lack of clarity around "parings" and "scrap", it may be important to provide further contextual understanding of how one of the biggest plastic waste trading countries incorporates further specificity at the national level with HS3915 descriptions to adequately classify mixed Plastic waste. The United States example was used to analyze the national level determination of mixtures not only due to their salience in international trade, but also because their case rulings and interpretations are publicly accessible.
2. A plastic scrap case requested by Reynolds Urethane Recycling Inc. provides an example of how a mixed consignment's HS classification is determined. The import shipment was of a mixed plastic waste that contained polyurethane plastic foam and textile material. Providing samples of the importing shipment that were evaluated by U.S. Customs, its ruling demonstrates how U.S. General Interpretative Rules (GIR) employs a different method from Section 3.2.'s primary form and single material threshold. The U.S. uses GIR to determine the proper HS classification for import shipments. U.S. Customs rulings on mixtures of plastic waste provide a clear process of how customs officials classify ambiguous products in practice. In the case of mixed plastic scrap, because the shipment is mixed, GIR 3b is applied and the shipment is assessed based on "essential characteristics." Because the polyurethane scrap outweighed the textile material in samples' composition, this particular shipment of scrap foam was ruled as 3915 polyurethane scrap. Reynolds Polyurethane Recycling Case:⁸⁵

"Samples were provided with your letter. The samples are of scrap pieces containing polyurethane plastic foam and textile material. The scrap will be used to create polyurethane carpet underlay. The essential character of the scrap is provided by the polyurethane which predominates by weight and bulk and also by its role as the essential material in the manufacture of the polyurethane carpet underlay.

The applicable subheading for the scrap material will be 3915.90.0090, Harmonized Tariff Schedule of the United States (HTSUS), which provides for waste, parings and scrap, of plastics, of other plastics, other."

3. By examining cases in which U.S. Customs and Border Protection have interpreted and applied HS3915 to contestations of U.S. customs rulings of imported products, a working legal definition for plastic scraps may be inferred. Below are several instances in which the definition of HS3915 has been applied and practical examples of the GIRs and HS Chapter Explanatory Notes in practice.

⁸⁵ NY N055238 RE: The tariff classification of polyurethane scrap material.
https://www.customsmobile.com/rulings/docview?doc_id=NY%20N055238&highlight=waste%20AND%20scrap

4. In one case, U.S. customs rulings determined that merchandise classifiable under heading 3915 may consist either of broken or worn articles of plastics clearly not usable for their original purposes, or of manufacturing waste (shavings, dust, trimmings, etc.), of which are not in primary form.⁸⁶ From the binding ruling on classification of polytetrafluoroethylene (PFTE) scrap:

“Customs ruled PFTE Scrap should not be 3904 (describes in part polymers of halogenated olefins in primary forms. Subheading 3904.61.00 describes “fluoropolymers: polytetrafluoroethylene (PTFE).”) but 3915 GIVEN neither PFTE samples were in primary form (3905-3914); therefore ruled as 3915 (x)

Explanatory Note 39.15 informs us that merchandise classifiable under heading 3915 may consist either of broken or worn articles of plastics clearly not usable for their original purposes, or of manufacturing waste (shavings, dust, trimmings, etc.) and although some “waste” can be reused and therefore should remain classifiable under heading 3915 rather than elsewhere, “waste, parings and scrap of a single thermoplastic material, transformed into primary forms,” is not “waste” in a tariff sense, but is a polymer classifiable under one of headings 3901-3914. See also HQ 089064 (November 4, 1991).

We find that none of the samples has been transformed into a primary form; rather, taken together, the samples represent broken or worn articles of plastic clearly not usable for their original purposes, or manufacturing waste constituted of shavings, dust, trimmings or lumps or blocks of irregular shape.”

5. There is also a reference to primary forms:

“Note 6, chapter 39, for purposes of headings 3901-3914, lists “primary forms” as liquids and pastes, including dispersions, blocks of irregular shape, lumps, powders, granules, flakes and similar bulk forms. Note 7 to the chapter emphasizes that heading 3915 does not apply to waste, parings and scrap of a single thermoplastic, transformed into primary forms, and directs one to headings 3901-3914. Very simply, a single thermoplastic material in primary form is not “waste” in a tariff sense, i.e., fitting the description in heading 3915.”

6. Importation of plastic waste is also classified by “End of Use,” which states that when waste is imported, it cannot have any clearly defined purpose for use in manufacturing,

⁸⁶ “Guidance Manual For The Control Of Transboundary Movements Of Recoverable Wastes.”OECD.

which is identified by whether the plastic waste is in primary form or not. “Heading 3915 does not apply to waste, parings and scrap of a single thermoplastic, transformed into primary forms, and directs one to headings 3901-3914.”

7. While the HS System itself is not intended to explain or reference usage of products, such explanatory notes in the HS chapter guidelines allude to the purpose of imported merchandise. In the case of plastic waste, if it is a single plastic that is processed, cleaned, and sorted into the characteristics of primary form, it no longer can be classified under HS3915. This example shows how Plastic waste can undergo sorting, cleaning and other processes of physical breakdowns into Primary Form and is no longer classified as plastic waste nor HS3915, which reveals another disconnect between the HS and PWA understandings of waste.
8. The prohibition of classifying Primary Form plastics in HS3915, even if they were considered Plastic waste prior to further processing, introduces a notion of recyclability of waste in the HS. Plastic flakes intended for recycling is therefore no longer classified as plastic waste per the HS, though Basel Convention definitions of waste would still apply. The discrepancy of the notion of plastic waste between the HS and Basel Convention creates a gap in regulatory and tracking efforts. Applying PWA regulations at HS3915 understandings of plastic waste allows for Primary Form wastes to go unchecked, creating a loophole for illegal waste trade to remain unregulated from PWA.
9. In the case of the importation of bales of used high density polyethylene (HDPE) milk jugs purchased from a recycler in the UK, the ruling highlights the milk jugs’ primary purpose as a key determinant of this merchandise’s proper HS heading. From the binding ruling on bales of crushed and cleaned high density polyethylene (HDPE) plastic milk jugs:

“Prior to importation, these jugs are washed and crushed, but undergo no further processing before being baled and bound with wire banding. After importation, at Poly-Wood LLC facilities, the HDPE jugs are rewashed and converted into pellets. Next, the pellets are manufactured into extruded lumber which is then used to produce casual outdoor furniture.

Although the jugs were once used to hold milk, they are no longer suitable for this purpose. There is no definition of "waste" and "scrap" provided in the text of Chapter 39. However, Explanatory Note 39.15 explains that waste and scrap are "clearly not usable for their original purposes." CBP has previously considered the courts’ definitions of "waste" and has noted that though these definitions vary, they "center on the inability of the waste or scrap to retain any of its original purpose." As such, the crushed plastic milk jugs should be regarded as scrap of heading 3915, Harmonized Tariff Schedule of the United States (HTSUS).”

10. As illustrated by the Customs ruling of crushed milk jugs as “scrap of heading 3915,” though physical characteristics might distinguish plastic waste as “parings” or “scrap” - as

in this case, there is no differentiation between the three. "Scrap" in this case is equated with plastic waste and the terms are interchangeably used in the ruling explanation. This conclusion regarding the significance of "parings" and "scrap" is also supported by OECD definitions of plastic waste and ISO's usage of "scrap" in its definition as seen below. The OECD definition of plastic scrap is as follows:

*B3010 Solid plastic waste:*⁸⁷ *"The following plastic or mixed plastic materials, provided they are not mixed with other wastes and are prepared to a specification:*

Scrap plastic of non-halogenated polymers and co-polymers, including but not limited to the following"

11. While the U.S. is not a party of the Basel Convention, the OECD's Ban Amendment requires each OECD member state to integrate its own regulatory measures for the transboundary movement of plastic waste. Bilateral trade of plastic waste between the U.S. and a Basel Convention member state requires their agreement to confer with Basel Convention regulations. The use of the term "plastic scrap" is embedded in these international understandings of plastic waste, hence the continued usage by the U.S.'s Customs interpretation guidelines as well. The ISO definition of recycled plastic is as follows:

"plastic prepared by processing in a production process from plastics waste materials for the original purpose or for other purposes, but excluding energy recovery

Note 1 to entry: In a broad sense, the recycling of plastics covers any re-use of scrap material or discarded articles, including pyrolysis to recover useful organic chemicals.

Note 2 to entry: Recycled plastics may or may not be reformulated by the addition of fillers, plasticizers, stabilizers, pigments, etc."

12. The United States' additional Schedule B codes and GIRs do not include any formal definitions of "parings" or "scrap," but examining OECD and ISO definitions of plastic waste suggests a consistent inclusion of scrap in the language for Plastic waste among regional treaties and international definitional understandings.
13. Upon examining the U.S. Schedule B's more stringent product classification procedures beyond the WCO HS, it is clear that in terms of HS treatment of plastic waste, plastic parings, and plastic scrap are the same. U.S. Customs ruling on the import of U.K. crushed milk jugs demonstrate the interchangeable understanding of plastic scrap and waste. Thus,

⁸⁷ "Guidance Manual For The Control Of Transboundary Movements Of Recoverable Wastes." OECD.
<https://www.oecd.org/env/waste/guidance-manual-control-transboundary-movements-recoverable-wastes.pdf>

the difference in diction between the Basel Convention's "plastic waste" and HS's "plastic waste, parings, and scrap" does not pose a substantive challenge, though removing "parings and scrap" from HS product descriptions may require additional explanatory notes including plastic parings and plastic scrap within the scope of "plastic waste."

Appendix III: Draft proposal on amendments to the Harmonized Commodity Description and Coding System with respect to plastic waste

1. Proposal Part 1:
Add a paragraph to the Chapter Notes that reads as: "Throughout the Nomenclature the expression "waste, parings, and scrap" means those materials of headings 39.15 which are meant for processing to attain properties allowing reclassification into Plastics as it is defined in Chapter Note (1), or final disposal without further processing".
2. Proposal Part 2:
Add a paragraph to the Subheading Notes that reads as: "Where 'almost exclusively' appears in heading 39.15 should be taken to mean that the constituent polymer must contribute 95% or more by weight of the total plastic shipment content".
3. Proposal Part 3:
Add a paragraph to the Subheading Notes that reads as: "Where 'mixture' appears in heading 39.15 should be taken to mean that at least one or more constituent polymer contributes 6% or more by weight of the total plastic shipment content".
4. Proposal Part 4:
Add a paragraph to the Subheading Notes that reads as: "The standards for 'certified' in heading 39.15 should refer to those of the Competent Authority in the State of Import". Note here that terminology of the "Competent Authority" and "State of Import" should be checked in congruence with those applied in the World Customs Organization.
5. Proposal Part 5 and 6: Proposed HS codes in Heading 39.15.

Delete and substitute:

"39.15 - Waste, parings and scrap, of plastics."

- | | | |
|---------|----|--|
| 3915.10 | - | Almost exclusively consisting of polymers of ethylene, not in primary form |
| 3915.11 | -- | Non-halogenated polymer, certified free of hazardous characteristics |
| 3915.12 | -- | Cured resin or condensation product, certified free of hazardous characteristics |
| 3915.13 | -- | Fluorinated polymer, certified free of hazardous characteristics |
| 3915.14 | -- | Other |

- 3915.20 - Almost exclusively consisting of polymers of propylene or of other olefins, not in primary form
- 3915.21 -- Non-halogenated polymer, certified free of hazardous characteristics
- 3915.22 -- Cured resin or condensation product, certified free of hazardous characteristics
- 3915.23 -- Fluorinated polymer, certified free of hazardous characteristics
- 3915.24 -- Other

- 3915.30 - Almost exclusively consisting of polymers of styrene, not in primary form
- 3915.31 -- Non-halogenated polymer, certified free of hazardous characteristics
- 3915.32 -- Cured resin or condensation product, certified free of hazardous characteristics
- 3915.33 -- Fluorinated polymer, certified free of hazardous characteristics
- 3915.34 -- Other

- 3915.40 - Almost exclusively consisting of polymers of vinyl chloride or of other halogenated olefins, not in primary form
- 3915.41 -- Non-halogenated polymer, certified free of hazardous characteristics
- 3915.42 -- Cured resin or condensation product, certified free of hazardous characteristics
- 3915.43 -- Fluorinated polymer, certified free of hazardous characteristics
- 3915.44 -- Other

- 3915.50 - Polymers of vinyl acetate or of other vinyl esters, not in primary form
- 3915.51 -- Non-halogenated polymer, certified free of hazardous characteristics
- 3915.52 -- Cured resin or condensation product, certified free of hazardous characteristics
- 3915.53 -- Fluorinated polymer, certified free of hazardous characteristics
- 3915.54 -- Other

- 3915.60 - Almost exclusively consisting of polyacetals, other polyethers and epoxide resins, polycarbonates, alkyd resins, polyallyl esters and other polyesters, not in primary form
- 3915.61 -- Non-halogenated polymer, certified free of hazardous characteristics
- 3915.62 -- Cured resin or condensation product, certified free of hazardous characteristics
- 3915.63 -- Fluorinated polymer, certified free of hazardous characteristics

- 3915.64 -- Other

- 3915.70 - Almost exclusively consisting of polymers of amino-resins, phenolic resins and polyurethanes, not in primary form
- 3915.71 -- Non-halogenated polymer, certified free of hazardous characteristics
- 3915.72 -- Cured resin or condensation product, certified free of hazardous characteristics
- 3915.73 -- Fluorinated polymer, certified free of hazardous characteristics
- 3915.74 -- Other

- 3915.80 - Almost exclusively consisting of plastics n.e.c., not in primary form
- 3915.81 -- Non-halogenated polymer, certified free of hazardous characteristics
- 3915.82 -- Cured resin or condensation product, certified free of hazardous characteristics
- 3915.83 -- Fluorinated polymer, certified free of hazardous characteristics
- 3915.84 -- Other

- 3915.90 - Mixtures of polyethylene (PE), polypropylene (PP) and/or polyethylene terephthalate (PET)
- 3915.91 -- Non-halogenated polymer, certified free of hazardous characteristics
- 3915.92 -- Cured resin or condensation product, certified free of hazardous characteristics
- 3915.93 -- Fluorinated polymer, certified free of hazardous characteristics
- 3915.94 -- Other