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Monitoring trade in plastic waste and scrap

Environment Working Paper No. 194

By Andrew Brown (1), Frithjof Laubinger (1), Peter Börkey (1)

(1) OECD Environment Directorate

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Authorised for publication by Rodolfo Lacy, Director, Environment Directorate.

Keywords: plastics, trade, circular economy, waste management

JEL Classification: F18, L65, Q53, Q56

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Contacts:

Andrew Brown (Andrew.BROWN@oecd.org)

Frithjof Laubinger (Frithjof.Laubinger@oecd.org)

Peter Börkey (Peter.Börkey@oecd.org)

JT03515777

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Abstract

Trade in plastic waste and scrap plays a potentially important role in helping to strengthen markets for recycled plastics as it can help to achieve economic efficiency through for instance economies of scale. But such trade has also been criticised for leading to plastic pollution when recipient countries lack capacity to treat such waste in an environmentally sound manner. This report aims to identify and assess trends in trade patterns of plastic waste and scrap in the context of recent policy developments, particularly the strengthening of controls applied in the context of the Basel Convention, which came into force at the beginning of 2021. One of the findings is that OECD Member Countries continue to make up a significant share of global trade in plastic scrap and waste (89% of global reported exports and 67% of global reported imports by weight), but that the trade surplus has continued to shrink, as well as the overall volume of trade. The report is part of an ongoing OECD monitoring exercise that aims to inform analysis of the relationship between transboundary shipments of plastic waste and scrap and plastic recycling in OECD countries. Future monitoring reports may build upon this analysis and provide updated insights and a better understanding of recent trends and the long-term consequences of tighter trade controls.

Keywords: plastics, trade, circular economy, waste management

JEL Classification : F18, L65, Q53, Q56

Résumé

Le commerce des déchets et débris plastiques joue un rôle potentiellement important dans le renforcement des marchés des plastiques recyclés, car il peut contribuer à l'efficacité économique, par exemple à travers des économies d'échelle. Mais ce commerce a également été critiqué pour la pollution plastique qu'il entraîne lorsque les pays destinataires n'ont pas la capacité de traiter ces déchets d'une manière écologiquement rationnelle. Ce rapport vise à identifier et à évaluer les tendances des échanges de déchets et débris plastiques dans le contexte des évolutions politiques récentes, notamment le renforcement des contrôles appliqués dans le cadre de la Convention de Bâle, qui est entrée en vigueur au début de 2021. L'une des conclusions est que les pays membres de l'OCDE continuent de représenter une part importante du commerce mondial des déchets et débris plastiques (89 % des exportations et 67 % des importations mondiales déclarées en poids), mais que l'excédent commercial a continué de se réduire, de même que le volume global des échanges. Il s'inscrit dans le cadre d'un exercice de surveillance continu de l'OCDE qui vise à éclairer l'analyse de la relation entre les transferts transfrontaliers de déchets et débris plastiques et le recyclage des plastiques dans les pays de l'OCDE. Les futurs rapports de suivi pourront s'appuyer sur cette analyse et fournir des informations actualisées ainsi qu'une meilleure compréhension des tendances récentes et des conséquences à long terme du renforcement des contrôles commerciaux.

Mots clés : Plastiques, commerce, économie circulaire, gestion des déchets

Classification JEL : F18, L65, Q53, Q56

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Executive Summary

Trade of plastic waste and scrap can facilitate the movement of materials to countries with a comparative advantage in recycling plastic and thereby help to strengthen markets for recycled plastics. However, over the past decades some export destinations experienced an influx of plastic waste and scrap that was in parts hazardous or heavily contaminated, raising concerns about the capacity of these countries to manage this waste in an environmentally sound manner. This report aims to identify and assess trends in trade patterns in the context of recent policy developments. It is part of an ongoing OECD monitoring exercise that aims to inform analysis of the relationship between transboundary shipments of plastic waste and scrap and plastic recycling in OECD countries.

As of 1 January 2021, amendments to the annexes of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal and the appendices of the OECD Decision of the Council on the Control of Transboundary Movements of Wastes Destined for Recovery Operations ([OECD/LEGAL/0266](#)) impose new controls on transboundary shipments of plastic waste and scrap on a global level. As well, the COVID-19 pandemic and related supply chain disruptions have impacted trade in plastic waste and scrap.

An analysis of the most recent trade data¹ shows the following:

- Global annual trade in plastic waste and scrap continued its declining trend in 2020, with an apparent acceleration during the first months of 2021, before trade recovered lost ground towards the middle of the year. Hence, while no clear trend for 2021 seems to emerge, yet, several factors provide important context: tightened controls for trade in plastic waste and scrap under the Basel Convention became effective on 1 January 2021; disruptions of global supply chains and shipping logistics due to the COVID-19 pandemic may also have affected trade patterns of plastic waste and scrap.
- OECD Member Countries make up a significant share of the global trade in plastic scrap and waste. Whilst exports by OECD Member Countries continue to decrease and imports slightly increased, in 2020, OECD Member Countries still made up about 89% of global reported exports and 67% of global reported imports by weight.
- Plastic waste and scrap is increasingly traded regionally. The share of inter-continental trade in plastic waste and scrap has further diminished in 2020. The increase of shipping costs in the second half of 2020 and in 2021, linked to a sudden increase of demand for inter-continental shipping capacity, as well as fewer export destinations due to tightened trade in plastic waste controls, may be one explanation for this trend. As well, disruptions in global supply chains and international shipping linked to the global COVID-19 pandemic may have favoured regional trade.
- The trade value indicator (i.e. the value relative to the weight of plastic waste and scrap exported), which used to be lower for exports from OECD member countries to non-OECD countries than for intra OECD trade, has gradually converged to similar levels between 2018 and 2020. Both values increased recently, which is likely due to an overall increase in commodity prices during the first half of 2021.
- Other plastic polymers not elsewhere classified (n.e.c.) (HS 391590) make up the largest share of exported plastic waste and scrap. This category includes polymers that are marketable as feedstock for recycling, including polyethylene terephthalate (PET) and polypropylene (PP), but which have not yet been assigned a specific HS categorisation. The largest single polymer type of plastic waste and scrap exported by OECD Member Countries are Ethylene polymers (HS 391510), comprising polymers such as PE, HDPE, and LDPE.

¹ This monitoring report is based on data that was downloaded from UN Comtrade on 12 October 2021.

Monitoring trade in plastic waste and scrap

1. Background

Trade of plastic waste and scrap can facilitate the movement of materials to countries with a comparative advantage in recycling plastic. The economies of scale that trade enables are likely to be an essential tool for strengthening secondary plastic markets and increasing plastics circularity. However, over the past decades some export destinations experienced an influx of plastic waste and scrap that was in parts hazardous or heavily contaminated, raising concerns about the capacity of these countries to manage this waste in an environmentally sound manner (OECD, 2022 forthcoming^[1]).

In response to growing pressures, key importers imposed trade restrictions over the course of the past decade. As of 1 January 2021, amendments to the annexes of the *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal* (the Basel Convention) and the appendices of the *OECD Decision of the Council on the Control of Transboundary Movements of Wastes Destined for Recovery Operations* (OECD/LEGAL/0266) (the OECD Decision) impose new controls on transboundary shipments of plastic waste and scrap on a global level (Box 1.1).

This monitoring report² aims to identify and assess trends in trade patterns in the context of recent policy developments. It also provides information on other ongoing initiatives and relevant analyses. The report is part of an ongoing OECD monitoring exercise that aims to inform analysis of the relationship between transboundary shipments of plastic waste and scrap and plastic recycling in OECD countries. Future monitoring reports may build upon this analysis and provide updated insights and a better understanding of long-term trends.

Box 1.1. Recent policy developments

A number of policy developments have occurred in 2021:

- Amendments to Annexes II, VIII and IX to the Basel Convention restricting the transboundary movement of certain plastic waste became effective on 1 January 2021.
- Modifications to the Appendices 3 and 4 of the OECD Decision came into effect on 1 January 2021. These restrict the transboundary movements of hazardous plastic waste (i.e. those covered by the new OECD entry AC300, which corresponds to new Basel entry A3210).
- For non-hazardous plastic wastes, namely those covered by new Basel entries B3011 and Y48, OECD Member Countries retain their right to control the plastic waste in question in conformity with its domestic legislation and international law.
- Different controls have been adopted by OECD Member Countries for transboundary movements of non-hazardous plastic waste.³ Regional agreements exist between United States and Canada and within the EU single-market, leaving this intraregional trade relatively unencumbered.

Other OECD Member Countries applied stricter controls. For instance, in July 2021, Turkey announced an effective ban on the import of composite packaging (European Waste code: 15 01 05), plastic and rubber (19 12 04) and mixed packaging (15 01 06).

² This monitoring report is based on data that was downloaded from UN Comtrade on 12 October 2021.

³ An up-to-date table of national controls is available here: <https://www.oecd.org/environment/waste/Reporting-of-controls-non-hazardous-waste.pdf>

2. Methodology

UN Comtrade is a database with the import and export statistics reported by UN Member States' statistical authorities (UN Comtrade, 2016^[2]). The database has information reported (annually and monthly) on the trade in waste parings and scrap of plastic. The following Harmonised Code (HS)⁴ and its four subcategories are considered for this analysis:

- HS 3915: Waste, parings and scrap, of plastics
 - HS 391510: Ethylene polymers waste, parings and scrap;
 - HS 391520: Styrene polymers waste, parings and scrap;
 - HS 391530: Vinyl chloride polymers waste, parings and scrap; and
 - HS 391590: plastics not elsewhere classified (n.e.c.), a catch-all for other material.⁵

Each reported entry includes data fields on HS code, trade flow (import/export/re-import/re-export), trading partner, weight (kg), and value (USD).

The authors extracted UN Comtrade data on 12 October 2021 and conducted the following analyses:

- Data visuals of weight data:
 - Time-series:
 - export destinations (globally and by OECD member states, yearly and monthly data),
 - Imports and exports of OECD member states, and
 - Subcategories (6 digit HS codes);
 - Sankey diagram of major exporters and importer flows (for 2020)

Qualitative monitoring complements the analysis of trade patterns with updates on the trade policy context and a description of relevant literature by other organisations.

Key limitations of this approach lie in the limits of the available data. These include:

- UN Comtrade does not provide information on the ultimate destination or process used for the management of the waste (i.e. recycle, landfill, or incineration) (Brooks, Wang and Jambeck, 2018^[3]). The exercise will thus only show trade flows that cannot be directly linked to the ultimate fate of the traded product or potential environmental impacts. It also does not allow to distinguish transit countries from final importers.
- UN Comtrade HS codes are not aligned with waste codes of Annexes of the Basel Convention or Appendices of the OECD Decision and does not allow to draw conclusions about trade flows of individual waste code categories.
- Reported data can include mistakes, omissions, and/or infrequent reporting. For example:
 - Global imports and exports statistics do not necessarily balance one another; and
 - The sum of monthly data may not equal the figure reported in annual submissions;
 - The sum of the four different six-digit HS codes may not equal the figure reported for the overall four-digit HS code.

⁴ The Harmonised System (HS) was developed and is updated by the World Customs Organization.

⁵ The HS assigns specific six-digit codes for varying classifications and commodities. Countries are allowed to add longer codes to the first six digits for further classification. For instance, the United States uses a 10-digit code to classify products for export, known as a Schedule B number. HS 391590 contains the 10-digit code 3915.90.0010 for polyethylene terephthalate (PET) plastics (US Trade, 2020^[17]).

To mitigate possible data issues, the authors have taken the follow actions:

- Use export weight data for global figures⁶;
- Exclude abnormal data entries that temporarily betray trading patterns. For example, weight data that is several orders of magnitude larger than the reporters' median entry⁷;
- Place preference on HS code four-digit annual data submissions; and
- Include an uncertainty caveat for the latest months considered, where monthly data reporting may still be incomplete.

3. Results and discussion

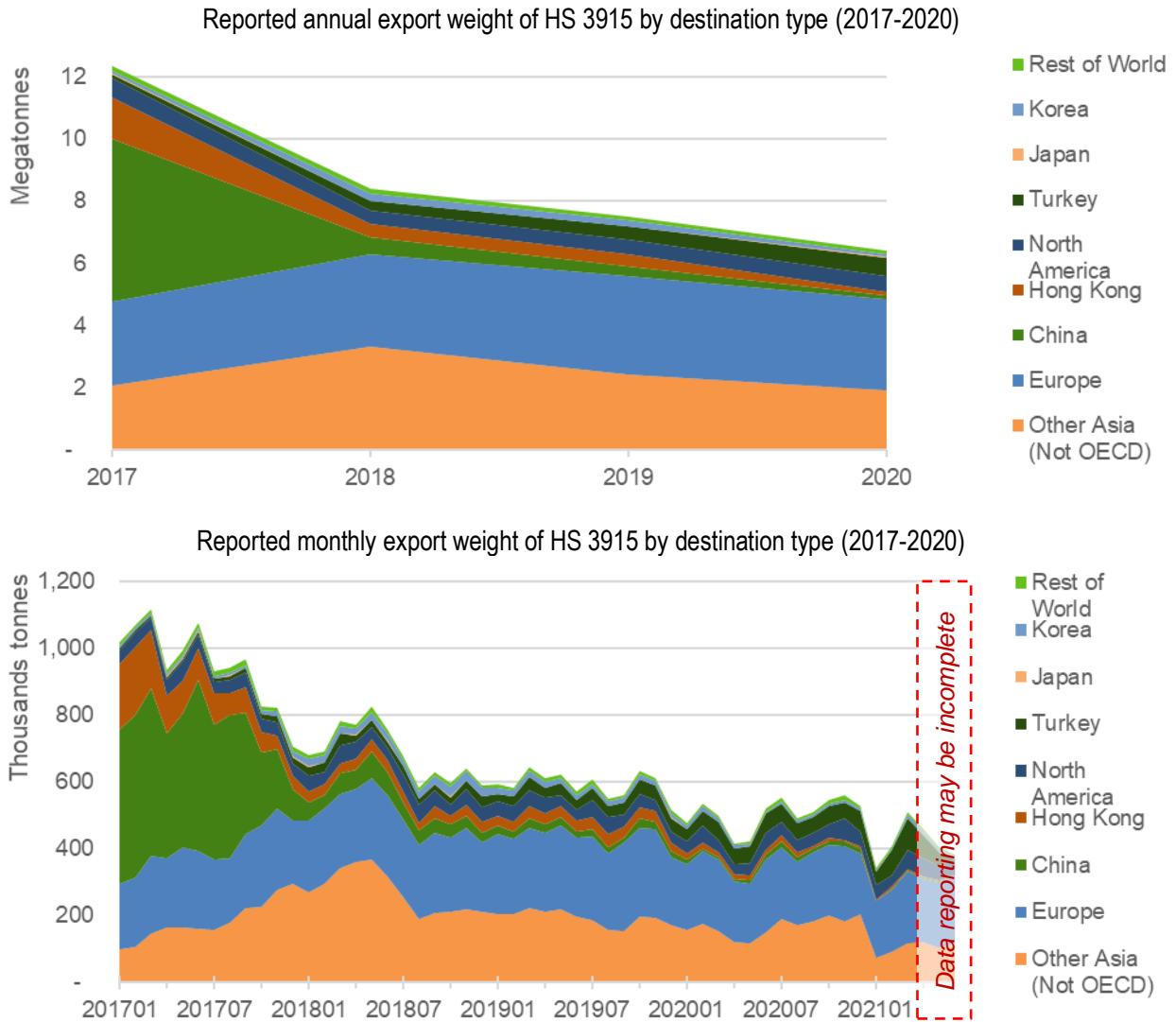
Global developments

The (annual) reported export weight of plastic scrap and waste fell by roughly 46% over the past three years, from around 12.3 million metric tonnes (megatonnes, Mt) per annum in 2017 to 6.4 Mt per annum in 2020. Most notable is the decrease in exports destined to People's Republic of China (China) and Hong Kong, China from 6.6 Mt in 2017 (roughly 54% of total exported weight) to less than 0.25 Mt in 2020 (roughly 4% of total export weight). This corresponds to a decline of approximately 96% in global export weight destined for China and Hong Kong (Figure 3.1).

⁶ Export data is commonly considered more complete than import data.

⁷ Methodology for omitting outliers is adapted from (Berthou and Emlinger, 2011_[16]).

Figure 3.1. Global plastic waste and scrap export destination



Note: For 2017-2018, the sum of monthly reported data for HS 391510, HS 391520, HS 391530 and HS 391590 are used for US reported annual exports (top). This is to address a possible gap in annual data, as described by Law et al (2020^[4]).
 Source: Authors, based on UN Comtrade data (UN Comtrade, n.d.^[5]).

Monthly data shows a dip in exports during the first months of 2021. This coincided with drastic changes in the trade regime for plastic waste and scrap, which became effective on 1 January 2021. After a dip in January and February, global trade regained almost its initial volume in March. Since March, global trade has declined, however, this may be partly due to incomplete monthly data reporting on UN Comtrade for the most recent months. It is likely that this dip can be partly explained by changes to the Basel Convention and the OECD Decision, but external economic factors confound this impact (Box 3.1).

Box 3.1. Multiple factors likely impacted trade patterns in early 2021

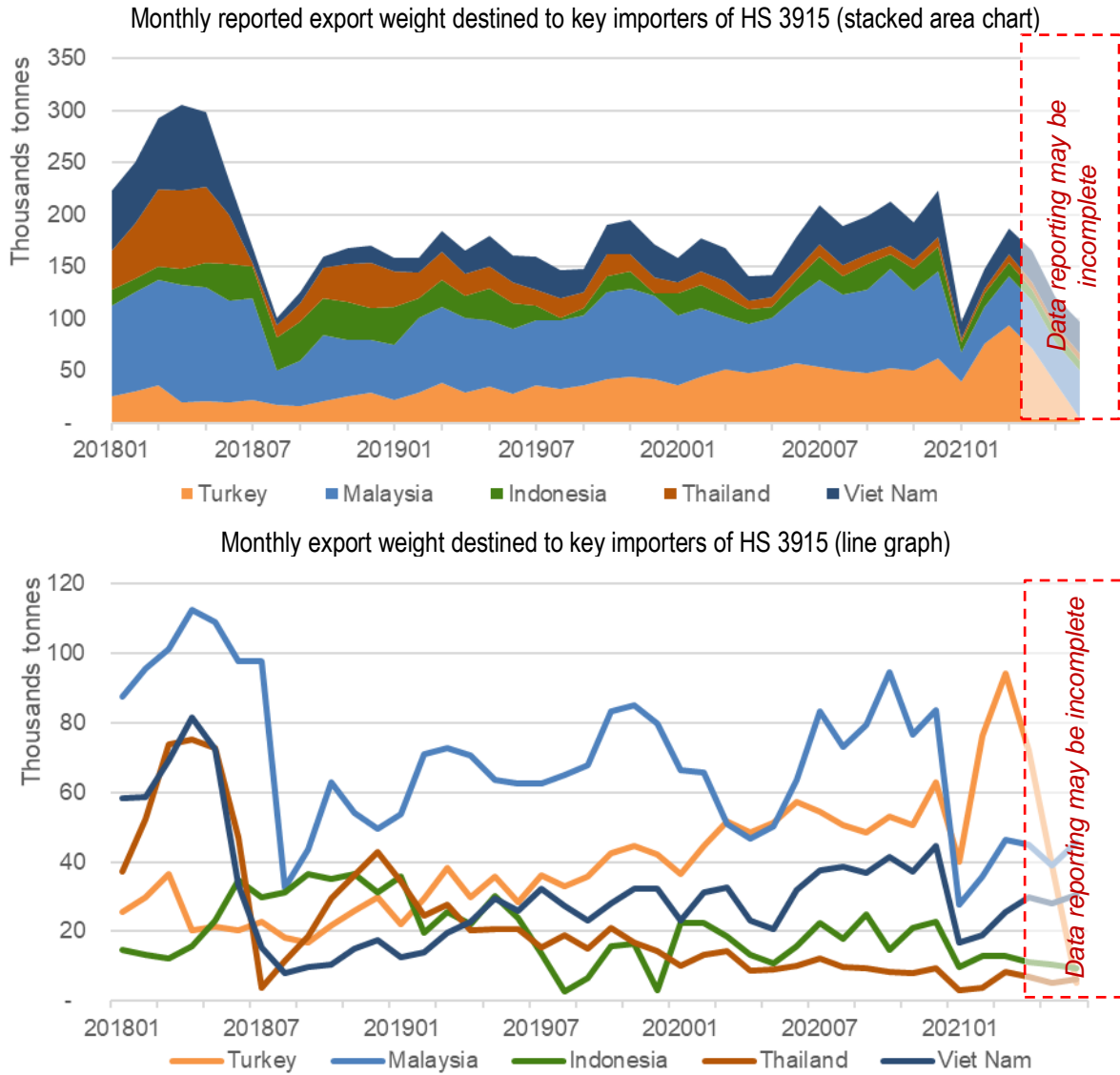
Several confounding factors associated with the COVID-19 pandemic may have affected trade patterns of plastic waste and scrap and other commodities in late 2020 and over the course of 2021. These include supply chain disruptions related to global shipping container shortages, challenges with land based transportation, port shutdowns and labour shortages. As well, plastic consumption patterns have changed, which led to a change of waste generation and the composition of waste in some countries. This may also have influenced trade volumes.

Some of these factors may contribute to the dip in shipments of plastic waste and scrap in the early months of 2021 and the rebound in shipments in the later months of 2021. As a consequence of multiple factors potentially impacting trade flows and volumes in the early months of 2021, besides changes to multilateral trade agreements, it is impossible to provide a clear interpretation of the observed trends.

Trade flows have shifted since 2017. Some of the displaced trade for China has found other outlets, mostly in South-East Asia (Malaysia, Indonesia, Thailand and Viet Nam) and Turkey, though the trade flows have fluctuated with the introduction of additional trade requirements in these emerging key importers (Figure 3.2):

- In the first months of 2018, South East Asian countries, in particular Viet Nam and Malaysia received increased weight of plastic waste and scrap. However, imports declined in 2018 after both countries implemented import restrictions in June and July 2018 respectively. The volume of imports to both countries, has increased again since mid-2018. In particular, exports to Malaysia almost fully recovered to early 2018 levels in 2020. In the first months of 2021, however, trade to Malaysia and Viet Nam decreased.
- Overall exports to key importers fell in the early months of 2021, along with a decline in overall global trade in waste and scrap for these months, likely due to Basel trade restrictions becoming effective in January 2021. Exports grew again in February and March 2021.
- Whilst export volumes to South East Asian countries declined significantly in the early months of 2021, compared to 2020, exports to Turkey increased sharply until March 2021.
- Trade destined for Turkey grew steadily from 2018, and increased again between February and March 2021. Since March 2021 it declined drastically. The cause of the recent decline remains unclear. In spring 2021, Turkey introduced an import ban that was subsequently replaced by an enhanced licensing system on Polyethylene (PE), however some of the decline in the most recent months in 2021 could also be attributed to incomplete data in the UN Comtrade database.

Figure 3.2. Global exports to emerging key importers



Source: Authors, based on UN Comtrade data (UN Comtrade, n.d.[5]).

Box 3.2. Timeline of global trade policy for transboundary movements of plastic waste and scrap

Over the past decade, a number of trade policies have increasingly restricted trade in plastic scrap and waste. This has been mostly due to mounting environmental concerns related to the lack of environmentally sound management of imported plastic waste and scrap.

China, previously the largest destination for plastic waste and scrap exports, began extensively restricting imports of plastic waste and scrap in 2010 and tightened measures further in its 2013 “Green Fence” policy (Velis, 2014^[6]). The 2017 “National Sword” policy restricts imports above a difficult to obtain contamination level (Wang et al., 2020^[7]; Brooks, Wang and Jambeck, 2018^[8]). The 2017 policy has essentially banned most plastic waste and scrap exports to China and led to indirect or ripple effects as emerging importers responded to subsequent increases in imports with their own trade restrictions. Notably, South East Asian states enacted import bans, including Thailand and Viet Nam (both June 2018) and Malaysia (July 2018) (Wang et al., 2020^[7]).

At the 14th meeting of the Conference of the Parties (COP) to the Basel Convention, the COP adopted amendments to Annexes II, VIII and IX to the Basel Convention relating to plastic waste and scrap. The amendments restrict the transboundary movement of certain plastic waste and scrap and entered into effect on 1 January 2021 (Secretariat of the Basel Convention, 2019^[9]).

The OECD Decision of the Council on the Control of Transboundary Movements of Wastes Destined for Recovery Operations [OECD-LEGAL-0266], which is closely interlinked with the Basel Convention, was also amended (OECD, 2020^[10]). As of 1 January 2021, the following rules apply:

- Hazardous plastic waste and scrap, namely those covered by new Basel entry A3210, will be subject to the Amber control procedure under the OECD Decision and listed as new OECD entry AC300⁸ under Appendix 4, Part II. This means that movement of such waste and scrap will be controlled pursuant to the tacit consent procedure with a consideration period of 30 days, or seven days where pre-consented facilities are concerned.
- For other plastic waste and scrap, namely those covered by new Basel entries B3011 and Y48, each OECD Member country retains its right to control the plastic waste and scrap in question in conformity with its domestic legislation and international law. Controls taken by OECD Member Countries with regards to transboundary movements of non-hazardous plastic waste and scrap are made available on the OECD website⁹ and updated regularly.

Notably, Turkey banned the import of HS 391510 ethylene polymers waste and scrap in July 2021, but subsequently replaced the ban with an enhanced licensing system (Staub, 2021^[11]).

Developments in OECD Member Countries

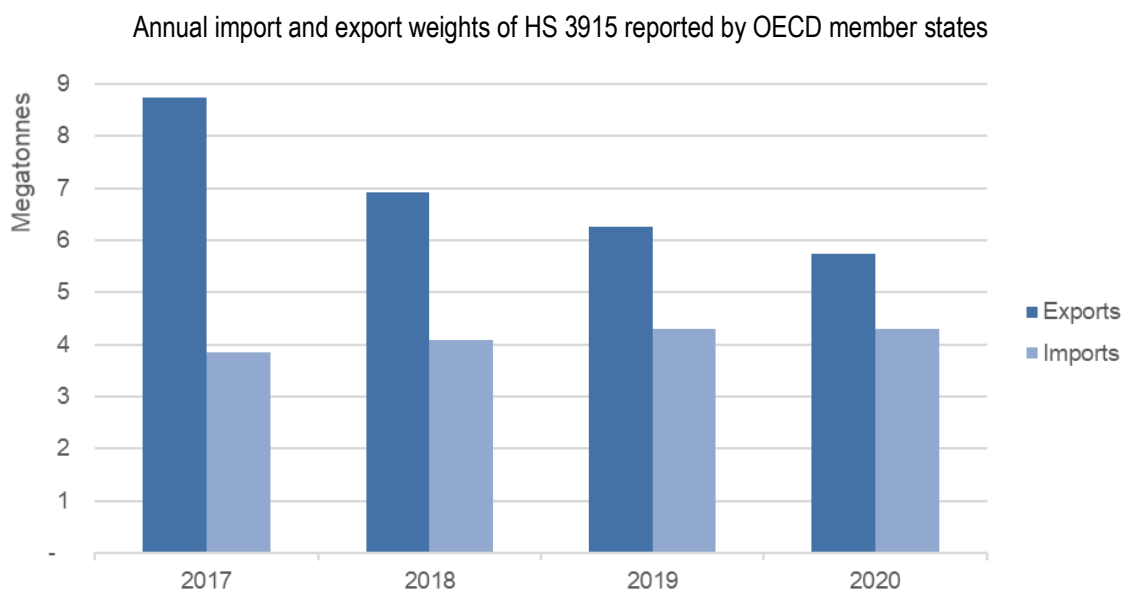
OECD Member Countries make up a significant share of the global trade in plastic scrap and waste. Whilst exports by OECD Member Countries continue to decrease and imports slightly increased, in 2020, OECD Member Countries still made up about 89% of global reported exports and 67% of global reported imports by weight.

⁸ The new OECD entry AC300 corresponds to Basel entry A3210. When transporting hazardous waste within the OECD, AC300 should be used.

⁹ An up-to-date table of national controls is available here: <https://www.oecd.org/environment/waste/Reporting-of-controls-non-hazardous-waste.pdf>

Most OECD Member Countries remain net exporters of plastic scrap and waste, but the trade surplus continues to decrease. In 2020, the trade surplus amounted to 1.3 Mt across the OECD membership (5.6 Mt exported and 4.3 Mt imported). In 2017, the trade surplus was around 4.8 Mt (8.7 Mt exported and 3.9 Mt imported). (Figure 3.3).

Figure 3.3. OECD import and export by weight

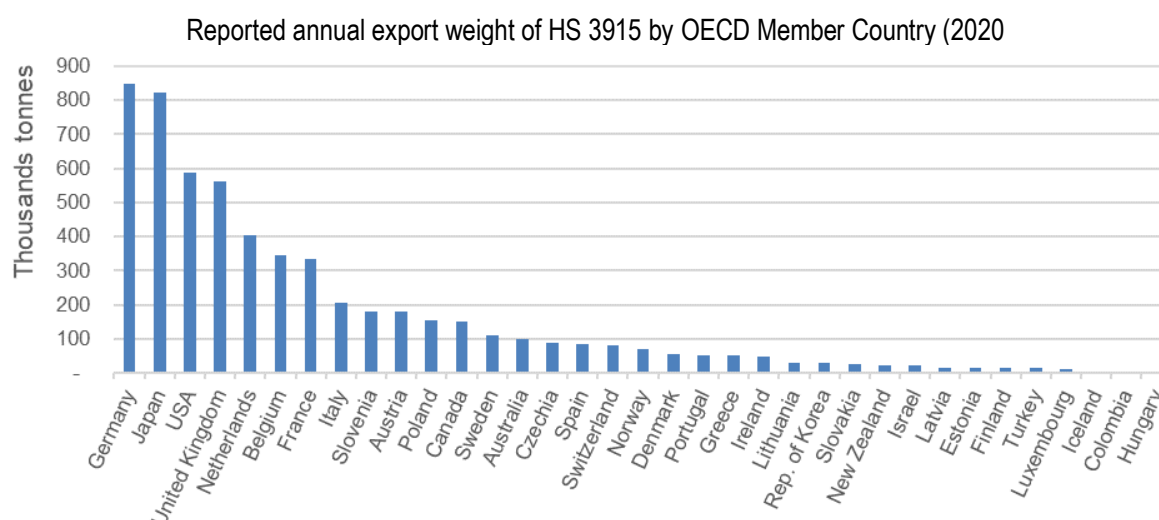


Note: For 2017-2018, the sum of monthly reported data for HS 391510, HS 391520, HS 391530 and HS 391590 are used for US reported annual exports (top). This is to address a possible gap in annual data, as described by Law et al (2020^[4]).

Source: Authors, based on UN Comtrade data (UN Comtrade, n.d.^[5]).

In 2020, the four largest OECD exporters were Germany, Japan, the United States and the United Kingdom (Figure 3.4). The four largest OECD importers were Turkey, the Netherlands, the United States and Germany (Figure 3.4). Some of these imports and (re-)exports may be attributed to transshipments, i.e. where a country merely serves as a transit station before waste is exported to its final destination. Hong Kong is likely such an entrepôt, with a high share of imports being re-exported to mainland China. Also some of the exports of Belgium and The Netherlands are likely transshipments due to their large ports and central location in Europe.

Figure 3.4. 2020 exports of OECD Member Countries



Note: UN Comtrade has not yet published annual export data from Chile, Costa Rico or Mexico in 2020.

Source: Authors, based on UN Comtrade data (UN Comtrade, n.d.^[5]).

Key trade flow developments in 2020 and the early months of 2021, include:

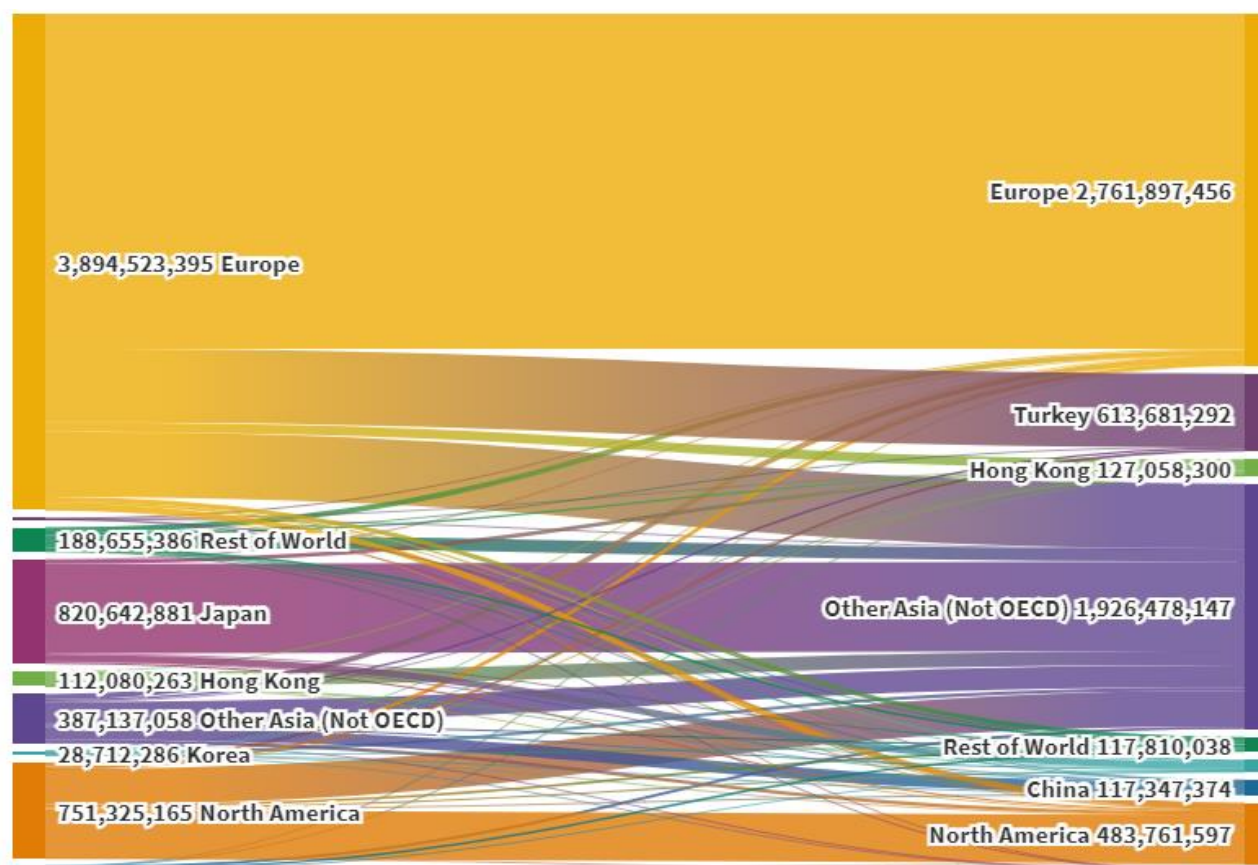
- Germany: Many of its major export destinations are within Europe. These include the Netherlands, Poland, Austria and Switzerland. Key export destinations outside of the EU were Turkey (between March and June 2021, exports to Turkey declined dramatically, however, some of this may be due to incomplete reporting of monthly data) and Malaysia. Overall Germany exported roughly 0.84 Mt in 2020.
- Japan: Export destinations of Japan are mostly destined to other countries in Asia. These include in decreasing order Malaysia, Viet Nam, “other Asia nes”¹⁰, Thailand and Republic of Korea. Overall Japan exported 0.82 Mt in 2020.
- The United States: Canada is the largest export destination, followed by Malaysia and Viet Nam. Mexico also remains an important regional trading partner. Other trade partners include, in decreasing order of volume traded: India, Hong Kong and Indonesia. Overall the United States exported roughly 0.59 Mt in 2020.
- The United Kingdom: Turkey is the largest export destination (between March and June 2021, exports to Turkey declined dramatically, however, some of this may be due to incomplete reporting of monthly data). Other key partners include, in decreasing order of volume traded: The Netherlands, Malaysia (exports decreased over 2021), Poland, Spain, Belgium, Germany and Italy. Overall the United Kingdom exported 0.56 Mt in 2020.

The majority of the trade of plastic waste and scrap in 2020 was regional and only a minority share was inter-continental. North America stands out, with about half of the export weight from North America traded inter-continentally, and predominantly exported to Asia. The relatively lower transport costs for regional trade help to explain in part why regional trade was more prevalent than inter-regional trade in 2020. As well, disruptions in global supply chains and international shipping linked to the global COVID-19 pandemic may have favoured regional trade (Figure 3.5).

¹⁰ Other Asia “not elsewhere specified” includes, *inter alia* exports to Chinese Taipei.

Figure 3.5. Global trade flows in plastic waste and scrap in 2020

Annual reported export weight (kg) of HS 3915 by destination type in 2020



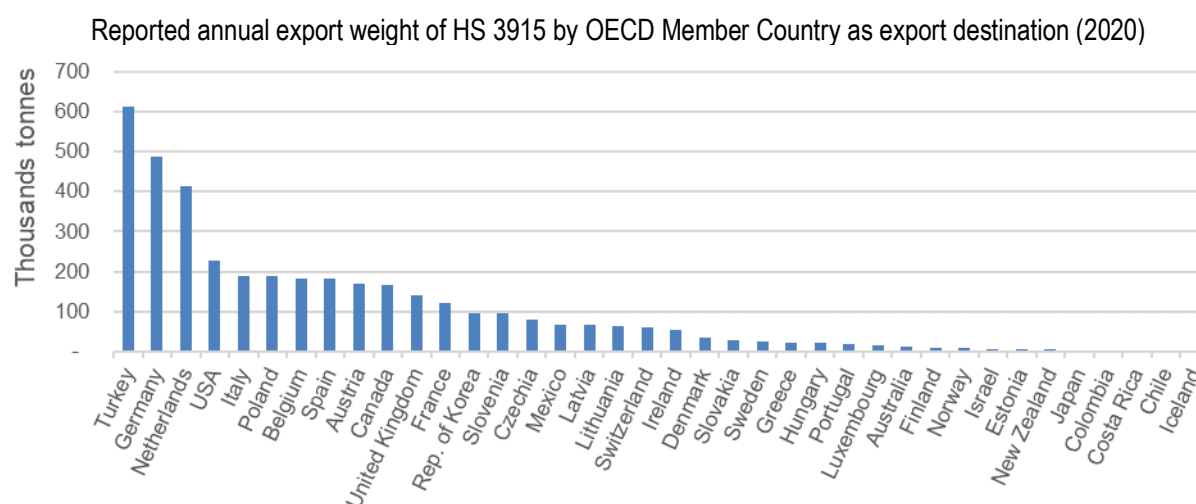
Note: Flows depict movement from exporters (reporters) on the left to export destination (reported partner type) on the right. The width depicts the traded export weight.

Source: Authors, based on UN Comtrade data (UN Comtrade, n.d.^[5]).

Key trade flow developments for major OECD importers are the following (Figure 3.6):

- Turkey: Throughout 2020, Turkey received waste from a number of countries, in particular from the United Kingdom, Germany, Belgium and The Netherlands. However, exports to Turkey declined dramatically from March to June 2021. Whilst import restrictions tightened over the course of early 2021, some of this decline in the most recent months may also be due to incomplete reporting by countries of monthly data. Overall exports to Turkey amounted to roughly 0.61 Mt in 2020.
- Germany: An export destination for numerous European states. Among the fairly evenly distribution, key exporters to Germany include its neighbours the Netherlands, Switzerland, Poland, Sweden and Belgium. Overall exports to Germany amounted to roughly 0.49 Mt in 2020.
- The Netherlands: Key exporters to the Netherlands include Germany, Belgium, and the United Kingdom. Overall exports to The Netherlands amounted to roughly 0.41 Mt in 2020.
- The United States: Exports to the United States are predominantly from its regional trade partners Canada and Mexico. Overall exports to the United States amounted to roughly 0.23 Mt in 2020.

Figure 3.6. 2020 exports destined for OECD Member Countries



Note: Data reflects the sum of reported 2020 annual export data by all reporters (both OECD Member Countries and non-OECD countries) categorised by each OECD member country as the partner and export destination.

Source: Authors, based on UN Comtrade data (UN Comtrade, n.d.^[5]).

Trade value indicator developments

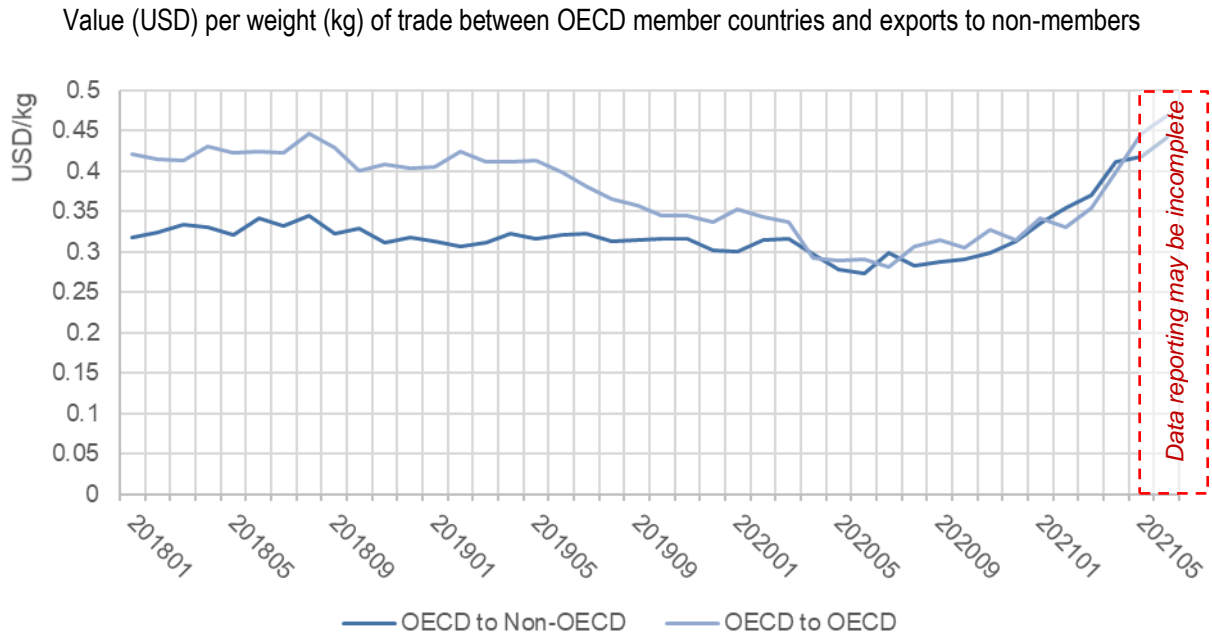
The trade value indicator¹¹ (USD per kg of plastic waste and scrap) of exports between OECD Member Countries and from OECD Member Countries to non-OECD countries has converged from 2018 to 2020. Prior to 2020, the trade value indicator of plastic waste and scrap exported to non-OECD countries was noticeably smaller than the trade value indicator of intra-OECD traded waste. Since early 2020, there is not a substantial difference in the trade value indicators of plastic waste and scrap exported to OECD Member Countries and non-OECD countries (Figure 3.7).

The trade value indicator of exports of plastic waste and scrap has recently been growing. Since 2020, the trade value indicators, which had previously been declining, increased for exports destined to OECD Member Countries, as well as to non-OECD countries. Over the course of the first months of 2021, the trade value indicators have further increased. This increase may be due to an overall increase in commodity prices during the first half of 2021 (Plastic Portal, 2021^[12]).

¹¹ The trade value indicator is determined as follows:

$$\text{Trade value indicator} = \frac{\sum \text{Reported Value of Exports}}{\sum \text{Reported Weight of Exports}}$$

Figure 3.7. Trade value per weight of exports of plastic waste and scrap by OECD Member Countries



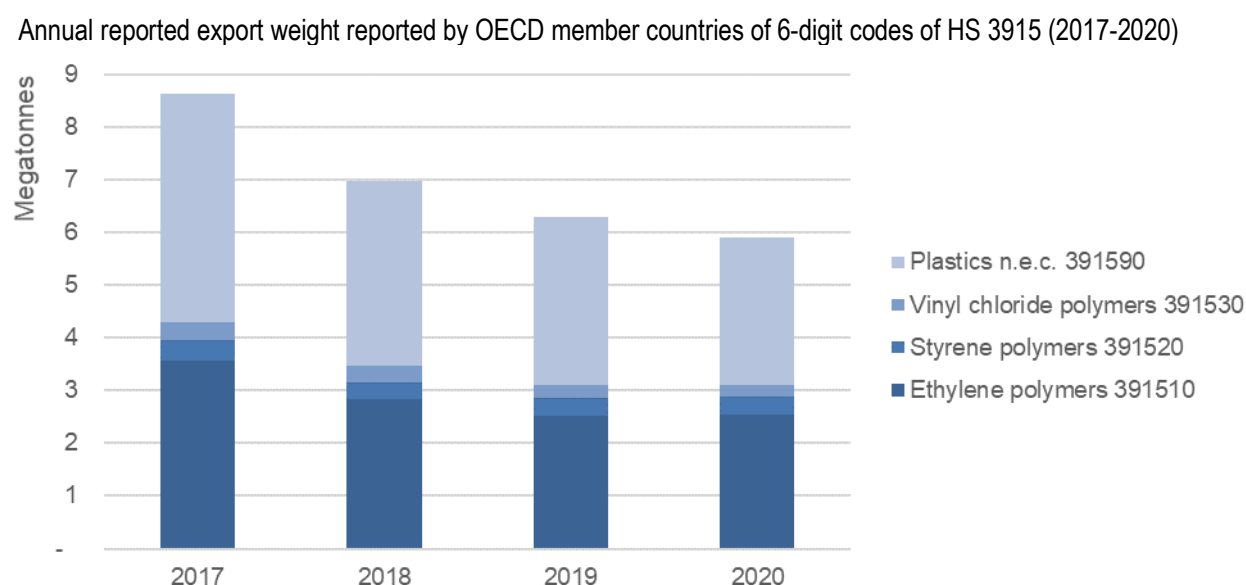
Source: Authors, based on UN Comtrade data (UN Comtrade, n.d.^[5]).

6-digit HS codes

The largest single polymer type of plastic waste and scrap exported by OECD Member Countries are Ethylene polymers (HS 391510), comprising polymers such as PE, HDPE, and LDPE. Exports of ethylene polymer waste and scrap decreased by about 28% from 2017 to 2020 (3.6 Mt exported in 2017 and 2.6 Mt in 2020) (Figure 3.8).

Other plastic polymers not elsewhere classified (n.e.c.) (HS 391590) make up the largest share of exported plastic waste and scrap. This category includes polymers that are marketable as feedstock for recycling, including polyethylene terephthalate (PET) and polypropylene (PP), but which have not yet been assigned a specific HS categorisation (Brooks, Wang and Jambeck, 2018^[3]). Exports classified as HS 391590 decreased by about 34% from 2017 to 2020 (4.3 Mt exported in 2016 and 2.8 Mt in 2020).

Exports of vinyl chloride polymers and styrene polymers make up smaller shares of the waste and scrap trade reported by OECD Member Countries on the 6-digit level. Absolute volumes of both declined by similar rates of 32% and 13% respectively.

Figure 3.8. OECD plastic waste and scrap exports by commodity type

Source: Authors, based on UN Comtrade data (UN Comtrade, n.d.^[5]).

Box 3.3. Relevant work published or underway

The following work-products involving trade in plastic waste and scrap were released or are forthcoming:

- *OECD's Global Plastics Outlook (GPO)*: The forthcoming GPO will feature substantive discussions on trade in plastic waste and scrap. Part 1 (Introduction and stocktake of the current situation), to be released Q1 2022 will contain a section on secondary plastics markets and international trade of plastic waste and scrap. It will also include current global recycling rates. Part 2 (Future projections and scenario analysis), to be released in Q2 2022, will feature a modelling exercise around future projections of trade in plastic waste and scrap.
- *UNCTAD Plastics Trade Database*: In support of the Graduate Institute Geneva, UNCTAD will soon launch a database within UNCTAD's statistics database that tracks trade across the life cycle of plastics. First insights from the database have previously been published (UNCTAD, 2020^[13]).
- *Basel Action Network's Plastic Waste Trade Data*: BAN provides ongoing analysis, key messages and metrics derived from UN Comtrade and country level data (Basel Action Network, n.d.^[14]).
- *WTO Informal Dialogue on Plastics Pollution and WTO Informal Dialogue Plastics (IDP)*: The IDP was established in November 2020 and met for the first time on 29 March 2021. During this meeting, WTO members discussed current work to reduce plastic pollution and promote more circular and environmentally sustainable trade. In June, WTO members discussed the role that the WTO can play in strengthening policy coherence and assisting developing countries to reduce plastic waste (WTO, 2021^[15]). A third meeting, held on 22 October 2021, aimed to develop a Ministerial Statement to be issued at the WTO's Twelfth Ministerial Conference (MC12).

4. Conclusions

In 2020 and the first half of 2021, global exports of plastic waste and scrap continued its trend of declining global trade volumes. Noticeable is a sharp dip in trade volumes in the first months of 2021, which partially rebounded in mid-2021, but did not return to previous levels. Export volumes to South East Asian countries declined more significantly than exports to Turkey, which rebounded and even increased until March 2021 compared to 2020.¹²

Amongst the OECD Member Countries, the trade surplus continued to decrease over the observed period. The trade value indicator (reported value divided by reported weight) of intra-OECD trade converged with the same indicator for exports from OECD Member Countries to non-Members, suggesting a convergence in the quality of these exports. Both trade value indicators rose in 2021, which could be the result of several factors including a general increase in commodity prices over this time period. Further monitoring analysis with updated data in 6-12 months would allow to confirm these initial trends.

¹² After March 2021, exports to Turkey declined sharply, though some of this decline in the latest months may be due to incomplete data in the UN Comtrade database.

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