

ECONOMY AND FINANCE

GOING CIRCULAR

How the Harmonized System Codes
Can/Not Support a Circular Economy
and What Else Could Be Done

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Are you interested in the circular economy? Did you always want to deepen your understanding about the HS codes? And are you open for experiments? Then please read this paper.



It evaluates the extent to which the World Customs Organization Harmonized System of Codes (HS), a standardised method of classifying and tracking traded goods, could play a role in facilitating a circular economy.



The HS will be a critical tool for a global CE transition, enabling governments to monitor, regulate and facilitate circular trade flows more effectively. However, maximising the potential use for this would require some significant changes to the way the HS works.



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With support of Circular STEP – Stakeholder Engagement Platform
to accelerate Circular Economy transition in the UNECE region

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KEY INSIGHTS

A global transition to an inclusive circular economy is a vital strategy for addressing the triple crises of climate change, biodiversity loss and pollution, as well as boosting economic resilience. An inclusive circular economy seeks to slow, narrow and loop the flow of materials through the economic system, while regenerating natural systems and designing out toxicity. By focusing equally on environmental issues, human needs, sustainable livelihoods, decent work and social justice, an inclusive circular economy can make important contributions to human development, to poverty reduction and to improved well-being around the world.

International trade will play a critical role in realising an inclusive circular economy. It can improve affordable access to necessary goods, services and intellectual property to implement new circular business models such as product leasing, or to conduct reuse, repair, remanufacturing and recycling activities. Equally, trade in used goods for direct reuse, repair, refurbishment or remanufacturing can provide affordable access to essential goods and services for those in secondary markets and generate local demand for industry and employment. Finally, trade in secondary raw materials and waste destined for recovery and reuse enables the aggregation of materials in areas of highest demand to maximise economies of scale, making it economically attractive to transform waste into resources for new production.

Circularity-enabling trade flows remain poorly facilitated or regulated. This has often resulted in negative environmental, social and economic impacts (particularly on low-income countries) and jeopardises the goals of an inclusive circular economy. Meanwhile those participating legitimately in these types of trade face many procedural and legal hurdles and barriers which act as a commercial and economic disincentive to scale up such beneficial trade flows. The topic of facilitating circularity-enabling trade in a way that is mutually beneficial for all is therefore politically sensitive and future solutions must navigate it carefully.

This report explores how trade flows that promise to contribute to an inclusive circular economy can be better facilitated. It evaluates the extent to which the World Customs Organization Harmonized System of Codes (HS), a standardised method of classifying and tracking traded goods, could play a facilitative role.

The report highlights potential reforms to the HS to better facilitate circular trade. These include: (i) the creation of new or revision of existing classifications for circular enabling goods; (ii) strengthening institutional capacity of the WCO and customs administrations to develop and regulate effective systems for circular trade; (iii) improving coordination with multilateral environmental agreements; and (iv) extending to an 8-digit international system.

Recognising the inherent structural and procedural limitations of the HS, the report also calls for experimentation with additional trade facilitation measures which promise to streamline circular trade flows while reducing the burden on customs administrations. Examples include: (i) trusted circular trader and resource recovery lane initiatives; (ii) integrating circular product data with Single Windows and electronic data systems; and (iii) the potential use of Special Economic Zones for certain circular trade activities.

1

INTRODUCTION

Unsustainable production, consumption and disposal of the world's resources are primary causes of the triple threat of pollution, climate change and biodiversity loss.¹ This linear model is also a significant cause of social injustice, with most resource consumption and wealth accumulation occurring in the Global North and the worst environmental impacts and threats to human health being felt in the Global South. Increasing geopolitical tensions and the likelihood of further global supply-chain shocks and disruptions exacerbate these issues. A transition to an inclusive circular economy is essential to help address these challenges.

An inclusive circular economy seeks to achieve absolute decoupling of resource use and environmental impact from equitable economic prosperity and human development. It does this by slowing, narrowing and looping the flow of materials through the economic system, while regenerating natural systems and designing out toxic chemicals which pose a risk to human harm and prevent the circular use of materials. By focusing equally on environmental issues, sustainable livelihoods, decent work and social justice, an inclusive circular economy can make important contributions to human development, to poverty reduction and to improved well-being around the world.

International trade will play a key role in delivering or inhibiting the transition to an inclusive circular economy. Chatham House introduced the concept of “circular trade”, which encompasses any international trade transaction that contributes to realising an inclusive circular economy at the local, national and global levels.² Circular trade is therefore an umbrella term that encompasses many different types of trade flows:

- **Circular economy-enabling goods, services and IP:** Enabling organisations to access the necessary skills and equipment to implement new circular business models (such as leasing and renting), or to conduct reuse, repair, remanufacturing and recycling activities.

- **Used goods for reuse, repair or remanufacturing or goods that have been remanufactured:** Enabling affordable access to essential goods and services for those in secondary markets and generates local demand for industry and employment.
- **Secondary raw materials and waste destined for recovery:** Enabling the aggregation of materials in areas of highest demand to maximise economies of scale, making it economically attractive to transform waste into resources for new production.

It is important to highlight that the transition to an inclusive circular economy will also be hindered by ongoing trade in goods and services which serve to promote or lock-in a linear wasteful economic model – examples include products containing hazardous or harmful chemical substances, damaged or poor-quality used goods or hazardous waste. How the trade in such harmful or wasteful goods may be restricted and regulated and what role the HS can play in that endeavour is an equally important question. Insofar as this paper aims to discuss how the HS and other trade facilitation measures can support the circular economy-*enabling* trade flows listed, it will touch upon the need to regulate such circular economy-*hindering* trade flows. Nonetheless, further consideration is required on this topic.

Circular trade flows have grown strongly in value over the past two decades. For example, the value of trade in second-hand goods, secondary raw materials and waste for recovery rose by more than 230 per cent (from \$94 billion to \$313 billion) between 2000 and 2019, with the global export value of trade in goods rising by around 195 per cent over the same period. The value of trade in maintenance and repair services increased from \$74 billion to \$108 billion between 2015 and 2019.³

However, the numbers presented above should be considered with *caution*. This is because the ability to monitor and track with sufficient granularity the types of circular trade flows around the world listed above is severely limited. There are several reasons for this, including the lack of

¹ <https://www.resourcepanel.org/reports/global-resources-outlook>

² <https://www.chathamhouse.org/2022/10/role-international-trade-realizing-inclusive-circular-economy>

³ <https://www.chathamhouse.org/2022/10/role-international-trade-realizing-inclusive-circular-economy>

shared definitions and classifications of circular trade flows and poor supply chain data traceability and transparency.

Lack of circular trade transparency and regulation has been observed to result in negative economic, environmental and social impacts. One example is the high levels of illicit shipments of hazardous waste, causing pollution and increasing human exposure to toxic chemicals. Illegal e-waste trade and dumping, for example, amounted to around \$10–12 billion in 2016.

Equally, lack of regulation of circular trade flows can lead to high volumes of poor-quality used goods flooding secondary markets (particularly in the Global South), threatening local industries and overwhelming local waste management systems.⁴ For example, the sheer volume of post-consumer textiles, combined with cheap, low-quality textiles from East Asia,⁵ has also been observed to undercut domestic production and create significant amounts of waste. As such, it has been subject to particularly strong pushback from countries in sub-Saharan Africa – which received approximately \$1.4 billion of imported textile waste in 2020 – through the introduction of import bans, quotas and other restrictions.

Another aspect is the potential for materials to be recycled that either are unsustainable in terms of resource usage for recycling or present hazards when used in the manufacture of other goods (for example, plastics containing hazardous chemicals) simply to meet mandated requirements for recycled content or to provide a marketing benefit.

Poorly regulated circular trade flows also disincentivise the private sector from pursuing circular reverse logistics business approaches because of the added procedural costs and time delays, as well as import and export trade restrictive measures. For example, it is 31 per cent more costly to trade used electronics or 190 per cent more costly in some cases if the products include hazardous components. Some companies need to wait 14–42 months for prior informed consent (PIC) before they can ship goods.⁶

It is therefore evident that although the scaling up of circular trade offers many potential benefits there are also numerous risks, many of which have materialised to date and have raised valid concerns from governments that bear the brunt of these impacts. If the full benefits of circular trade are to be realised while mitigating the risks, these circular trade governance challenges should be addressed, many of which are characterised by an inability to accurately classify and monitor circular trade flows.

The collection of global trade data is underpinned by the classification of products provided by the World Customs Organization's (WCO) Harmonized Commodity Description and Coding System, generally referred to as the Harmonized System (HS). This international nomenclature is an important starting point for governments and stakeholders wishing to obtain a more granular picture of trade flows.

Looking beyond the HS to the role of customs more generally, it is evident that there is a growing and strong body of support among customs administrations to develop the role of customs in environmental policy and related policies such as circular economy policies. Green Customs is currently one of the three official focus areas for the WCO, meaning that member administrations have designated it a strategic area in which actions and improvement are urgent and essential to properly address future challenges and position customs as modern and agile actors at borders. This includes the circular economy as highlighted in the WCO strategic plan.

As highlighted by the Environmental Scan 2021, the world's mindset regarding sustainable development and the protection of the environment has changed significantly in recent years. (...) The Strategic Plan will ensure that sufficient attention is paid to this and that concrete initiatives are explored to point the WCO in the right direction in this area. In particular, trade-related aspects will be further studied, such as the circular economy and waste management. A global reflection will also be launched to assess how WCO instruments might be amended and reviewed to further integrate the environmental aspect and contribute to the global green economy.⁷

With that context, this report aims to raise awareness among the circular economy policy and trade policy communities on the opportunities that the HS can provide in facilitating a global circular economy and where its limitations require consideration of other methods to achieve identification of circular economy trade. Note that this report does not discuss the trade in circular services, which is a critical and growing element of circular trade. Facilitating the trade in circular services warrants further investigation.

The report is therefore structured as follows: Chapter 2 provides an overview of the HS system, its purpose, its architecture and how it is governed. Chapter 3 discusses the strengths and limitations of the HS in terms of circular trade facilitation. Chapter 4 explores four options for HS reform to help overcome these limitations. Finally, acknowledging that there are some unavoidable limitations of the HS when it comes to addressing certain circular trade facilitation challenges, Chapter 5 identifies future areas for collaborative experimentation which may serve to complement the HS.

⁴ <https://www.chathamhouse.org/2022/06/trade-inclusive-circular-economy>

⁵ Brady, S. and Lu, S. (2018): Here's why the used clothing trade deserves more attention, AGOA.Info, 11 December 2018; available at: <https://agoa.info/news/article/15539-here-s-why-the-used-clothing-trade-deservesmore-attention.html>.

⁶ <https://www.weforum.org/whitepapers/facilitating-trade-along-circular-electronics-value-chains/>

⁷ WCO Strategic Plan 2022-2025.

2

THE HARMONIZED SYSTEM: AN OVERVIEW

The World Customs Organization (WCO) Harmonized System (HS) codes are an important tool that can aid in the transition to an inclusive circular economy by providing a standardised method of classifying and tracking goods throughout their lifecycles for international trade. This chapter provides an overview of the HS, including its intended purpose, structure, users and governance model.

2.1 WHAT IS THE HS?

The HS is a system that allows all physically tradable goods to be categorised into a set of globally used classifications. It covers tangible goods⁸ and does not include the trade in services, which is covered under the Central Product Classification for Services.

The HS is administrated by the World Customs Organization (WCO) and is set up in accordance with the International Convention on “The Harmonized Commodity Description and Coding System” (HS Convention) to ensure a common basis for custom tariff and statistical nomenclatures used for the treatment and recording of goods being cleared by customs at international borders. Only eligible states or customs or economic unions can be contracting parties to the Convention.

The HS is amended every five years to ensure it remains relevant and up to date with developments in international trade. The latest round of amendments came into force on 1 January 2022, with the work on the negotiations for the next edition, which will come into force on 1 January 2027, concluding in March 2024. Changes to the HS are negotiated through the Harmonized System Committee and its Sub-Committee by delegates from the Contracting Parties to the HS Convention, which currently number 160 parties.

2.2 WHO USES THE HS?

The HS is used by those involved in the transboundary trade of tangible goods, its regulation or the compiling or use of statistics. The main users include:

Customs administrations: Customs administrations use HS codes to: (i) ensure compliance with trade agreements and to monitor the flow of goods in and out of their country; and (ii) to determine the duties, taxes, and tariffs that need to be applied to imported or exported goods. Customs do not inspect all goods. For many countries, inspections are in single digits or less as a proportion of all goods in transit: inspecting all goods would require a massive workforce and slow trade dramatically.

Importers and exporters: Importers and exporters use HS codes to accurately classify their goods for customs purposes and to ensure that the correct duties and taxes are applied, and to avoid delays at the border. When a tangible (physical) good is traded across a national border (or regional border for customs unions), declarations are normally required for export and import. In both, customs officials must be provided with the classification of the goods, under the relevant national export tariff to customs in the exporting country and under the relevant import tariff to customs in the importing country.⁹

Freight forwarders and logistics companies: Freight forwarders and logistics companies use HS codes to properly classify and ship goods. This helps them to avoid potential problems with customs and to ensure that their shipments are properly documented and accounted for.

Governments and trade or statistical organisations: Governments, trade organisations and statistical organisations use HS codes to track and monitor trade, implement trade policies, conduct trade negotiations, and collect trade data. HS help regulate cross-border trade requirements set out in multilateral environmental agreements, such as the Basel, Stockholm, and Rotterdam Conventions.

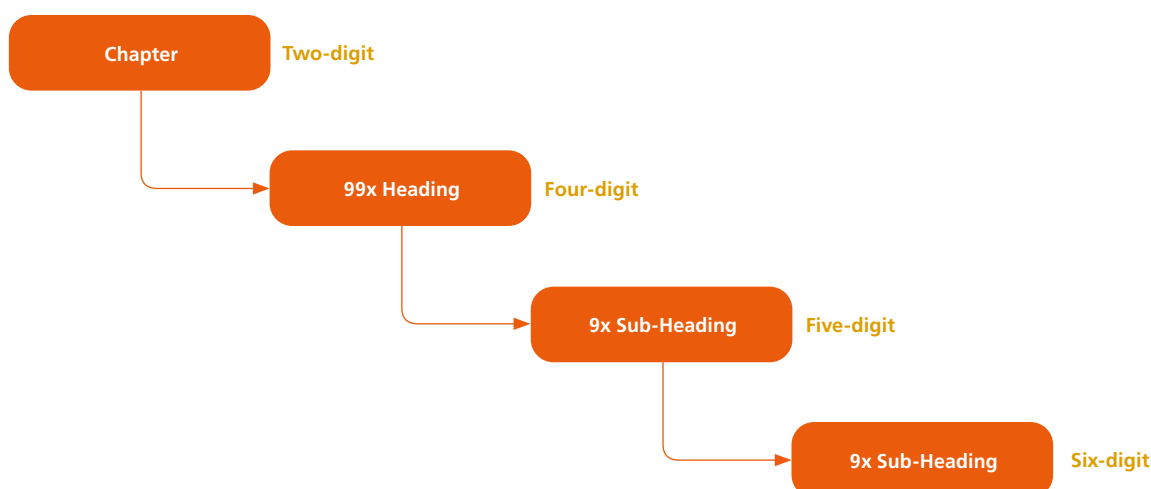
2.3 HOW IS THE HS STRUCTURED?

The HS has a nested hierarchical structure (see Figure 1). At the highest level, there are 21 Sections, each representing a different sector of the economy, such as textiles, ma-

⁸ The only intangible good included is electricity.

⁹ Sometimes there are national or regional exceptions to the requirement to classify goods. For example, many countries exempt low-value consignments from classification. This has a significant impact on the global knowledge of what is being traded.

Figure 1
Hierarchical structure of the HS with maximum number of headings and sub-headings available



chinery, or chemicals. Each section is further divided into 96 chapters (the first pair of digits in an HS code), numbered 1 to 97 (Chapter 77 is reserved for future use), which divide each section into different classes. For example, I “Live animals; animal products” is divided into five Chapters: Chapter 1 “Live animals”; Chapter 2 “Meat and edible meat offal”; Chapter 3 “Fish and crustaceans, molluscs and other aquatic invertebrates”; Chapter 4 “Dairy produce; birds’ eggs; natural honey; edible products of animal origin, not elsewhere specified or included”; and Chapter 5 “Products of animal origin, not elsewhere specified or included”.

Each chapter is further divided into headings, so the first heading of the first Chapter is 01.01 “Live horses, asses, mules and hinnies”. These four-digit headings form the basic classifications and all the worlds’ goods fit into the 1,222 headings of the current edition of the HS. As there are millions of different goods and only a few can be individually named within such a limited number of headings, this is achieved using “other” headings, for example heading 01.06 “Other live animals”.

Where greater specificity is needed, a heading may be subdivided into five-digit subheadings. These can be further subdivided into six-digit subheadings (ending in a number between 1 and 9). Where a heading or subheading is not subdivided, zeros are added to make the six digits of the final HS classification code. The current edition has 5,387 classifications.

Individual codes vary in their ability to accurately describe the good under the code. For example, 081010 is fresh strawberries (easy) whereas 081090 is for “fresh fruit” not elsewhere covered in Chapter 8 and hence can encompass a large range of different fruits. HS provisions that are specific – that is, they are for a named type of good – pro-

vide global trade statistics and allow for targeted treatment at the border.

Classification must be done in accordance with the rules of the HS, entitled “The General Rules for the Interpretation of the Harmonized System”, which are legally binding. The purpose of these rules is to ensure that a product can be classified in only one place and to enhance uniformity of classification globally.

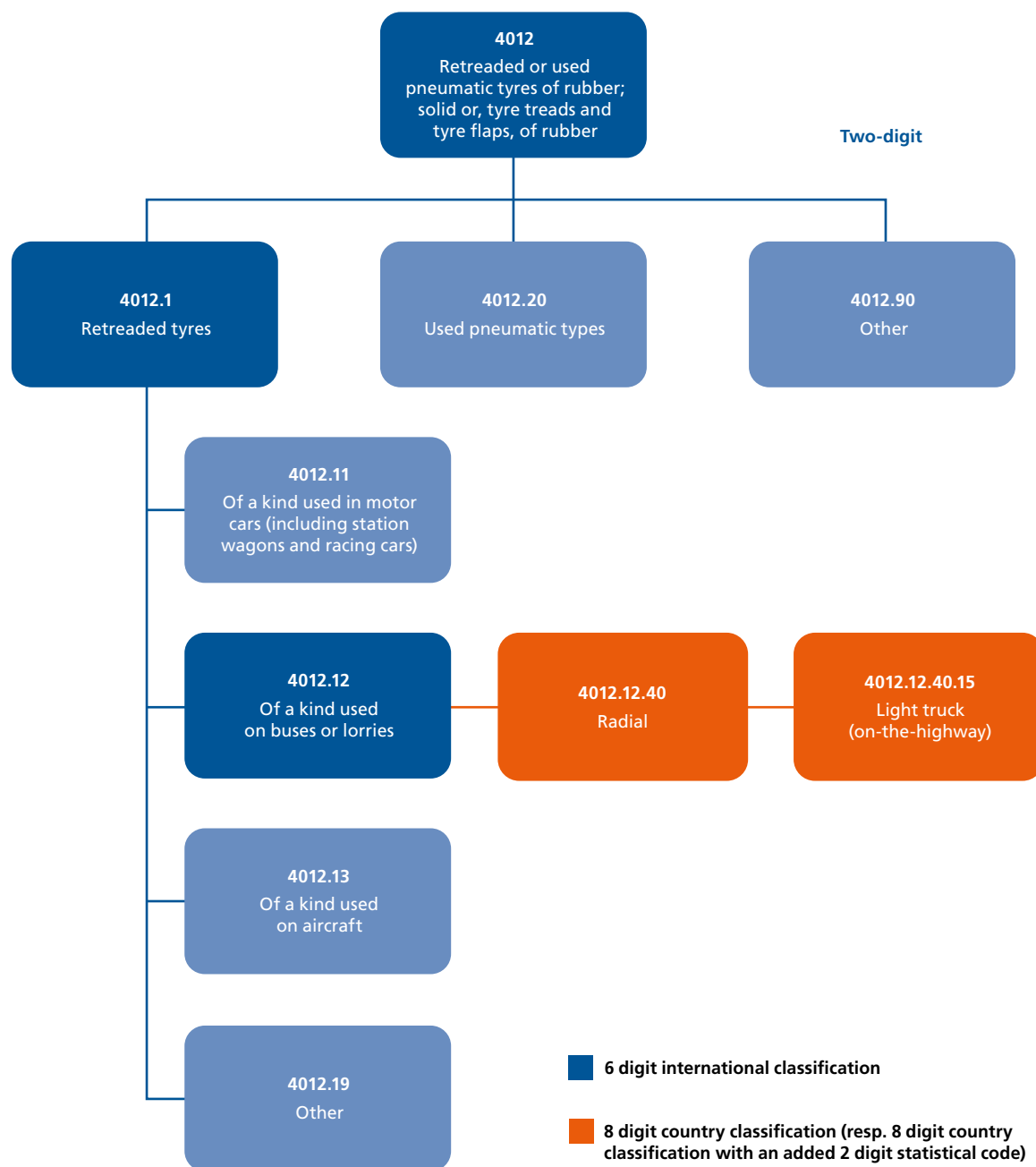
The HS can use legally binding Notes to provide definitions, include or exclude certain goods regarding headings or sub-headings and to direct classification. For example, any physical good can be classified under only one classification. Therefore, the HS uses Notes to ensure this.

This hierarchical system allows for a high level of granularity and specificity in classifying goods (see Figure 2). An example in terms of circular trade is the HS code for “retreaded pneumatic tyres of rubber of a kind used for buses or lorries” (401212). It sits in Chapter 40 (Rubber and articles thereof), under Heading 40.12 (Retreaded or used pneumatic tyres of rubber; solid or cushion tyres, tyre treads and tyre flaps, of rubber), then under Sub-heading 4012.1 (Retreaded tyres), and, finally, at six-digit level, 4012.12 (Of a kind used on buses or lorries).” The text from the heading and five-digit subheading also forms part of the scope.

Countries use the HS as the first six digits of their tariffs and can choose to further divide the HS classification codes to as many digits as they need, otherwise referred to as “ex-outs”.¹⁰ Countries frequently subdivide to 8, 10 or even 12-digit tariff classification numbers to provide a more detailed de-

¹⁰ <https://www.iisd.org/system/files/publications/code-shift-2022-harmonized-system.pdf>

Figure 2
HS provision for retreaded light truck tyres



scription of goods that they consider to be of national interest to monitor and regulate or to reflect differential duties more closely.

The introduction of 8- to 12-digit classification numbers at the national level cannot change the scope or structure of the HS, rather they need to be designed to be added on to existing headings. The EU, China, and USA have all developed specific 8- to 12-digit codes relevant to circular trade flows.¹¹

In the case of the example given above in Figure 2, the United States has introduced a 10-digit code for “retreaded pneumatic tyres, of rubber, of a kind used on buses or lorries” (4012128019).

The use of national classification codes can assist greatly in implementing national policies; however, they cannot be used to provide global statistical information. Potentially even more concerning, it can make it more difficult for trade in circular economy goods when multiple countries develop provisions for the same class of goods, but with different criteria for the goods to be recognised as meeting the classification requirements.

¹¹ For a detailed breakdown of EU, US and Chinese 8–10-digit codes, see: https://repositorio.cepal.org/bitstream/handle/11362/47536/S2100997_en.pdf?sequence=4&isAllowed=y

3

FACILITATING CIRCULAR TRADE: STRENGTHS AND LIMITATIONS OF THE HS

As outlined in the introduction, circular economies enabling trade flows face both a trade facilitation and a regulatory gap. These barriers hinder governments' ability to adequately regulate these flows, as well as businesses' ability to efficiently conduct cross-border circular activities. This Chapter outlines the strengths and limitations of the HS in terms of helping to overcome these challenges.

3.1 STRENGTHS OF HS IN FACILITATING CIRCULAR TRADE

HS codes provide a common classification for tracking and understanding the dynamics of international trade flows. As explained above, the international HS codes form the first six-digits of these tariff classifications and make it possible to apply global controls and monitoring consistently, produce comparable statistics on trade, and simplify the classification of goods traded across multiple countries.

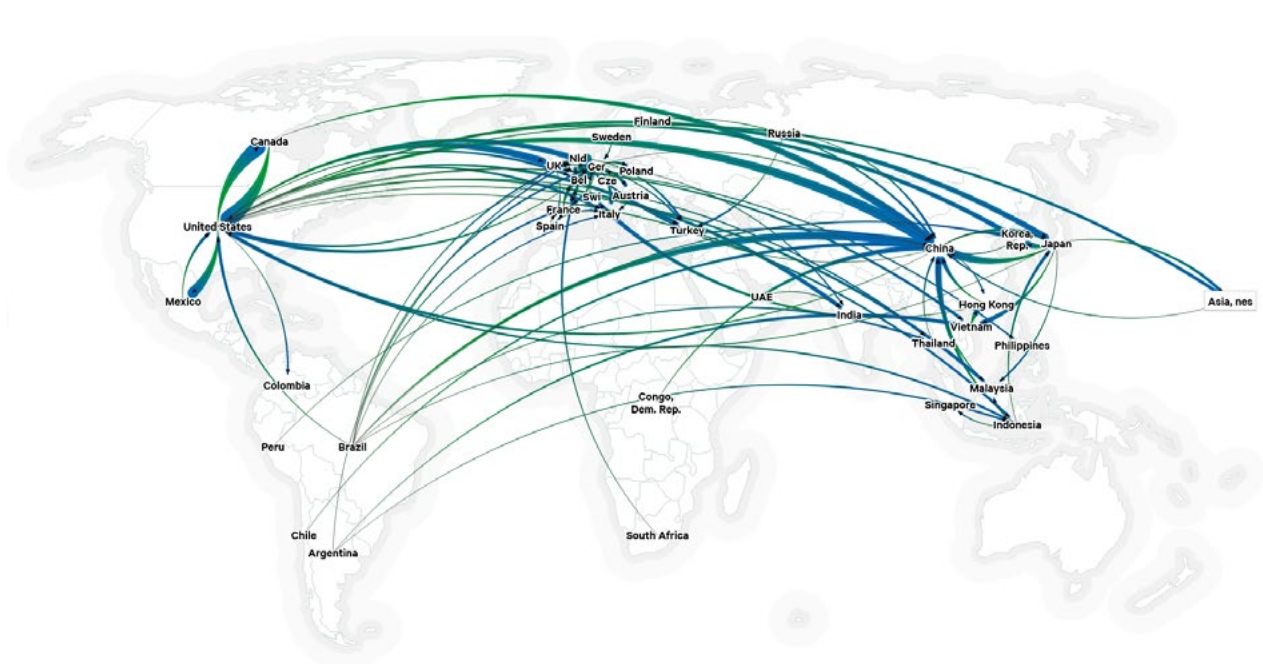
For example, with the data collected from the HS, Chatham House was able to develop an interactive tool that allows users to map, from the year 2000 onwards, the global trade (by weight and value) of a wide range of different used goods, secondary raw materials, wastes, scraps, and residues (Figure 3).¹²

Datasets and tracking tools such as this benefit businesses seeking to optimise and participate in circular trade as it helps them identify where inefficiencies and waste are occurring in supply chains, and to target interventions to encourage the adoption of circular economy activities.

National circular economy or trade policymakers benefit from these datasets as they help them to understand their own country's circular trade dynamics (in terms of imports

¹² See Circular Economy.Earth – data derived from UN COMTRADE.

Figure 3
Chatham House circular trade flows mapping tool



Source: Circular Economy.Earth)

versus exports and key trading partners). It also allows them to target trade restrictions to products seen to be inhibiting domestic circular economy efforts or, vice versa, loosening restrictions on goods that facilitate the circular transition.

The HS also creates a shared nomenclature with which to foster greater collaboration between nations through provisions in trade agreements – for example through mutual recognition or harmonisation of CE relevant standards, reducing

tariffs, or putting in place certain trade facilitation measures on certain categories of circular enabling goods and services, such as remanufactured goods, within bilateral or regional trade agreements (see Box 1). In the same vein, the HS also supports the development and monitoring of multilateral environmental agreements related to the CE, including the Basel Convention and the future Global Plastics Treaty.

Box 1

Examples of remanufacturing provisions in trade agreements

Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP): Includes a provision promoting trade in remanufactured goods by requiring that remanufactured goods not be subjected to any import prohibitions or restrictions that are applied to used goods. In CPTPP, remanufactured goods are distinct from used goods in that they undergo significant processing beyond cleaning, repair and maintenance, and are thus restored to a much higher level of functionality than a repaired or used good. The CPTPP also includes provisions that promote the trade of environmental goods and services, including recycling equipment.

The North American Free Trade Agreement (NAFTA): includes provisions that allow remanufactured goods to be treated as if they were new products.

EU-Singapore Free Trade Agreement: Includes provisions on remanufactured goods that encourage cooperation between the two parties in the development of standards and regulations for remanufactured products. The agreement also provides for the mutual recognition of standards and conformity assessment procedures for remanufactured products.

Australia-United States Free Trade Agreement: Includes provisions that require both parties to eliminate tariffs on remanufactured goods.

EU-Japan Economic Partnership Agreement (EPA): Includes provisions for remanufactured goods that recognize the environmental benefits of remanufactured goods and promote the development of standards and regulations for these products and require both parties to eliminate tariffs on remanufactured goods.

APEC Pathfinder on Facilitating Trade in Remanufactured Goods: An initiative in which 11 economies agreed to share information on best practices and encourage capacity-building efforts to help economies identify remanufactured goods at the border and distinguish them from used goods. Recent Pathfinder efforts have focussed on remanufactured [medical equipment](#) in lieu of increased demand generated by Covid-19.

3.2 LIMITATIONS OF HS IN FACILITATING CIRCULAR TRADE

Despite the apparent benefits of the HS in terms of facilitating circular trade, there are also many limitations. These limitations can be grouped primarily into three categories: (i) the HS structure; (ii) the approach to classification; and (iii) coordination between policy areas.

STRUCTURAL RESTRICTIONS

Accurate tracking of circular trade flows will require new provisions and the creation of new provisions is often difficult for several reasons. Firstly, there are limits on the level of granularity that can be accommodated within the hierarchical and nested structure of the HS. To put it simply, only a limited number of codes are available for new provisions, and for some chapters, headings, or subheadings none may be available until a previously used one has been deleted for

a minimum of 12 years (to avoid issues with statistics and countries using outdated editions).

As such, requests to further subdivide provisions that are nearing these limits must be particularly persuasive, as Contracting Parties (CPs) to the HS Convention will wish to keep some provisions available for possible future critical needs. In addition, most CPs prefer a smaller HS, considering it simpler to administer and use.

To achieve a new provision there must be clearly articulated reasons for its use and value. Normally acceptable reasons for considering new provisions include:

- i. **High trade value** - the normal value thresholds for seeking a new provision are comparatively low (for the creation of a new subheading of 50 million USD in trade and 100 million USD for a new heading), although establishing the trade value without an existing separate provision can be difficult.

- ii. **Regulatory requirements** (for instance multilateral agreements).
- iii. **High economic importance to developing countries.**
- iv. **Social or environmental importance.**
- v. **Technological or trade pattern changes.**
- vi. **Technical changes** (changes to resolve an issue with the legal texts).

However, simply meeting one of these conditions does not automatically mean the request will be accepted. It is still subject to consideration by the CPs who must accept it with a two-thirds majority at the Committee level and by full consensus at the WCO Council (the governing body made up of heads of administrations).

The argument for a new provision on social or environmental values for certain circular trade goods also needs to compete with other goods which may also be important. The importance of tracking circular trade flows compared with other classes of goods that might need that space in the following 17+ years therefore needs to be clearly articulated. This is often difficult for circular trade flows because of their currently small volumes relative to other products in the same classification which are contenders for separation into new provisions. For instance, the trade in remanufactured products of a particular heading may be quite small compared with, say, products of that heading using a renewable energy source.

Secondly, the process for revision or addition of codes itself is lengthy and complicated, and as outlined above, HS revisions only occur every five years. This is for good reason as careful thought is needed concerning the wisdom of the requested change and potential unintended consequences. This is important whether the new provisions are intended to promote facilitation or restrictions.

Goods may be better with regard to certain criteria, but not great, or they may be good in one aspect, but not others. For example, something might have higher recyclability than existing alternatives but use far higher levels of non-sustainable materials. Creating an HS provision, which is slow and difficult to update, may increase the facilitation and promotion of the “better” alternative, but it can also reduce the incentive to find better solutions. Comparable examples are the energy and water efficiency ratings used in many countries. If they are not periodically updated to require higher standards for the top rating, to both encourage and reward innovation, then there is a tendency for the market to produce only the minimum required to reach a “five-star” rating rather than investing in newer and more efficient technologies.

Conversely, providing a provision intended to support countries regulating a damaging substance or products that is very specific can mean that products with minor differences, just enough to avoid the classification but just as damag-

ing or even worse than the parent substance or product may be produced. This is a particular challenge for agreements on dangerous chemicals, but it can also be an issue for other goods.

To help streamline and process, the WCO have published a guide¹³ on how to make a change proposal.

CLASSIFICATION BY PHYSICAL CHARACTERISTICS

In addition to evidencing a demonstrated need for a global provision, the second most important element is whether the goods can be objectively identified at the border.

Classification of goods at the border is under the legislation of the importing country and is, for imports at least, connected to duty payments. Therefore, it must be possible for customs and importers to be able to prove that the goods comply with the declared classification before a court of law. Identifiability is an essential question Contracting Parties (CP) to the HS Convention will ask before any agreement to draft new provisions in the HS. The constrained capacity (of skills, technologies and/or time) of customs officials to ensure identifiability, particularly in low-income countries, further reinforces the problem.

The need to identify products by their physical attributes creates a particularly thorny issue when it comes to creating new provisions for circular trade flows. This is because in nearly all cases it is not possible to identify the circularity of a goods by physical attributes – rather circularity is defined by its:

- i. **non-physical attributes**, such as its durability, repairability, recyclability, non-toxicity; and use of circular production methods;
- ii. **condition**, for example is it new, used but useable, unusable but can be repaired, refurbished, remanufactured, or recycled, or has it been repaired or remanufactured?
- iii. **Intended use**, how will it be used in the importing country for example will it be reused or recycled, or will it be landfilled or lead to environmental pollution?

This challenge is compounded by the fact that there remains an absence of, or divergence in the interpretation of, inter-governmental definitions and classification of goods in terms of circularity, as well as a lack of harmonised product standards. Examples include inconsistency in how governments classify hazardous versus non-hazardous waste, secondary raw materials versus waste, used or repaired goods versus remanufactured goods (see Box 2).

¹³ https://www.wcoomd.org/-/media/wco/public/global/pdf/topics/nomenclature/activities-and-programmes/amending/creating-hs-change-proposals-how-to_english-17-may-2023.pdf?la=en&la=en

Box 2

Challenges for customs in identifying different circular trade flows

Hazardous or non-hazardous waste? Different countries define what constitutes hazardous and non-hazardous waste differently. In some countries, end-of-life products and materials destined for recovery operations may not be considered waste and are instead referred to as recyclable materials or scrap materials, while other countries often consider them as a subset of waste.

Secondary raw materials or waste? There is no universally accepted definition of secondary raw material (SRM) thus it is difficult to track global trade in this area. For example, one country may recognise certain SRMs destined for production as waste, resulting in far greater administrative costs and time per trade transaction, whereas another may recognise it as an SRM.

Used goods for reuse or recovery or used goods for disposal? There is no differentiation at the border between end-of-first life goods which are intended for reuse or resource recovery versus those destined for landfill. This is due to the inability of customs officials to verify what happens to the good once it crosses the border. The definition of “used” is also unclear. For example, when does a car become used? If it is in relation to a change of ownership, then what will happen if it is sold through a chain of sales between the manufacturer and the final importer? If it is on distance, then how far does a car need to be driven (noting that new cars have been driven on import, even if only to go onto and off the ship) to qualify as “used”? For goods in general, if a machine or vehicle is in “as new” or “excellent” condition, then what will identify them as used? These are the types of questions asked when new provisions of this type are requested, so clear definitions and criteria are needed.

Remanufactured goods and cores or used goods? Remanufactured goods (and cores) tend to be viewed by some governments as “inferior” to new “like” goods and as such are subject to higher import tariffs, or to non-tariff trade restrictions such as import prohibitions, core export prohibitions and/or complicated bureaucratic processes. Despite the divergence in interpretations, established definitions for remanufacturing processes do exist. These definitions have helped establish remanufacturing mutual recognition provisions within trade and economic cooperation agreements (see Box 1),

Circular goods or linear goods? To conduct circular economy activities, governments and organizations need access to a wide range of essential goods. Examples of circular enabling goods range from equipment, machinery, spare parts and tools for conducting circular activities (such as reuse, repair, remanufacturing, recycling and waste management), or sustainable agricultural activities; or monitoring and tracking hardware and software to map the flow of materials along the entire value chain; to specialist equipment for producing circular materials (such as industrial biotechnologies and materials science). Many of these goods currently face high customs duties, making them more – sometimes prohibitively more – expensive than new equivalent goods.

For the trade in plastics, for example, there is no distinction between recycled and virgin plastics in primary forms. The Contracting Parties have given this matter some consideration, but no reliable way has yet been found to objectively verify at the border whether primary plastics are virgin or secondary materials. As the HS provisions become legislative requirements upon becoming part of tariffs, not having a means of determining shipments’ compliance with a new classification for primary plastics from recycled plastics is a strong barrier to creating such a provision. Any advantage given to recycled plastics creates an incentive to misclassify virgin plastics, so enforceability needs to be considered carefully.

With textiles and garments there are a handful of codes related to waste, recycled content and post-consumption, however the codes are of limited scope and concern only certain fibres. Examples of codes for waste or used fibres include:

- 52.02 – Cotton waste (including yarn waste and garnetted stock)

- 55.05 – Waste (including noils, yarn waste and garnetted stock) of manmade fibres
- 63.10 – Used or new rags, scrap twine, cordage, rope and cables and worn-out articles of twine, cordage, rope, or cables, of textile materials
- 63.09 – Worn clothing and other worn articles

However, 63.09 is more limited than it appears at first sight. Its coverage is limited by a legally binding Note (Note 3 to Chapter 63), which not only establishes wear requirements, but requires them to be “presented in bulk or in bales, sacks or similar packings”.

The same low coverage is true for remanufactured goods, for which there exists only one six-digit code for a remanufactured good which is retreaded tyres as it is easy to visibly identify a retreaded tyre as distinct from a new one. It is worth highlighting, however, that several countries have introduced 8- to 10-digit classifications (ex-outs) for remanufactured or “rebuilt” parts and goods, typically for industri-

al manufacturing equipment and vehicles. For example, Mexico has introduced a unique classification for certain re-manufactured goods (such as heavy machinery), which can be imported only via a single port and by a pre-selected shortlist of traders. Nonetheless, these classifications are not globally harmonised.

Enabling the differentiation of measures applied to similar imported products based on their circularity, such as the use of recycled materials or their durability, repairability and recyclability, or their intended use, would be a valuable tool for countries looking to accelerate their transition to a circular economy. At present, however, there is no easy way for customs officials to determine such non-physical traits.

COORDINATION BETWEEN POLICY AREAS

Perhaps one of the least recognised problems with achieving coverage of circular economy goods (and environmentally important goods) is that a government, or an intergovernmental organisation on behalf of governments, needs to make a proposal to the relevant committee and sub-committee at the WCO. However, the representatives at these bodies are normally customs officials and customs is not the primary policy area for the circular economy. If policymakers do not come to customs representatives with ideas and needs, or customs, or the WCO, are not involved in the discussions, then it can be difficult for customs to marshal the awareness, knowledge and expertise to create proposals.

As noted above, there is a strong desire among many Contracting Parties to support this work, but it needs pro-active cooperation between the administrations and bodies who have the policy lead and expertise and the customs administrations.

Considering these challenges, Chapter 4 provides four suggestions for reform to the HS which may help facilitate circular trade flows. But in recognition that some of the reforms outlined in Chapter 4 would, if accepted, occur over a long timeframe and that some of the inherent structural and procedural aspects of the HS cannot be overcome, Chapter 5 explores some alternative yet complementary technical and procedural border control innovations that may help overcome these limitations.

4

REFORMING THE HS TO SUPPORT A CIRCULAR ECONOMY

Chapter 3 presented the benefits and limitations of the HS in facilitating circular trade. Maximising the benefits while minimising the limitations will require a certain level of amendment and in some cases reform of the HS. This chapter outlines four potential reforms.

4.1 CREATING NEW OR REVISING EXISTING CLASSIFICATIONS

Perhaps the most straightforward way the HS could be improved to support circular trade is through the revision of existing headings, sub-divisions of headings, and sub-heading classifications. Recognising the challenges involved in this, as outlined in Chapter 3, this paper suggests two promising focus areas: (i) adjusting classifications to differentiate between waste, secondary raw materials, and used goods for reuse; and (ii) creating new classifications for goods that enable circular economy activities.

DIFFERENTIATING BETWEEN WASTES, SECONDARY RAW MATERIALS AND USED GOODS FOR REUSE

As outlined in Chapter 3, there is a need to better track the flows of different types of waste. If various types of waste are all classified under one code it makes it very difficult for governments to differentiate the use of tariff and non-tariff measures between, for example, wastes which have a high potential for resource recovery and reuse, versus those that do not or are hazardous and require specialist handling. This is not a new idea; in fact, there are many examples of HS revisions where this has been achieved successfully.

In the most recent HS2022 revisions, Chapter 44 was updated to differentiate sawdust (440141) from wood waste and scrap, not agglomerated (440149). To date, both products have been recorded under the same code 440140. The HS also differentiates between paper produced from (i) virgin wood pulp, (ii) pulp made from other fibrous materials; or (iii) pulp obtained from recycled paper and paperboard (waste and scrap). In addition, the HS has numerous changes aimed at providing more specific provisions of a range of environmental interest, including such areas as tropical woods, solar technologies, LEDs, bamboo and rattan products, and so on.

Additional HS2022 revisions included a new heading titled “Electrical and electronic waste and scrap” (85.49), which was added to Chapter 85 (Electrical machinery and equipment...). The new heading, along with 11 subheadings¹⁴ will, for the first time, allow more granular collection and evaluation of global e-waste trade data and enable governments to differentiate tariff and non-tariff measures for different types of e-waste. This new heading will be critical given that e-waste is the fastest growing waste stream globally.¹⁵ Although this is a beneficial development in terms of tracking waste flows, it does not yet go as far as to help customs officials distinguish between e-waste and used electronic and electrical equipment (UEEE) items destined for direct reuse, refurbishment or remanufacturing. The recent HS revision, however, did insert a Note which outlines that the expression “electrical and electronic waste and scrap” means electrical and electronic assemblies, printed circuit boards, and electrical or electronic articles that:

1. have been rendered unusable for their original purposes by breakage, cutting-up or other processes or are economically unsuitable for repair, refurbishment, or renovation to render them fit for their original purposes; and
2. are packaged or shipped in a manner not intended to protect individual articles from damage during transportation, loading and unloading operations.

Point 2 of this note provides useful guidance to customs officials on how to determine whether a consignment comprises WEEE or UEEE for direct reuse or reuse after refurbishment or repair.

The recent HS distinction because different e-wastes is similar to the long existent distinction in relation to used clothing and textiles in heading 63.09 (Worn clothing and other worn articles), which has a Note restricting it to used clothing and textiles in bulk or bundled together in bails or similar packaging. This Note, like the Note on e-waste, is intended

¹⁴ Covering waste and scrap of primary cells, primary batteries, and electric accumulators; spent primary cells, spent primary batteries, and spent electric accumulators, among other things.

¹⁵ <https://ewastemonitor.info/gtf-2022/>

ed to ensure that the respective headings do not cover goods that enter the economy of the importing country with the intent of being sold for their original use. As such, 63.09 would normally cover textiles for recycling, disposal or reuse in other forms, such as conversion to rags, but not used clothes for resale not baled or in other bulk forms.

Aside from the recent e-waste HS classifications, consideration will also need to be given to how the HS can align with and support the Swiss–Ghana amendment to the Basel Convention, which was passed at COP15 in 2022. This amendment, which comes into effect on 1 January 2025, will establish new definitions for hazardous and non-hazardous e-waste and ensure that these two categories of e-waste will either be banned from trade, or at a minimum, require notification by the exporting country and consent by the importing country prior to export (otherwise known as Prior Informed Consent – PIC). The strengthened requirement for a PIC procedure will in theory support customs administration efforts to more efficiently classify and inspect shipments of e-waste. However, currently many governments (particularly those in the Global South) are underprepared and lack the financial, institutional and technological capacity to conduct the PIC process efficiently, and building such capacity could take several years.

Additionally, the Global E-waste Monitor¹⁶ has shown that a large proportion of e-waste trade is conducted illegally. If e-waste trade rules become overly restrictive or cumbersome there is a risk that the illegal proportion of e-waste trade may increase, putting a greater burden on receiving customs administrations. Finally, a major loophole remains in the amendment which allows exporters to avoid the Convention's rules altogether if they claim that the exports are to be repaired and sign a contract to that effect, yet it is impossible for customs officials to verify whether these items are in fact reused or repaired once they cross the border. Therefore, in addition to the strengthened Basel rules around e-waste and recent amendments to the HS, there needs to be greater focus on more novel approaches, such as resource recovery lanes to combat illegal e-waste trade and facilitating legitimate trade in e-waste for safe recovery or reuse while at the same time reducing the burden on customs officials. Chapter 5 discusses these novel approaches further.

Numerous additional headings, sub-headings and codes have also been made to the HS in previous rounds to help better align the HS with various multilateral environmental agreements. Many of these are related to chemicals, such as provisions for chemicals listed under the Rotterdam Convention (for example, the new subheading 2932.96 for carbafuran (ISO) in HS 2022) or the Montreal Protocol (for example, the creation of new subheadings 29.03 and new heading 38.27 in HS2022), but they also include non-chemical matters, such as waste provisions of importance for the Basel Convention.

Box 3

Provisions for used solar panels?

Trade in used solar panels is an additional area for further consideration in terms of developing a unique classification with respect to e-waste. As new generations of solar technologies enter the market, offering much greater efficiencies, existing solar installations will be swapped out (often referred to as repowering) and resold to secondary markets. Wood Mackenzie expects that 800 GW of solar power systems will be repowered between 2021 and 2025 because inverters will reach the end of their 10-year lifespan. This will likely result in a rapid growth in global trade in used solar panels (which have lifetimes up to 20 years) with the intention of aggregating them in centres for repair, refurbishment and remanufacturing or for direct sale into secondary markets. Currently, however, used solar panels are either classified as e-waste and classified under the heading 85.49, thereby facing numerous tariff and non-tariff barriers, or, if still suitable for use as solar panels and hence not meeting the criteria for e-waste, are classified with new solar panels and thus invisible in the trade figures. Ensuring access to affordable and high quality used solar equipment in emerging markets will be critical to realising global energy poverty reduction goals.

Providing a separate classification for second-hand solar panels would help them navigate their way through global trade streams to be reused or repurposed. Supporting trade in used solar panels, however, increases the risk of traders misclassifying PV panels which are unfit for reuse or recovery, resulting in the creation of waste in importing countries. The risk of damage to fragile PV panels during shipment also increases the risk of waste dumping.

Used panels fit for reuse cannot easily be differentiated from used panels destined for disposal. The provision of a certain level of training to customs officials to understand how to inspect the label, the wafer crystal composition, evidence of leaching, wear or tear could be provided, although this is unlikely to be effective.

Rather, it is more pragmatic for trade agreements to include provisions for mutual recognition of standards for refurbishment and testing of used panels or the need for a digital product passport. Currently, there is no international regulation or certification programme for the reuse of second-hand modules. However, Sustainable Electronics Recycling International (SERI) is working on new solar reuse and recycling requirements for the R2 Standard. The final revision is expected to be released late 2023.

¹⁶ <https://ewastemonitor.info/gtf-2022/>

Another point to remember is that the requirements for definition and criteria for a global provision in the HS are often far more difficult to satisfy than for national or regional provisions in tariff schedules or for other national or regional customs measures, such as permits. This is simply a reflection of the range of countries involved globally, all of which must be satisfied that the proposed provision is acceptable.

Box 4

Questions the circular economy trade community needs to consider when recommending a change in classification:

- Can the goods be clearly and simply described?
- Is it possible to distinguish these goods from similar goods?
- Are the defining characteristics of the goods ones that can be easily inspected or verified at the border (for example, composition, components, physical specifications)?
- Why is it important to have a specific provision for these goods?
- How is the good currently classed in the HS?
- Where is it proposed to add the new provision?
- What is the traded value of the goods in international trade and is it expected to grow significantly?

Besides considering the addition of codes, there is also an option for countries to begin to work towards harmonising 8- or 10-digit national classifications linked to circular trade flows. As an illustration, the HS Recommendations put forward a series of suggested domestic subheadings at the 7- and 8-digit level, which could be adopted by countries to ensure uniformity in data collection and monitoring at international level. This implementation would take place prior to the introduction of a new HS.

These Recommendations¹⁷ call upon countries to modify their tariff laws and regulations outside the introduction of a new HS edition.¹⁸ Normally, these only recommend wording when it will be used in the next edition. But the possibility of using this type of Recommendation – that is, with wording recommendations – to help enable statistical comparability of goods of global policy importance in the absence of agreement on HS implementation could be contemplated. This possibility has been raised by some bodies in other contexts, for example in pandemic responses.

GOODS THAT CONTRIBUTE TO A CIRCULAR ECONOMY

An additional area in which new classifications could be considered is the trade in goods which are considered essential for performing circular activities, such as implementing product system services (leasing or renting), circular material production or repair, refurbishment, remanufacturing or recycling activities.

Parallels can be drawn with the ongoing process of assigning unique codes to trade technologies that contribute substantially to climate mitigation. For example, HS 2022 creates several more categories, including fully or partially electrified “road tractors for semi-trailers” (that is, the famous “big rigs” that pull trailers laden with goods) under heading 87.01 and non-articulated trucks or lorries used for transporting goods under heading 87.04. A second example is that HS2022 created a new subheading specifically for solar water heaters (8419.12) to differentiate them from other water heaters.¹⁹

The International Renewable Energy Agency (IRENA) and the International Network for Bamboo and Rattan (INBAR) have played an active role in the HS change process across multiple editions. Their aim is to increase the visibility of environmentally friendly technologies, such as LED lighting, and promote the use of materials that can be produced more sustainably than their counterparts, such as bamboo. This collaborative effort has persisted and has culminated in the inclusion of several new subheadings in HS 2022, related to these products and materials.

Currently, the goods related to the circular economy that fall under the Environmental Goods and Services discussions are primarily limited to those used in waste recovery, end-of-pipe pollution control, recycling equipment, spare parts for industrial equipment, and a select few items of resource efficiency equipment. However, there is still a lack of coverage for other important aspects of circularity, such as equipment for remanufacturing or for manufacturing circular materials, equipment for circular agricultural practices, and goods that facilitate circular business models and activities (for example, sensors, computer vision equipment, circular building materials and tools). It would be valuable to draw up a shortlist of goods crucial for conducting activities that contribute significantly to the circular economy. One starting point may be to start with activities that contribute substantially to the circular economy as defined by the EU's Sustainable Finance Taxonomy and identify a subset of goods necessary to conduct such activities, which concurrently are subject to high tariffs.²⁰

Chatham House has identified an initial shortlist of circular economy-enabling goods categories that could be considered environmentally preferable goods and that require fur-

¹⁷ https://www.wcoomd.org/en/topics/nomenclature/instrument-and-tools/hs_recommendations.aspx

¹⁸ <https://mag.wcoomd.org/magazine/wco-news-91-february-2020/shining-a-light-on-dangerous-commodities/>

¹⁹ <https://www.iisd.org/system/files/publications/code-shift-2022-harmonized-system.pdf>

²⁰ <https://www.chathamhouse.org/2022/06/trade-inclusive-circular-economy/framework-inclusive-circular-trade>

ther investigation concerning the need for an assignment of unique HS codes²¹:

- **Equipment, machinery, spare parts, and tools for conducting circular activities** such as reuse, repair, remanufacturing, recycling and waste management, or for conducting sustainable/regenerative agricultural activities (such as precision agriculture, aquaponics and vertical farming systems).
- **Monitoring and sensing equipment** to track the flow of materials along the entire value chain.
- **Digital hardware** necessary to store and retrieve supply-chain data, as well as conduct product-service system business models.
- **Equipment for producing circular materials** (such as industrial biotechnologies and 3D printers).
- **Best practice cleaner production technologies** that save water, energy and materials during production

The Bureau of International Recycling has already identified a shortlist of essential goods specific to recycling activities that are still classified under generic subheadings and not identified separately, making it difficult to reduce or remove tariff rates for those goods.²² An example is reverse vending machines which are essential for the efficient functioning of deposit return schemes, yet they are not recognised as a type of vending machine within the heading 8476.

Besides targeting goods that enable actors to perform circular activities, consideration may also be given to goods that are considered “circular” by virtue of design or intended use. However, this category of goods raises many questions.

For example, could a retreaded tyre be considered a circular good? On one hand, it has been remanufactured, thereby resulting in substantially less environmental impact than the production of a new tyre. On the other hand, its use creates the same level of micro-plastic pollution and it will eventually become waste. Similarly, could a refurbished laptop be considered a circular good? The answer may be yes if compared with a new laptop, but when considering the full life

²¹ <https://www.chathamhouse.org/2022/10/role-international-trade-realizing-inclusive-circular-economy>

²² https://www.wcoomd.org/-/media/wco/public/global/pdf/events/2022/greener-hs/session-4/5_bir_recycled-metals-contribution.pdf?la=en

Table 1

Shortlist of goods essential to recycling activities which would benefit from unique classification
(as identified by the Bureau of International Recycling)

Good	Benefit to recycling activities	HS Classification
Recycling vehicles	Collecting and compacting separated curb-side recyclables	870590
Trommels and sink & float plant	Used in the recycling process to separate and sort materials enabling the recovery and recycling of valuable resources for a circular economy	8479
Wind sifters and sensor and optical based sorting equipment	Used in the recycling process to separate and sort materials, enabling the recovery and recycling of valuable resources for a circular economy	8474
Wire granulators	Used by recyclers to reduce wire and cables into granules and separate metals from non-metals to meet recycled raw materials specifications	8479
Eddy current sorters	Electromagnetic separators used to separate nonferrous metals from an input waste stream, enabling the recovery and recycling of valuable resources for a circular economy	8505
Reverse vending machines	For collecting plastic, aluminium, glass containers (deposit refund / EPR)	8476
Balers	Used by recyclers to compress materials into bales for ease of handling and use	8479

cycle of the laptop, it still contains hazardous materials that need to be handled in specialised facilities when it reaches end of life and so if it is imported into a country which lacks those facilities its level of circularity may be questioned.

The EU's proposal for an Ecodesign for Sustainable Products Regulation (ESPR) aims to address this challenge by establishing a framework to set ecodesign requirements for specific product groups to significantly improve their circularity, energy performance and other environmental sustainability aspects. Products that enter the EU market will need to meet a range of circularity requirements, including levels of durability, upgradeability, reparability and avoidance of substances that inhibit circularity.²³ A declaration of compliance with the ESPR will need to be provided at the border via a digital product passport unique to each good. The initial set of products targeted by the ESPR may offer a starting point when considering how "circular" goods may be classified.

Although the next revision of the Harmonized System (HS), the eighth in its history, is not expected to be finalised until June 2024 (negotiations finalised March 2024), the Review Sub-Committee (RSC) of the World Customs Organization's Harmonized System Committee (HSC) began exploring potential amendments as early as November 2019. As part of this effort, the RSC is already examining proposals, including some related to environmentally friendly goods. Given the short time left until HS finalisation in 2024 (final negotiations are in March 2024) only a small window remains open for the next edition. But even a very small window is significant. In addition, it is not premature to start contemplating a set of desired changes that could support the circular economy for HS 2032, on which negotiations will start in November 2024.

One essential focus might be to identify a concise list of goods that are critical for conducting activities that contribute significantly to the circular economy, as in the case of the EU's sustainable activity taxonomy,²⁴ but are presently subject to high tariffs. Alternatively, one may also consider exploring the option of publishing a reference list of goods to use as ex-outs.²⁵

Before taking any steps on this issue, there remain numerous unresolved issues that require collective and extensive consultation with various relevant stakeholder groups, particularly low-income countries that currently face the worst

impacts of the global waste trade. It may be best to lead this consultation through a consortium of relevant organisations, such as the TESSD Informal Working Group on the circular economy and circularity or Friends Advancing Sustainable Trade (FAST Group).²⁶

4.2 STRENGTHENING INSTITUTIONAL CAPACITY TO IMPLEMENT EFFECTIVE SYSTEMS

Ensuring that the necessary updates to the HS to better facilitate circular trade (and other environmental goods) are done correctly and in a timely manner requires significant resource investment from the WCO review committee and support staff. Equally, customs administrations will need to invest time and resources to ensure they can regulate based on those changes, but many lack the capacity.

INSTITUTIONAL CAPACITY AT THE WCO

The HS covers all possible traded goods, so the work of the relevant Committee and Sub-Committee is both diverse and heavy. While ways of addressing workload issues are under active discussion, significant limitations remain. For example, it is not always possible to complete agendas in a meeting simply because of the volume of agenda items. It is also not realistic within the WCO and member budgets to add extra inperson meetings. HS meetings are held five times a year (two meetings of the Harmonized System Committee, two of the HS Review SubCommittee and one of the Scientific SubCommittee). Some of these meetings require countries to send delegates to Belgium for two weeks at a time. This imposes considerable costs at a time when many governments are working to reduce spending.

In addition, the dual impacts of the Covid-19 pandemic and the workload will affect how many changes will be successfully negotiated by the end of the March 2024 meeting. There is normally a five-year schedule between editions coming into force, and while this is not mandated under the Convention, the period of two and a half years between the approving WCO Council in June and coming into force on 1 January is mandated. To achieve an HS 2027, then, the negotiations must be concluded in time for the June 2024 Council.

The HS faces many pressures to adapt and deal with these changes in trade characteristics and the growing need for environmental regulation of trade. While customs administrations and the WCO support these needs, it may be timely, if a comprehensive programme is desired, to consider the immediate and future resources and support required to make that successful.

²³ https://commission.europa.eu/energy-climate-change-environment/standards-tools-and-labels/products-labelling-rules-and-requirements/sustainable-products/ecodesign-sustainable-products_en

²⁴ The EU taxonomy is a classification system, establishing a list of environmentally sustainable economic activities. The EU Taxonomy Regulation establishes six environmental objectives, including the transition to a circular economy and provides for different means to make a substantial contribution to each objective. See: Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment and amending Regulation (EU) 2019/2088 (Text with EEA relevance), PE/20/2020/INIT OJ L 198, 22.6.2020, pp. 13–43.

²⁵ https://www.wcoomd.org/-/media/wco/public/global/pdf/events/2022/greener-hs/session-5/2_carlos-kuriyama_apec-psu.pdf?la=en

²⁶ <https://www.chathamhouse.org/2022/06/trade-inclusive-circular-economy/framework-inclusive-circular-trade>

Another area of focus could be to scale up support for the WCO Green Customs initiative. While it is working on the circular economy and customs matters, increasing the level of support from other administrations and bodies to work specifically with the WCO and customs on circular trade facilitation challenges would help to deepen the expertise and resources that could be brought to bear on the issues.

REGULATORY CAPACITY OF CUSTOMS ADMINISTRATIONS AND ENVIRONMENTAL AGENCIES

Customs administrations, particularly those in developing countries are often severely resource constrained, lacking the physical and digital infrastructure and skills training they need to conduct rigorous border checks. This means that even if there are new or revised classifications to aid circular trade flows, their impact will be limited if customs administrations simply cannot do all the relevant checks.

The WCO engages in extensive capacity-building work with its members. However, it is provided through donor funding, and the availability and interest of funding organisations in work in specific skill areas and in specific countries or regions affects the level of provision.

Dedicated support is needed from the international community, through targeted assistance programmes, to mitigate the adverse impacts of increasing trade barriers and changing demand patterns. One focus area may be the greening efforts of the WTO's Aid for Trade initiative. Aid for Trade could emphasise important areas for circular capacity-building, such as investing in infrastructure to facilitate domestic circular practices, such as repair, remanufacturing, and recycling, as well as trade infrastructure, customs systems, and enforcement measures to combat illegal waste shipments. Other areas of focus could include training and development for circular production skills and policies that support circular practices.

To combat international illegal waste trade effectively, a well-funded, globally coordinated and long-term approach to policing is required. As circular trade continues to grow in volume and complexity, the risk of an illegal waste trade also increases. Several successful international collaborations have been established to address this issue, including DEMETER Operations, a global initiative established in 2009 and run under the auspices of the World Customs Organization (WCO), which involved 90 customs administrations as of late 2022.²⁷ Other notable initiatives include the WCO Green Customs Initiative, the WCO Asia Pacific Plastic Waste Project,²⁸ the Regional Enforcement Network for Chemicals and Waste (Project REN), and the UN Office on Drugs and Crime

(UNODC) and UN Environment Programme (UNEP)'s "Un-waste: tackling waste trafficking to support a circular economy" initiative implemented in 2021.

A comprehensive programme to combat the illegal waste trade could utilise the findings from initiatives such as the Green Customs Initiative and DEMETER Operations, and be coordinated by organisations including UNEP, WCO, Interpol, Europol, and the Secretariat of the Basel Convention, with support from individual governments through commitments to report illegal waste crimes. This would require a sustained effort to ensure that resources and attention are consistently directed towards the issue of illicit waste trade.

In addition to increasing capacity-building, further consideration should be given to the merits of adopting additional trade facilitation mechanisms to lighten the burden on customs administrations. Examples include the establishment and enhancement of Single Windows, trusted trader schemes or special economic zones for certain circular trade activities. These are discussed further in Chapter 5.

4.3 IMPROVING COORDINATION WITH MULTILATERAL ENVIRONMENTAL AGREEMENTS

The HS plays an important role in helping businesses and governments comply with multilateral environmental agreements (MEA). But ensuring alignment can be challenging and requires strong and sustained collaboration between the secretariats of the MEAs and the HS secretariat. There is merit in increasing efforts to improve coordination and alignment between MEAs and the HS. Two MEAs offer potential scope for improvement: (i) the Basel convention on the transboundary shipment of waste (Basel Convention); and (ii) the Global Plastics Treaty.

BASEL CONVENTION

The Basel Convention, adopted in 1989, is an international treaty that aims to reduce the movement of hazardous waste between countries. The Convention regulates the transboundary movement of hazardous waste, including the export, import and transit of hazardous waste. The Convention also aims to promote environmentally sound management of hazardous waste, and to ensure that the generation of hazardous waste is minimised. The Basel Convention requires that countries provide prior informed consent for the export of hazardous waste – using HS codes makes it possible to identify specific types of hazardous waste and countries can determine whether a waste shipment requires such consent.

Although the Harmonized System plays an important role in the regulations of the Basel Convention, the two are not perfectly aligned. This is because the HS codes describe the nature and composition of goods and are used by regular cus-

²⁷ <https://www.wcoomd.org/en/media/newsroom/2022/december/operation-demeter-viii.aspx>

²⁸ <https://www.wcoomd.org/en/APPW.aspx>

toms operations, whereas the Basel Convention provides waste definitions based on the intention to discard. This difference makes waste identification by customs very difficult and in many cases impossible, and this can lead to inconsistent treatment of waste at the border. This misalignment between the Basel Convention and the Harmonized System has long been recognised but is not easy to resolve. Current HS codes that cover waste and scrap do not distinguish between those that are hazardous or non-hazardous, leaving the task to customs administrations to check on a case-by-case basis. Many years of work within the HS Committee, the Review Sub-Committee, WCO Member administrations, and the WCO and Basel Secretariats went into developing a workable solution.²⁹ After 25 years of negotiation, the Basel Convention has identified more than 60 codes for wastes, but many waste codes still need to be more strongly reflected in the HS.³⁰

One of the challenges still faced by the WCO is that the definitions outlined in the Basel Convention were too vague and ill-defined for HS use and therefore it was very difficult to see how to incorporate these definitions into it objectively. Some level of verifiability is needed. This problem is not unique to the Basel Convention provisions, of course. For example, the HS Sub-Committee received a request to produce a new classification for biodegradable plastic bags but were unable to reach a consensus on how to deal with the nature of the request because there was no clear global definition of biodegradability and it is virtually impossible to test in-situ at the border.

What can be done to improve alignment between Basel and the Harmonized System? A recently published report by the STEP initiative outlines three areas of focus:³¹

1. Integrate Basel Technical Guidelines on distinguishing waste and non-waste (used goods should be subject to testing results, supported by Single Windows)
2. Establish regional “Basel Centres” actively working on raising awareness with competent country authorities and notifiers, controlling and monitoring response times, actively resolving disputes and providing information to focal points as well as customs, working together with other trade structures, such as under the World Trade Organization.
3. The lists under Basel should include HS Codes and harmonised tariff code correspondence to make it clear and easy to apply. A web-based database would be useful in this respect.

GLOBAL PLASTICS TREATY

The Global Plastics Treaty is a proposed international agreement aimed at addressing the issue of plastic pollution. The treaty would be the first-ever legally binding agreement on plastic pollution, and it is currently being negotiated by the United Nations. The treaty would establish a framework for global cooperation and action to reduce plastic waste and promote more sustainable use of plastics. It would also encourage countries to implement measures to reduce the production and consumption of single-use plastics, increase recycling rates, and improve waste management systems.

The Harmonized System will play an important role in facilitating the governance of a global plastics treaty. By using HS codes, businesses and government agencies can identify the specific types of plastics that are being imported and exported, and target interventions (such as tax breaks or other financial incentives) to improve recycling and re-use and encourage the use of more environmentally friendly plastics and discourage the use of those that have a negative impact.

Despite the important role of the HS, current codes assigned to plastics remain significantly limited. For instance, HS codes do not differentiate kinds of plastic waste (hazardous, contaminated, mixed, recyclable) or secondary materials (such as recycled plastic pellets). Meanwhile, transformed plastics (presumably through recycling) are classified under headings 39.01 to 39.14 but are not specifically identified as being recycled primary forms of plastic. The plastic wastes included in Chapter 39 sub-headings also do not include all kinds of plastic waste.

Not only are there data gaps in the classification of plastics themselves, but there is no data on the percentage share of plastics embedded as materials in traded products. Nor does the global trade system capture plastic packaging that functions as a wrapper, but nevertheless is an integral part of global trade in products.³²

Fourth, the lack of standards/definitions and tests reliable enough to identify virgin or recycled plastic content are also restricting options for new classification provisions.

Significant work is needed to look at how definitions and identification requirements can be built in to resolve some of these issues and at how other customs measures could be used in a harmonised manner to meet any needs the Harmonized System cannot address to create a strong suite of solutions to the identification of this trade at the border.

The next HS update in 2027 should be better aligned with the completed negotiations on the Global Plastics Treaty in 2025. However, the timeline of the HS 2027 negotiations, with completion in March 2024 and completion of the Treaty ne-

²⁹ <https://mag.wcoomd.org/magazine/wco-news-91-february-2020/shining-a-light-on-dangerous-commodities/>

³⁰ <https://www.wcoomd.org/-/media/wco/public/global/pdf/topics/facilitation/ressources/permanent-technical-committee/237-238/pc0699eae2b.pdf>

³¹ https://www.step-initiative.org/files/_documents/publications/PRE-VENT-STEP_Practical_Experiences_Basel%20Convention_discussion-paper%202022.pdf

³² <https://tessforum.org/latest/plastic-pollution-and-trade-across-the-life-cycle-of-plastics-options-for-amending-the-harmonized-system-to-improve-transparency>

gotiations only in 2025, means that, as matters stand, there will no alignment early on. This is associated with risks of a significant delay to realising the full benefits of the Treaty.

4.4 EXTENDING TO AN EIGHT-DIGIT INTERNATIONAL SYSTEM

As already discussed, countries can also choose to create additional tiers of codes for traded goods (up to 12 digits), offering a higher level of granularity and the ability to differentiate between types of circular trade flow. A larger number of used products and several repaired, refurbished or remanufactured products can already be found in national statistics. For example, the United States has introduced a series of 10-digit codes to differentiate between new and used industrial equipment, while the EU has created eight-digit codes for used buses.

Some used or remanufactured goods, especially associated with transport materials and machinery used in construction, are specified in detail. In the case of aluminium cans (which represent about 2.7 per cent of what the United States imports in terms of circular goods), the more granular classifications also make it possible to distinguish between aluminium waste resulting from industrial processes and other aluminium waste.

As these codes are applied unilaterally, however, their use risks further entrenching divergence in classifications around the world. It is therefore logical (albeit perhaps not easily achievable) to explore the feasibility of extending the international 6-digit HS to an 8-digit structure. This would be useful for providing more granularity not only on circular trade flows, but also on the trade in goods that contribute to global environmental goals, such as climate change, biodiversity loss, ocean acidification, pollution, and many others.

The WCO has launched an exploratory study on a possible strategic review of the Harmonized System. This two-year study was launched in September 2021 to look at the overall health of the HS and its ability to meet changing needs. This offers an opportunity to look at the System and the needs of environmental and circular-economy policies. It will explore the feasibility of a range of options put forward by stakeholders, including granularity changes. At the time of publication, it has completed the formal stage of collecting inputs and is at the stage of analysing feasibility proposals. However, while the formal input gathering phase is over, it is still possible to send in input. When possible, in terms of time, this will also be included in the analysis.

In the meantime, countries involved in negotiating trade agreements could agree on the mutual recognition or harmonisation of 8- or 10-digit classifications related to the circular economy for incorporation in tariffs.

5

EXPERIMENTAL CIRCULAR TRADE FACILITATION APPROACHES

Chapter 4 outlined four potential areas of improvement of the Harmonized System, which may help facilitate circular trade. Nonetheless, HS reforms can address only a subset of circular trade facilitation challenges and such reforms will take several years. Moreover, aside from the HS, customs administrations will increasingly play an important role in circular trade facilitation. For instance, they will be required to identify circular goods on criteria other than their physical characteristics (such as means of production, intended use, material composition). They will need to look beyond the HS and adopt additional approaches for this type of data collection and monitoring.

This Chapter therefore explores opportunities to experiment with other forms of circular trade facilitation tools and mechanisms to support customs administrations. It explores mechanisms that could offer low-income countries, which face the greatest environmental, social and economic threats from illicit and licit waste trade, the ability to maximise the potential benefits of participating in such trade flows while strengthening their capacity to enforce regulations against unwanted waste trade flows. These mechanisms include such things as trusted-trader programmes and resource recovery lanes, electronic data systems, and special economic zones for certain trade flows (SEZ).

Table 2

Circular trade facilitation mechanisms that could complement HS reforms

Trade facilitation mechanisms	Description	Examples
Trusted circular traders and resource recovery lanes	Initiatives designed to simplify and streamline customs procedures for businesses engaged in international trade. They facilitate trade in secondary raw materials and waste for recovery while maintaining border security by allowing pre-approved businesses to enjoy various benefits, such as reduced documentation requirements, expedited processing, and reduced inspection rates.	– Pre-consented recovery facilities
Electronic data systems	An electronic system that allows businesses to submit all required documentation and information to comply with all import, export and transit-related regulatory requirements. Enables sharing of relevant circularity standards and certifications compliance with customs officials. An example is the digitisation of the Basel PIC procedure (e-PIC) or the exchange of trade relevant Digital Product Passport data.	– North Sea Roundabout – TradeLens – DATAPIPELINE – UNECE Circular Textiles Protocol
Special economic zones for circular activities	Geographically delimited areas within which governments promote circular industrial activity (for example, remanufacturing or refurbishment) through fiscal and regulatory incentives. Confining activities to bonded areas may ease the regulatory challenges associated with problematic circular trade flows (for example, used goods intended for reuse or remanufacturing), while capturing economic opportunities associated with such trade flows. Conversely, special customs zones can become an attractive channel for illicit trade where there are poor inspection and auditing processes. The use of special zones must therefore be considered carefully.	– Refurbishing used mobile phones in Egypt's SEZ. – Singapore's remanufacturing zone – Jurong Eco-City in Singapore – Tecnológico de Monterrey in Mexico

5.1 TRUSTED CIRCULAR TRADERS AND RESOURCE RECOVERY LANES

Trusted circular traders and resource recovery lane initiatives could help to reduce the procedural requirements for trusted traders or recipients of circular trade flows which comply with strict quality and procedural standards.

Trusted circular trader: A “trusted trader” scheme is a certification programme offered by customs administrations or relevant government agencies to businesses engaged in international trade. Such schemes aim to enhance trade facilitation and supply chain security by providing certain benefits and privileges to approved traders who meet specific criteria and demonstrate a high level of compliance with customs regulations and security standards. An example of a trusted trader initiative is the WCO Authorised Economic Operator (AOE) scheme managed by the WCO (see Box 5). A more specialised trusted circular trade initiative could offer greater incentives to traders in waste or secondary raw materials which can be recovered, or used goods fit for direct reuse or reuse after repair, refurbishment or remanufacture.

Box 5

Authorized economic operators

AEOs are businesses that have been vetted and certified by customs administrations as meeting certain standards of security and compliance. They are approved and monitored by customs administrations. AEOs are often eligible for certain benefits and privileges, such as expedited clearance or reduced inspections. AEOs are required to maintain accurate records of the goods they are importing or exporting, and HS codes are an important tool for identifying and tracking these goods. The WCO has developed a framework for AEOs, which provides guidance and best practices for customs administrations on how to implement the AEO concept. The WCO also provides a forum for customs administrations to exchange information and collaborate on AEO-related issues, such as the WCO SAFE Working Group and its ad hoc meetings.

As the AEO programme is designed by each customs administration along with the WCO’s SAFE Framework of Standards, it is technically possible to further clarify and establish more detailed criteria or designated operators’ categories for the circular economy. However, as far as is known, there is no specifically designed programme for the circular economy. Incorporating environmental criteria into the AEO programme is under discussion but a highly sensitive topic, with no agreement so far.*

* <https://www.oecd.org/environment/securing-reverse-supply-chains-for-a-resource-efficient-and-circular-economy-6ab6bb39-en.htm>

Resource recovery lane: A resource recovery lane may be considered a specialised version of a Green Lane. It would aim to tackle a current pain point facing companies that need reliable, timely and affordable access to secondary raw materials at scale from abroad to make their products

more sustainable or to comply with increasing regulatory recycled-content requirements, yet which currently face severe delays, administrative hurdles, and costs in trying to obtain such resources due to strict and often inconsistent transboundary waste trade regulations.

A resource recovery lane could help to cope with this pain point by implementing necessary health and safety measures through streamlined procedures, reduced documentation requirements and prioritised treatment. The OECD Pre-consented facilities initiative offers an example of a resource recovery lane, although it is focussed specifically on recovery facilities for hazardous wastes and not necessarily facilities that undertake higher level circularity activities, such as recycling, repair, refurbishment or remanufacturing.

Box 6

OECD Pre-consented recovery facilities

Pre-consented facilities specifically cater to the handling and recovery of hazardous waste and other waste. These facilities are given pre-consent authorisation by competent authorities if they meet certain environmentally sound management requirements in OECD adherent countries. It makes it clear to all competent authorities (typically, environmental protection agencies) concerned that the specific recovery facility has already been approved to recycle a listed number of waste streams* and allows the facilities to expedite trade processes. Currently, there are 454 pre-consented facilities in 24 OECD countries and three non-OECD countries, as of January 2022.** Examples include Metallo Chimique in Belgium, which handles electronic scrap (printed circuit boards, electronic components, wire, etc.) and reclaimed electronic components suitable for base and precious metal recovery and Oil Salvage Ltd in the United Kingdom, which recovers waste lead-acid batteries, whole or crushed.

* <https://legalinstruments.oecd.org/public/doc/221/221.en.pdf>

** <https://www.oecd.org/env/waste/OECD-Database-of-Transboundary-Movements-of-Wastes-25-January-2023.xlsx>

A real-world example of an attempt to create a resource recovery lane was the North Sea Resources Roundabout (NSRR) initiative established in 2016. The NSRR was a collaborative effort of thirty stakeholders (NGOs, regulators, companies and policy experts) from France, the Netherlands, the United Kingdom, and the Flanders region of Belgium. The project aimed to facilitate the trade and transport of secondary resources, such as struvite, PVC, electronic waste, compost, and bottom ash, while also shedding light on the practical challenges related to secondary raw material and waste trade. The idea was to create fast track and financial guarantees for these shipments to pre-consented facilities and was successful in reducing transit time from months to under three weeks, in some cases. A key finding from the initiative was that, although establishing resource recovery lanes takes time and a concerted effort to build trust and a culture of experimentation between governments and regulators, it can offer significant benefits to all the actors involved.

A combination of trusted circular trader and resource recovery lane initiatives could help to reduce the compliance burden on customs administrations, while at the same time streamlining the process for importers and exporters, as well as freight forwarders and logistics companies.

There is an opportunity to further explore how the synergistic benefits offered by trusted trader and resource recovery lanes could be leveraged, for example in cases in which Authorised Economic Operators (AOEs) may be supplying goods to pre-consented facilities. To date, however, there has been little collaboration and knowledge exchange between the WCO, customs administrations and environmental protection agencies as regards exploring these synergies. There is therefore an opportunity to facilitate knowledge exchange between the parties and consider opportunities for collaboration.³³

Another potential improvement would be to expand the scope of the OECD pre-consented recovery beyond hazardous waste recovery (disposal or recycling) to circular activities higher up the waste hierarchy, such as repairing, refurbishing and remanufacturing used goods. It may make sense to start with pre-consented facilities for remanufacturing, given the existence of remanufacturing standards as well as its inclusion in several bilateral and regional trade agreements. Remanufacturing as a process is also considered the gold standard when it comes to dealing with used goods (in comparison with to simply repairing or refurbishing).

It should be noted, however, that pre-consented facilities do not apply outside the OECD. That means that currently they provide no advantage to recyclers wishing to ship to such facilities to and from low- and middle-income countries. To facilitate exports to and from such countries, it might also be useful to add the designation of pre-consented exporters to further support a pre-consent process. However, any sort of scheme that mandates the use of pre-consented facilities may disproportionally affect low-income countries that lack such facilities.

5.2 ELECTRONIC DATA SYSTEMS

Electronic data systems are a set of electronic tools and systems that enable businesses to manage, process and exchange information related to trade activities.

Single Windows for trade are perhaps the most widely recognised application of electronic trade data systems. Single Windows allow businesses to submit all required documentation and information to comply with customs regulations (declaration of conformity) through a single portal, rather than having to submit the same information to multiple government agencies. This can greatly reduce the administrative burden on businesses and help to speed up the clearance process. With increased pressures on climate, nature and pollution, Single

Window platforms are challenged to digitally absorb, store and report on additional data points to support sustainable product taxonomies, target setting and non-financial metrics to monitor the progress of the national sustainability targets underpinning the United Nation's 2030 Agenda.

Single Window mechanisms are yet to be fully utilised for coordinated border management to help establish reverse logistics for a circular economy. In fact, uptake of Single Windows in general remains low (albeit growing rapidly). In 2019, the WCO SW Survey showed that only 19 per cent of WCO members were at an "advanced stage of implementation" and that 22 per cent had an "implemented" status.^{34 35} International coordination of electronic notification systems is being proposed at the multilateral and plurilateral level, however, and is already available in some regions, notably North America and certain parts of Europe, to streamline data requirements for waste shipment notification procedures. China is implementing another regulatory tool, namely the GTIN (barcode number) declaration for the Single Window system and for enterprises.³⁶

Electronic systems can also be used for other trade facilitation purposes beyond Single Windows. For example, the Basel Convention has been investigating the potential application of electronic approaches for notification and movement documents (UNEP, 2016).³⁷ More recently, in 2020–2021, the Basel Convention Secretariat reviewed the experiences available at the national and international level in establishing electronic systems for waste shipment notification and movement documents (UNEP, 2020), and conducted consultations with stakeholders to explore possible options for its application. The European Commission is exploring the possible development of an EU-wide electronic data interchange as a part of its proposed Waste Shipment Regulation amendments in November 2021. Useful frameworks and tools for the development of Single Windows are available from UN/CEFACT standards and the WCO Data Model.³⁸ There are also many initiatives around the world that

³³ <https://www.oecd-ilibrary.org/docserver/6ab6bb39-en.pdf?expires=167666989&id=id&accname=guest&checksum=8B6E9385129D77FBC3302DEDE3E63B76>

³⁴ Advanced implementation: a situation in which 60 per cent of regulatory requirements for trading goods across borders are processed by the Single Window system. Implemented: almost all regulatory requirements for almost all commodity codes are processed by the Single Window system.

³⁵ https://www.wcoomd.org/-/media/wco/public/global/pdf/topics/facilitation/ressources/wto-atf-working-group/12/agenda-item-vi_a_sw-study-results_en.pdf?db=web

³⁶ <https://www.wcoomd.org/-/media/wco/public/global/pdf/topics/facilitation/ressources/permanent-technical-committee/237-238/pc0699eae2b.pdf>

³⁷ In addition to the use of electronic data systems for Basel, there are also other environmental data exchange frameworks, such as eCITES which supports Convention on International Trade in Endangered Species of Wild Fauna and Flora and ePhyto for phytosanitary controls.

³⁸ The WCO Data Model (DM) is the data foundation for global trade interoperability. The WCO DM is a universal language for cross-border data exchange enabling the implementation of Single Window systems and fuelling Data Analytics. It is a compilation of clearly structured, harmonised, standardised and reusable sets of data definitions and electronic messages designed to meet the operational and legal requirements of customs and other cross-border regulatory agencies (CBRAs) responsible for border management. See: <https://www.wcoomd.org/datamodel>

are attempting to improve transboundary supply chain traceability and transparency and how that data can be shared with customs administrations (see Box 7).

Box 7

Examples of value chain traceability and transparency developments

DATAPIPE

This project, run by TU Delft and TNO, aims to develop the extended data pipeline concept for the digitization and monitoring of the circular economy, which next to goods and logistics data will enable sharing of data on material composition and production processes.*

Textiles and Garments Traceability and Transparency Protocol

The UNECE Textiles and Garments Traceability and Transparency Protocol is a framework to enhance cross-border traceability and transparency in the textile and garment industry. The protocol aims to address issues such as supply chain complexity, sustainability and social responsibility by establishing common standards and guidelines. It encourages the adoption of technologies and practices that enable tracking and tracing of products throughout the entire supply chain, from raw materials to finished garments. The protocol emphasises the importance of accurate and reliable information sharing, including details about the origin of materials, production processes and relevant certifications.**

TradeLens

TradeLens used blockchain to help customs administrations facilitate trade and increase compliance. Although no longer operating, TradeLens was a global, blockchain powered platform developed by IBM and Maersk that followed the flow of cargo from source to destination, and connected the various parties involved in a shipment. As an open system it enabled all organisations involved in an international shipment to exchange shipment events and documents simply and securely in real time. Platforms like TradeLens allow customs and other government agencies to piggyback their supervision processes on top of existing commercial information exchanges. As soon as a container is filled in the exporting country, the importing country's customs agency could pull the purchase order and packing list from TradeLens and use them to perform a risk assessment on the shipment. It is unclear why IBM and Maersk decided to end the initiative, but what is evident is that such a system, if scaled to the global level, should be established and governed by an independent multilateral institution which can ensure over the long term that sensitive data is managed securely via a trusted neutral actor.

* <https://www.tudelft.nl/tbm/onderzoek/projecten/datapipe-project>

** <https://unece.org/trade/traceability-sustainable-garment-and-footwear>

in digital product passports (as outlined in the ESPR) with Single Windows. Such a development could be transformative in terms of providing verified information on different circularity aspects of a good, for example whether a remanufactured good conforms to a widely recognised standard, compliance of functionality tests for used goods, the presence of hazardous chemicals, or the durability or repairability of the item.

The European Union Customs Data Model (EUCDM) is an example of such an electronic platform which could incorporate such data demands. It allows information exchange between businesses and government authorities inside and outside the EU and is the backbone of the EU Single Window. The value of the EUCDM is that it can be further enriched with data elements specific to EU customs requirements, such as circularity data related to the EU Sustainable Product Regulation (SPR) which will be contained within a Digital Product Passport, for example the durability, reparability or recyclability of a good.

5.3 SPECIAL ECONOMIC ZONES

SEZs are geographically delimited areas within which governments promote industrial activities through fiscal and regulatory incentives and infrastructure support. They go by many different names, including free-trade zones and industrial parks, and are widely used by developed and developing economies.³⁹

Creating a Special Economic Zone (SEZ) which facilitates circular activities, such as recycling or remanufacturing, could offer a practical solution to various challenges. By establishing a bounded area, a country could prevent circular trade flows from competing with local industry or overcome its limited capacity to regulate and inspect such shipments by keeping them in a geographically constrained zone. In this setup, circular trade flows, such as used electrical equipment destined for refurbishment or remanufacturing, as classified by the HS, could be confined within the geographical limits of the bounded area (see Box 6). Consequently, recovery, recycling and remanufacturing processes would be restricted to the bounded area, thereby simplifying regulation and inspection.

Despite the existence of over 3,500 free-trade zones worldwide, only a handful actively facilitate circular trade. The SWITCH to Circular Economy Value Chains initiative, funded by the EU and Finnish Government in partnership with the Egyptian Government and Orange and Nokia, is trialling the import of used mobile phones from the EU into a special economic zone in Egypt. Once the phones have entered the zone they will be refurbished in line with relevant standards before being exported to secondary markets and eventually being sold into the domestic Egyptian market. The

Linking Single Windows with other complementary electronic systems could improve the efficiency of border procedures and streamline regulatory controls for circular trade. One example would be enabling digital data exchange held

³⁹ <https://unctad.org/news/new-global-alliance-special-economic-zones-boost-development>

project is also partnering with Egypt's leading waste management organisation to help ensure that the refurbished handsets sold into the market are collected at end of life and recycled responsibly.

It should be noted, however, that special customs zones can become an attractive channel for illicit trade in zones that exhibit poor inspection and auditing processes. The use of special zones must therefore be considered carefully.

LOOKING AHEAD: FOSTERING A CULTURE OF EXPERIMENTATION

To make the most of the potential of trade facilitation mechanisms outlined above, it is recommended that multi-stakeholder pilots be initiated among willing countries. These pilots would enable the testing of technological and procedural solutions that would improve circular trade, and help identify the technical difficulties that arise in integrating secure and real-time data transfer between various stakeholders in the trade process (including producers, retailers, logistics companies, recovery facilities and regulatory bodies such as border agencies, customs administrations, port authorities and environmental agencies). A particular focus of these experiments should be to try to understand the institutional and political challenges and practicalities faced by low-income countries when it comes to implementing such mechanisms and participating in circular trade.

To overcome the issues outlined in a coordinated way, it is also recommended that a working group, including relevant stakeholders, is established to identify practical solutions to better capture and communicate circular-relevant information on goods at international borders in a way that is globally interoperable and compatible with the HS system or other customs measures. The working group could consider questions such as:

1. How could value chain digital traceability systems (such as digital product passports) be technically integrated into customs systems?
2. If customs administrations (particularly those in low-income countries) are severely resource constrained, how could adoption of such traceability systems be supported?
3. Who are the key stakeholders in piloting such solutions?
4. How do other trade facilitation mechanisms integrate with such a solution (such as AOE, pre-consented facilities, SEZs).
5. Are there any best practice examples to draw from?



SUMMARY

This paper highlights the necessity of transitioning towards a circular economy (CE) as a crucial step in achieving both environmental sustainability and human development goals. It identifies trade as a key factor in facilitating this transition, by providing access to essential goods and services required for adopting circular activities, and by enabling the movement of end-of-life goods, secondary raw materials and waste to areas with the expertise and scale necessary to achieve lifetime extension of material recovery.

To facilitate circular trade flows, targeted trade facilitation measures are required to overcome current barriers. The Harmonized System (HS) classification system will be a critical tool in this regard, enabling governments to monitor, regulate and facilitate circular trade flows more effectively. However, to maximise its potential, this paper suggests four potential areas for improvement, including the creation of new or revised classifications for circular-enabling goods; strengthening the institutional capacity of the World Customs Organization (WCO) and customs administrations so they can do the additional work; improving coordination with multilateral environmental agreements; and extending to an 8-digit international system.

Looking beyond the HS, the report also recommends multi-stakeholder experimentation with complementary trade facilitation measures to streamline circular trade flows and reduce the burden on customs administrations. Examples include trusted circular trader and resource recovery lane initiatives, integrating circular product data with electronic data systems, and the use of Special Economic Zones for certain trade flows. Such experiments could involve various stakeholders in the trade process, including producers, retailers, logistics companies, recovery facilities, and regulatory bodies such as border agencies, customs, port authorities, and environmental agencies.

Finally, a much wider debate is required to achieve consensus on what type of trade the global community (particularly those from the Global South) wants to facilitate to accelerate an inclusive circular economy and what types of trade should not be facilitated. Without consensus on this, the benefits from all other recommendations in this paper will be constrained.

APPENDIX – RECOMMENDATIONS

As an outcome of a three-day expert workshop on “HS and Circular Economy” hosted by the Friedrich-Ebert-Stiftung’s Geneva office and UNECE (19–21 October) and the additional research undertaken for this report, the authors identified

a number of areas for further action to help advance the topic of circular trade facilitation. Under each area we present recommended actions and recommendations of potential leads, as identified by the authors.

Table 3

Areas for further action to help advance the topic of circular trade facilitation

Area	Recommended action
Explore the possible value of creating new classifications to facilitate circular trade flows	Brokering greater knowledge exchange between CE policy and trade communities on reclassification processes and their importance for CE goals (WCO, Chatham House) Develop a »Circular Trade Academy« for CE and trade policymakers (WCO, Chatham House, UNECE, WEF) Host a discussion on the need and process for identifying potential additional codes required to facilitate circular trade flows (WCO, TESSD Informal Working Group on circular economy) Identify initial shortlist of goods that are critical for conducting circular activities either as new classifications or as ex-outs (TESSD Informal Working Group on circular economy)
Strengthen WCO and customs administrations’ institutional capacity to implement effective systems	Provide additional institutional support to the WCO so it can meet growing demands to adapt HS towards supporting environmental goals and the circular economy Increase dedicated support to customs administrations – particularly in low-income countries (WTO AfT and WCO Green Customs initiative) Expand enforcement projects and operations such as DEMETER to support a globally coordinated approach to the policing of illegal waste trade (WCO – Green Customs Initiative)
Strengthen coordination between HS and MEAs	Implement a cooperation programme between environmental authorities and customs administrations, with a particular focus on e-PIC (Basel Secretariat, WCO) Consider delaying update of HS 2027 to 2028 to provide sufficient time for consideration of new classifications required to support the Global Plastics Treaty (WCO)
Move to an 8-digit international system	Identify list of circular goods and trade flows classed under 8- and 10- <i>digit</i> codes across different jurisdictions and shortlist the most promising for harmonisation/mutual recognition (WCO, TESSD Informal Working Group on circular economy)
Experiment with additional circular trade facilitation approaches	Explore how to leverage synergistic benefits offered by trusted trader and resource recovery lanes and potential to expand the scope of pre-consented recovery beyond hazardous waste recovery (that is, disposal or recycling) to circular activities (OECD, WCO) Establish and host a circular trade best practice library promoting innovative initiatives and case studies where circular trade is facilitated (WCO, WEF, UNECE, Chatham House) Examine, experiment and raise awareness on how to combine Single Windows with other complementary electronic systems to improve the efficiency of border procedures and streamline regulatory controls for circular trade. Integration of DPP data could be a primary focus (WCO, Basel Secretariat, EU Single Window Environment for Customs Secretariat) Investigate how SEZs can be further utilised to facilitate circular trade (WCO, Global Alliance of Special Economic Zones and UNCTAD) Establish a multi-stakeholder working group to identify practical solutions to better capture and communicate circular-relevant information on goods at international borders in a way that is globally interoperable and compatible with the HS system or other customs measures but can extend classification beyond physical attributes (World Customs Organization, UN/CEFACT)

GLOSSARY

Authorised Economic Operator (AEO): A party involved in the international movement of goods in whatever function that has been approved by or on behalf of a national customs administration as complying with WCO or equivalent supply chain security standards. AEOs may include manufacturers, importers, exporters, brokers, carriers, consolidators, intermediaries, ports, airports, terminal operators, integrated operators, warehouses, distributors, and freight forwarders.

Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal: An international treaty designed to regulate the movement and disposal of hazardous and other waste across national borders, with the aim of minimising its generation and ensuring environmentally sound management.

Circular trade: Any international trade transaction that contributes to realising an inclusive circular economy at the local, national and global levels. Circular trade is therefore an umbrella term that encompasses many different types of trade flows: circular economy-enabling goods, services and IP, used goods for reuse, repair or remanufacturing or goods that have been remanufactured, and secondary raw materials and waste destined for recovery.

Contracting Parties to the HS: Contracting Parties refers to the countries or entities that have officially become signatories to the Harmonized System of Codes (HS).

Direct reuse: Using again, for the same purpose for which they were conceived without the necessity of repair, refurbishment, upgrading, or remanufacturing.

Global Plastics Treaty: An international agreement under current negotiation that aims to address the challenges posed by plastic pollution on a global scale.

Harmonized System of Codes: An internationally standardised system for classifying goods traded across borders, using a unique code for each product to facilitate customs clearance and trade statistics.

OECD Pre-consented facility: An OECD pre-consented facility refers to a facility or location that has obtained prior approval or consent from the Organization for Economic Cooperation and Development (OECD) to carry out specific activities or operations. These activities or operations are typically related to trade, environmental compliance or regulatory standards.

Resource recovery lane: A designated pathway or channel within a supply chain or logistics network specifically designed for the efficient collection, recycling or reuse of waste materials and resources.

Reuse: Using again for the same purpose for which it was conceived, possibly after refurbishment, repair, upgrading or remanufacturing.

Single Window: A facility that allows parties involved in trade and transport to lodge standardised information and documents with a single-entry point to fulfil all import, export and transit-related regulatory requirements. If information is electronic, then individual data elements should only be submitted once.

Special Economic Zone: A designated geographical area within a country established to attract foreign direct investment (FDI), boost economic growth and promote industrialisation. The establishment of SEZs provides a controlled and regulated environment that aims to attract both domestic and foreign investors by offering a range of benefits and a more favourable business climate.

Trade facilitation: The simplification and harmonisation of international trade procedures, including activities, practices and formalities involved in collecting, presenting, communicating and processing data required for the movement of goods in international trade.

Trusted trader: An individual or business entity that has been recognised and granted trusted status by customs administrations, indicating a low risk level in terms of compliance with customs regulations and security requirements.

ABBREVIATIONS

AEO	Authorised Economic Operator
CE	Circular Economy
CEFACT	United Nations Centre for Trade Facilitation and Electronic Business
COP15	15 th Conference of the Parties
CP	Contracting Parties to the Harmonized System of Codes
DPP	Digital Product Passport
EPR	Extended Producer Responsibility
ESPR	Ecodesign for Sustainable Products regulation
EU	European Union
EUCDM	European Union Circular Economy and Waste Management
FAST	Framework for Assessing and Streamlining Technology
FDI	Foreign Direct Investment
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (German Corporation for International Cooperation)
GTIN	Global Trade Item Number
HR	Human Resources
HS	Harmonized System of Codes
IP	Intellectual Property
IRENA	International Renewable Energy Agency
ISO	International Organization for Standardization
MEA	Multilateral Environmental Agreement
NGO	Non-Governmental Organisation
NSRR	National Single Window for Registration and Regulation
OECD	Organisation for Economic Co-operation and Development
PIC	Prior Informed Consent
REN	Renewable Energy Network
SEZ	Special Economic Zone
STEP	Sustainable Technology Education Project
SW	Single Window
TESSD	Trade and Environmental Sustainability Structured Discussions
UEEE	Used Electrical and Electronic Equipment
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNECE	United Nations Economic Commission for Europe
UNEP	United Nations Environment Programme
UNODC	United Nations Office on Drugs and Crime
USA	United States of America
WCO	World Customs Organization
WEEE	Waste Electrical and Electronic Equipment
WEF	World Economic Forum
WTO	World Trade Organization

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GOING CIRCULAR

How the Harmonized System Codes Can/Not Support a Circular Economy and What Else Could Be Done



Trade is a key factor in facilitating the transition towards a circular economy. It provides access to essential goods and services required for adopting circular activities. Trade enables the movement of end-of-life goods, secondary raw materials and waste to areas with the expertise and scale necessary to achieve lifetime extension of material recovery. To facilitate circular trade flows, targeted trade facilitation measures are required to overcome current barriers. The Harmonized System (HS) classification system will be a critical tool in this regard, enabling governments to monitor, regulate and facilitate circular trade flows more effectively.



This paper suggests four potential areas for improvement, including the creation of new or revised classifications for circular-enabling goods; strengthening the institutional capacity of the World Customs Organization (WCO) and customs administrations so they can do the additional work; improving coordination with multi-lateral environmental agreements; and extending to an 8-digit international system.

Looking beyond the HS, the report recommends multi-stakeholder experimentation with complementary trade facilitation measures to streamline circular trade flows and reduce the burden on customs administrations. Examples include trusted circular trader and resource recovery lane initiatives, integrating circular product data with electronic data systems, and the use of Special Economic Zones for certain trade flows. Such experiments could involve various stakeholders in the trade process, including producers, retailers, logistics companies, recovery facilities, and regulatory bodies such as border agencies, customs, port authorities, and environmental agencies.



Finally, a much wider debate is required to achieve consensus on what type of trade the global community (particularly those from the Global South) wants to facilitate to accelerate an inclusive circular economy and what types of trade should not be facilitated. Without consensus on this, the benefits from all other recommendations in this paper will be constrained.

Further information on the topic can be found here:
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