

Major Six-Year Trends in Global Plastic Waste Trade



Jan Dell

Introduction

The Basel Plastic Waste Amendments, enacted on January 1, 2021, were designed to reduce the flows of dirty and mixed plastic wastes, in particular to developing countries.

The Basel Action Network's (BAN) Plastic Waste Trade Data website (BAN, 2023) was created in January 2021 to provide much needed transparency on plastic waste trade. The data is sourced from the publicly available government trade customs data published by the United Nations Comtrade database, the United States Trade[®] Online database, and the United Kingdom (UN Comtrade, 2023; U.S. Trade[®] Online, 2023; U.K. Trade Info, 2023). BAN's website enables fact-based assessment of global plastic waste trade data.

The data presented on the BAN Plastic Waste Trade Data website was evaluated to determine major trends in plastic waste exports.

Circulating postconsumer plastic waste around the world doesn't create the clean economy needed to protect human health and ecosystems. Actions to find markets for discarded plastic materials collected in high-income countries should not negatively impact communities in other countries.

There are many harmful impacts of exports of plastic wastes from high-income countries to middle- and low-income countries:

- Food chain contamination
- Harm to domestic waste collection and recycling system development in countries that need it most
- Health and safety impacts to workers and communities

J. Dell (✉)

Independent Engineer, The Last Beach Cleanup, Laguna Beach, CA, USA

More than 100 investigations and reports have shown serious environmental and social harms in receiving countries (The Last Beach Cleanup, 2023).

Results

The following major trends in plastic waste export were seen between 2017 and 2022:

1. *Global*: Decrease in plastic waste exports seen from almost all major Organization for Economic Co-operation and Development (OECD) countries. However, plastic waste trade to non-OECD countries has plateaued at unacceptably high levels.
2. *United Kingdom (UK)*: Significant shift of plastic waste exports to Turkey from previous exports to non-OECD Countries.
3. *Japan*: Significant shift of plastic waste exports from going to China to other countries in Asia.
4. *United States (USA)*: Decrease in plastic waste exports to Asia, but an increase in exports to Latin American countries.
5. *European Union (EU)*: Increase in exports to Turkey and the Netherlands became the major exporter of plastic waste to countries in Asia. Increase in plastic waste exports to Asia seen in late 2022 as energy costs rose in the EU and EU recyclers shut down.

Global: Decrease in Plastic Waste Exports Seen from Almost All Major OECD Countries (2017–2022)

Figure 1 shows that there has been a significant decrease in total plastic waste exports from major OECD countries from 2017 to 2022. In aggregate, the plastic waste exports from the USA, Japan, EU, UK, Canada, and Australia declined 57% from 6,664,105 tonnes/year in 2017 to 2,835,631 tonnes/year in 2022.

Figure 2 shows that there has been a significant decrease in plastic waste exports from major OECD countries to non-OECD countries from 2017 to 2022. In aggregate, the plastic waste exports from the USA, Japan, EU, UK, Canada, and Australia to non-OECD countries declined 73% from 4,836,935 tonnes/year in 2017 to 1,302,841 tonnes/year in 2022.

While a significant decline in plastic waste exports occurred, the plastic waste exports to non-OECD countries that are not equipped to safely and securely manage even their own plastic waste has plateaued and remains stubbornly high. The export of 1,323,011 tonnes/year in 2022 is equivalent to 682 20-foot shipping containers per day of plastic waste exported to non-OECD countries.

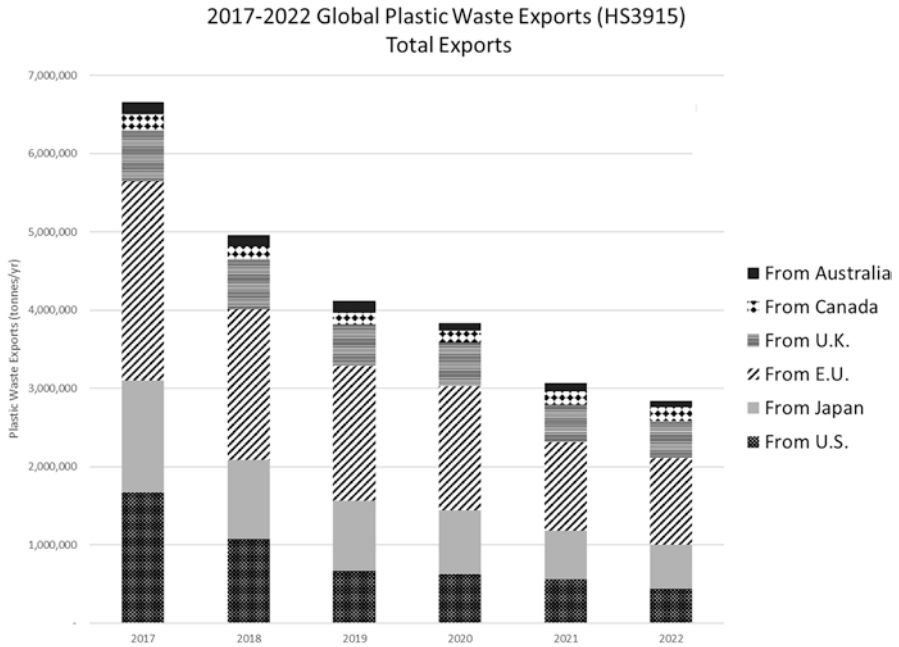


Fig. 1 Plastic waste exports from major OECD countries (2017–2022)

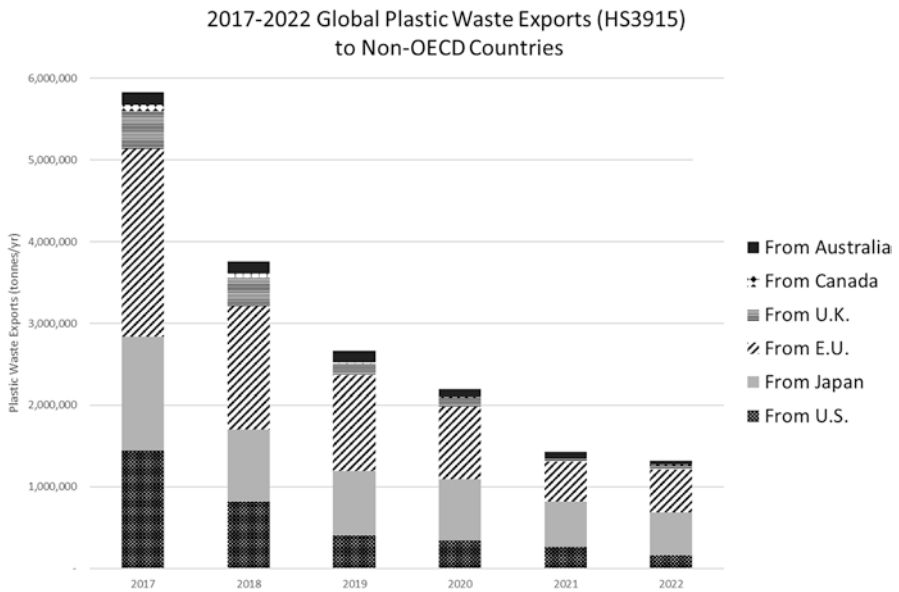


Fig. 2 Plastic waste exports from major OECD countries to non-OECD countries (2017–2022)

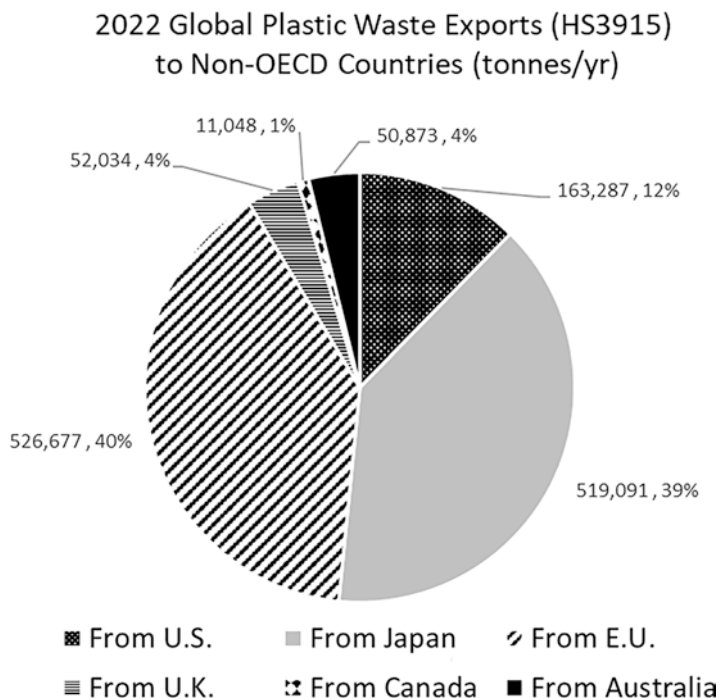


Fig. 3 2022 OECD country exports to non-OECD countries

Table 1 Plastic waste exports from major OECD countries

	2017 (tonnes/year)		2022 (tonnes/year)		% Decline (-) or increase (+)	
	OECD	Non-OECD	OECD	Non-OECD	OECD (%)	Non-OECD (%)
U.S.	228,540	1,443,045	275,176	163,287	+20	-89
Japan	38,457	1,392,990	44,363	519,091	+15	-63
E.U.	246,114	2,299,772	587,064	526,677	+139	-77
U.K.	198,291	459,693	410,159	49,028	+107	-47
Australia	1592	158,469	23,450	50,873	+1373	-68

Figure 3 shows that the EU was the largest plastic waste exporter to non-OECD countries in 2022, with 40% of plastic waste exports (526,677 tonnes/year). Japan was the second largest exporter to non-OECD countries with 39% of plastics waste exports (519,091 tonnes/year).

Table 1 shows that while plastic waste exports to non-OECD countries were reduced from 2017 to 2022, most countries increased exports to OECD countries during the same period. These trends are described in more detail in subsequent sections.

United Kingdom: Significant Shift of Plastic Waste Exports from Non-OECD Countries to Turkey and Netherlands

Figure 4 shows that the UK has largely shifted plastic waste exports from non-OECD countries to Turkey, Netherlands, and other OECD countries. The overall decline of plastic waste exports from the UK to the world was only 30% from 2017 to 2022, much less of an overall reduction than seen from other OECD countries.

The UK increased plastic waste exports to Turkey from 40,934 tonnes/year in 2017 to 112,947 tonnes/year in 2020. When Turkey implemented a ban on plastic waste imports in 2021, the UK shifted to exporting more plastic waste to the Netherlands. Numerous investigations and media reports have shown the harms of UK plastic waste exports to Turkey. In May 2022, the Guardian reported on how UK plastic waste is “dumped abroad by Dutch middlemen” (Gatten, 2023). In section “European Union: Increase in Exports to Turkey and the Netherlands Became the Major Exporter of Plastic Waste to Countries in Asia”, Fig. 10 shows the increase in plastic waste exports from the Netherlands to Asia from 2017 through 2022.

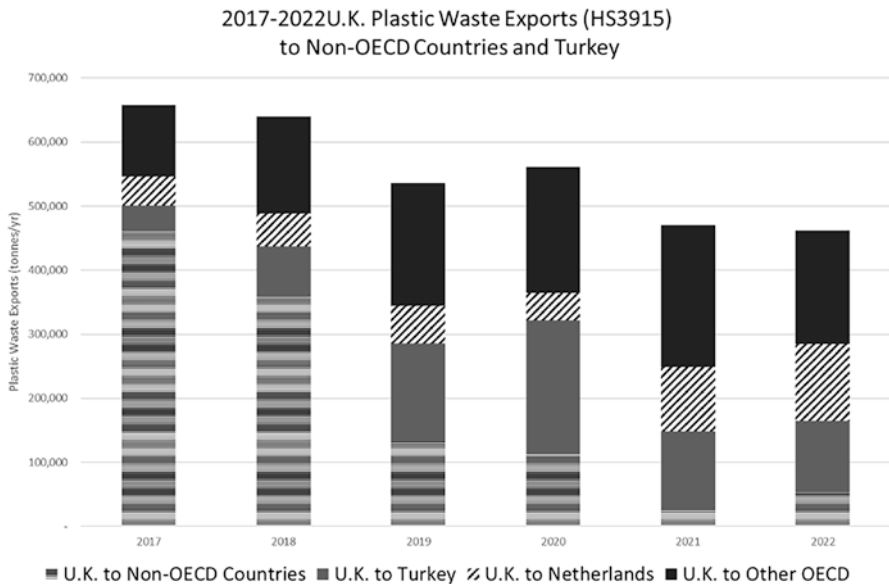


Fig. 4 UK plastic waste exports to from UK to Turkey and non-OECD countries (2017–2022)

Japan: Significant Shift of Plastic Waste Exports from China to Other Countries in Asia

Figure 5 shows how Japan largely shifted plastic waste exports from China and Hong Kong to other non-OECD countries from 2017 to 2022. The non-OECD countries that Japan increased exports to are primarily Asian countries who lack the ability to manage their own plastic waste. As shown in Table 2, Japan significantly increased exports to many Asian countries.

United States: Decrease in Plastic Waste Exports to Asia, But an Increase in Exports to Latin American Countries

During 2017 to 2022, the USA significantly decreased plastic waste exports to Asia, while increasing plastic waste to Latin American countries. Figure 6 shows a 94% decrease to six key Asian countries, from 1,252,308 tonnes/year in 2017 to 80,092 tonnes/year in 2022. Figure 7 shows an increase in US plastic waste exports to Ecuador, El Salvador, Guatemala, Honduras, and most notably Mexico. The US plastic waste exports to Mexico increased 81% from 47,222 tonnes/year in 2017 to 85,515 tonnes/year in 2022.

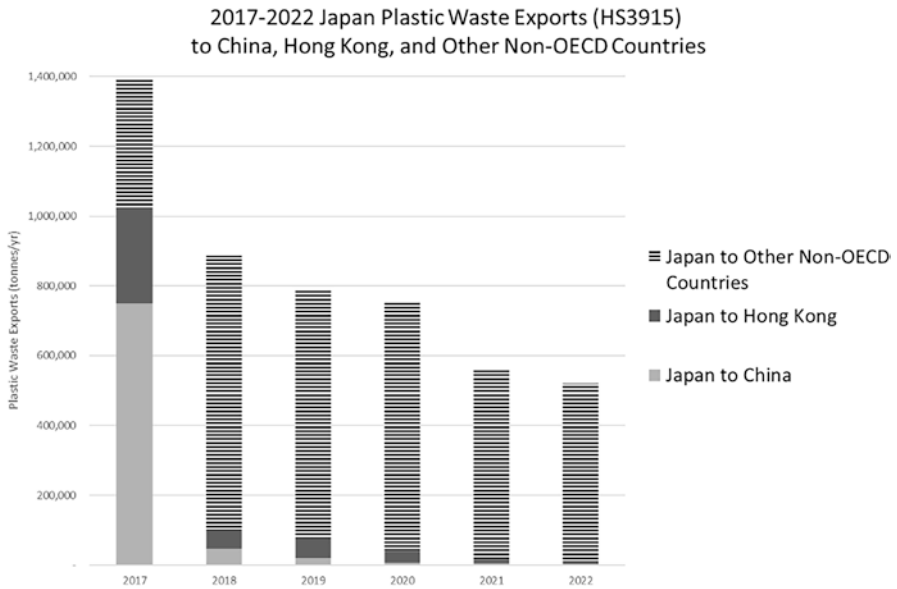


Fig. 5 Japan plastic waste exports to China and other non-OECD countries

Table 2 Japan plastic waste exports to Asian countries (2017–2022)

Country	2017 (tonnes/year)	2022 (tonnes/year)	% Increase (%)
Indonesia	2700	10,670	+295
Malaysia	75,435	178,716	+137
Vietnam	126,219	152,489	+21

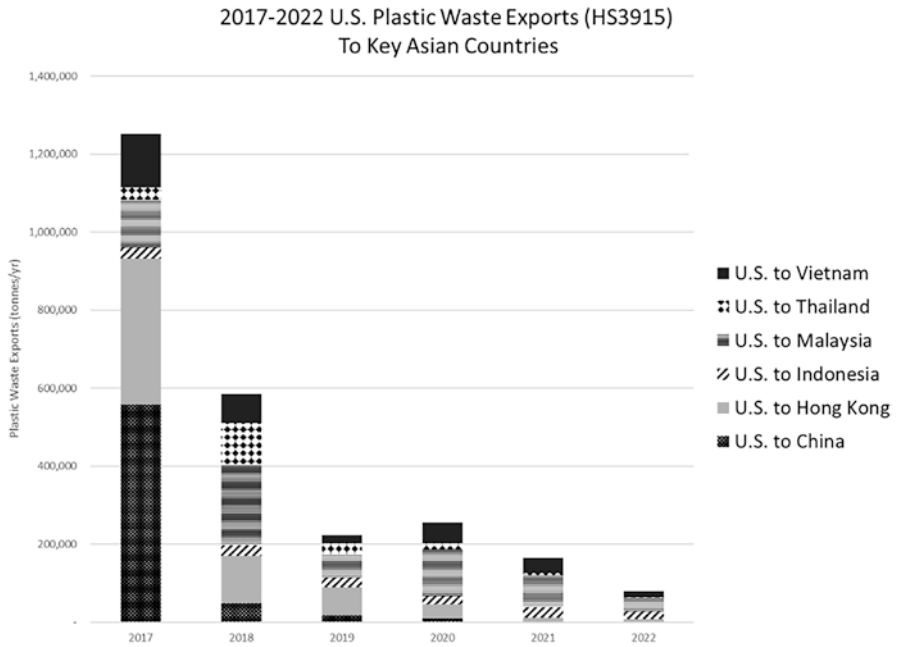


Fig. 6 US plastic waste exports to key Asian countries (2017–2022)

European Union: Increase in Exports to Turkey and the Netherlands Became the Major Exporter of Plastic Waste to Countries in Asia

While the EU reduced plastic waste to non-OECD countries (Fig. 2 and Table 1), the EU significantly increased plastic waste exports to Turkey (Fig. 8). A partial ban on plastic waste imports, implemented by Turkey in 2021, resulted in a slight decline in plastic waste imports from the EU in 2022. Nevertheless, the 2022 EU plastic waste exports of 346,383 tonnes/year is significant as it is equal to 179 truckloads of plastic waste per day shipped from the EU to Turkey.

While the EU initially reduced plastic waste exports to Asia after China’s National Sword policy was enacted in 2018 and the Basel Plastic Waste Amendments were enacted in 2021, the EU increased plastic waste exports to Asia in 2022, as shown in Fig. 9. The 2022 EU plastic waste exports of 433,878 tonnes/

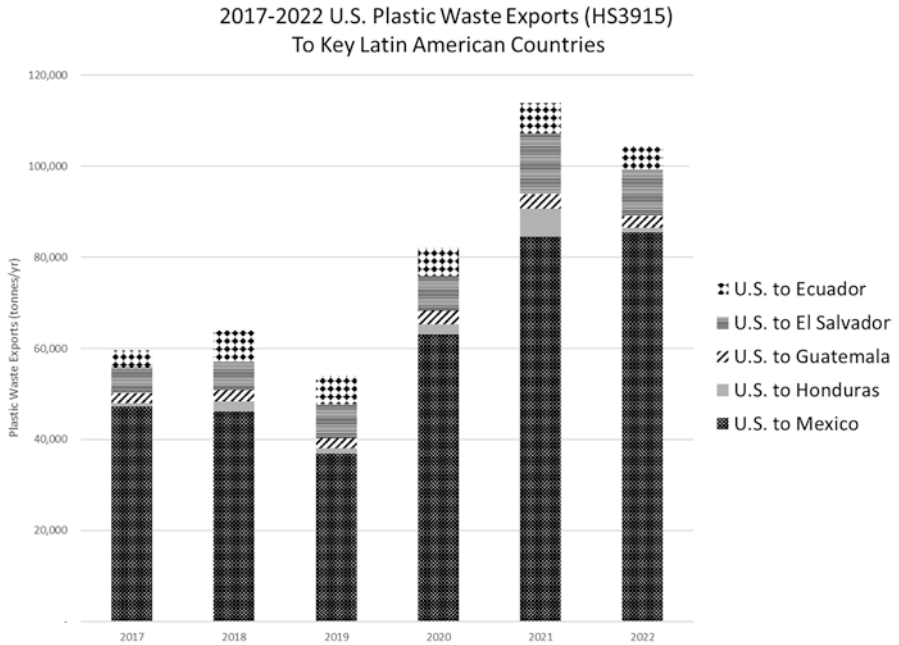


Fig. 7 US plastic waste exports to Latin American countries

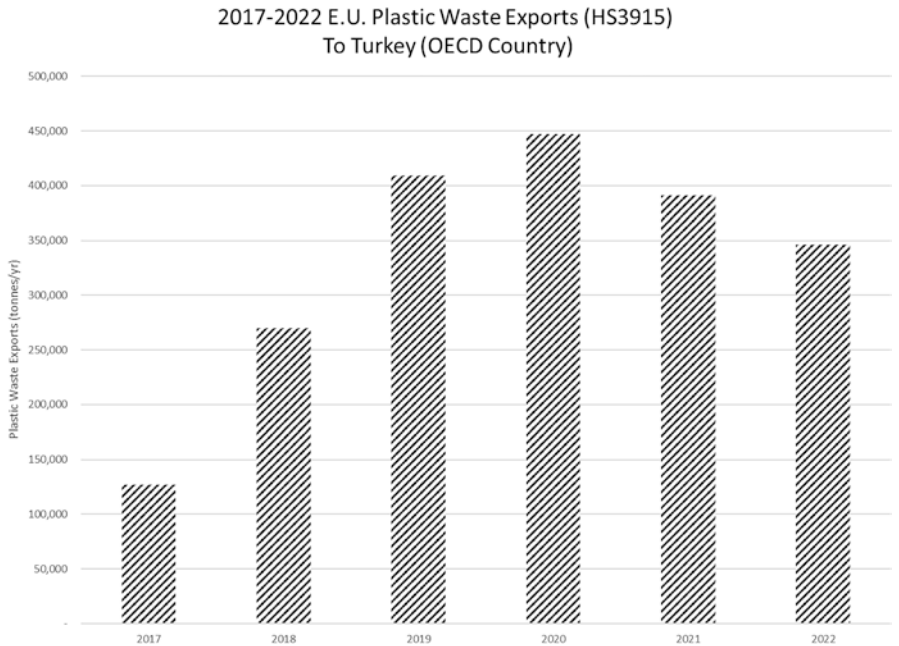


Fig. 8 EU plastic waste exports to Turkey (2017–2022)

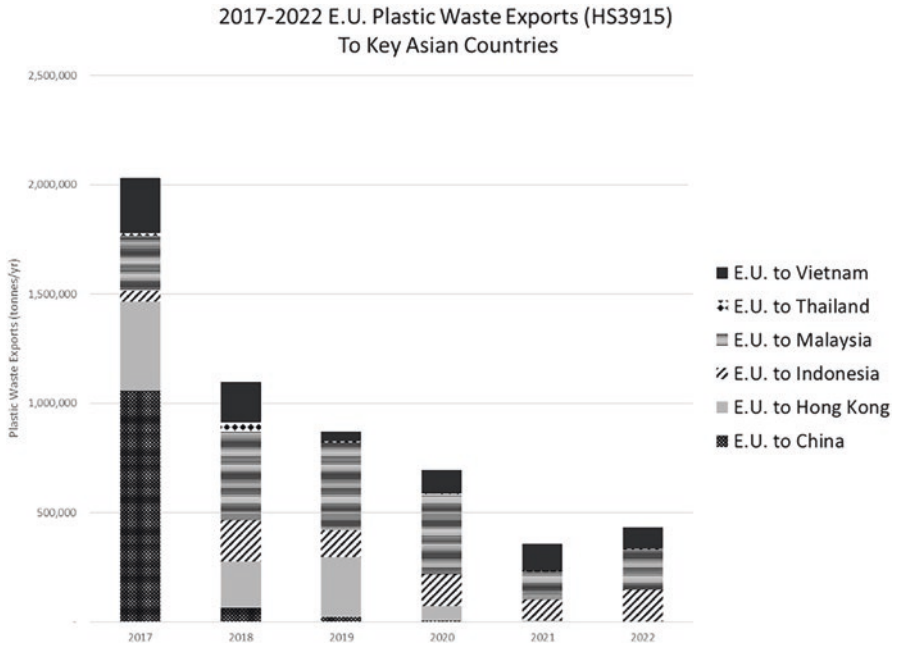


Fig. 9 EU plastic waste exports to Asia (2017–2022)

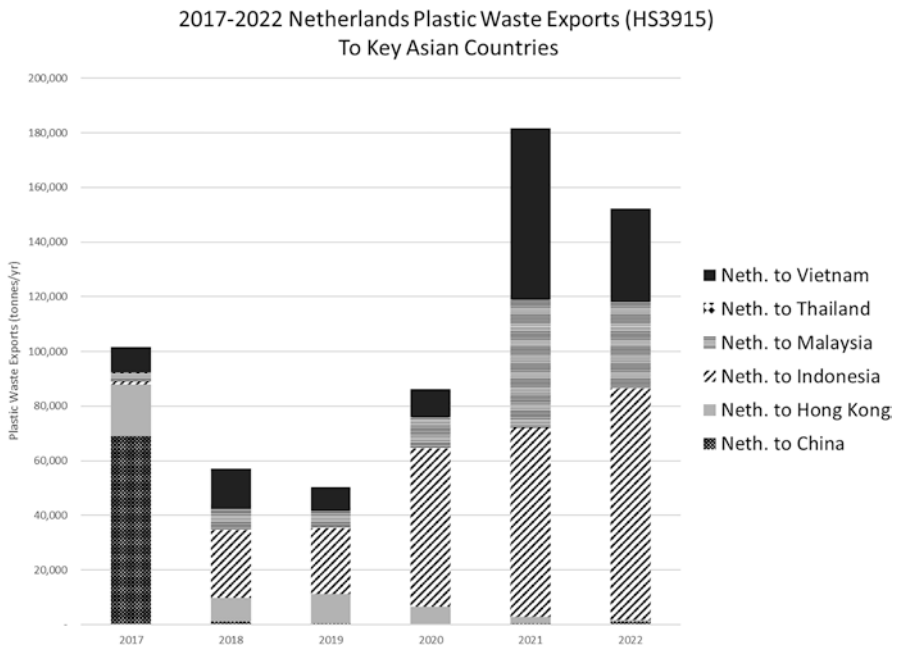


Fig. 10 Netherlands plastic waste exports to Asia (2017–2022)

year to three key countries (Indonesia, Malaysia, and Vietnam) is significant as it is equal to 224 container loads of plastic waste per day shipped from the EU to countries with high plastic pollution rates who are not equipped to manage their domestic plastic waste.

As shown in Fig. 10, the Netherlands has significantly increased plastic waste exports to Asia from 2017 to 2022. As described by the Guardian, it appears that the Netherlands has become a trader of plastic waste for other countries and a transit point for shipments to Asia (Gatten, 2023). In 2022, the Netherlands accounted for 32% of EU plastic waste exports to non-OECD countries. But on a population basis, the Netherlands only has 3.9% of the EU population (Trading Economics, 2023).

Summary and Conclusions

The major six-year trends (2017 through 2022) in the international trade of plastic waste show that while the Basel Plastic Waste Amendments initially reduced the flows of plastic waste from high-income to low- and middle-income countries, a high level of plastic waste trade remains. This analysis supports the conclusion stated in IPEN's Plastic Waste Trade: The Hidden Numbers report (IPEN, 2023), "Countries that are major producers of plastic wastes must take responsibility for their own plastic waste and stop exporting all plastic wastes to other countries, and especially to countries that lack the capacity to manage their own plastic wastes in an environmentally sound manner."

Now that the harms of plastic waste exports have been exposed, the responsible response is to stop plastic waste exports. While exporting may help high-income countries meet "diversion goals" and avoid the problem and cost of disposing their plastic waste to landfill or incineration in their own countries, there's no denying that rich countries are offshoring the problem, harming other countries and making a carbon-intensive, long-distance contribution to the plastic pollution to the ocean.

Bans on exports of plastic waste from high-income countries are urgently needed as the predicted future increases in plastic production are likely to increase plastic waste exports from high-income countries to low- and middle-income countries.

References

- Basel Action Network. (2023). Plastic waste trade data. <https://www.ban.org/plastic-waste-transparency-project-hub/trade-data>. Accessed 12 May 2023.
- Gatten. (2023, May 16). UK plastic recycling 'dumped abroad by Dutch middlemen'. *The Guardian*. <https://www.telegraph.co.uk/news/2023/05/16/uk-plastic-recycling-dumped-abroad-netherlands/>
- IPEN. (2023). Plastic waste trade: The hidden numbers. <https://ipen.org/documents/plastic-waste-trade-hidden-numbers#:~:text=Estimates%20show%20we%20will%20produce,non%2Dhigh%2Dincome%20countries>

- The Last Beach Cleanup. (2023). Harms of plastic waste exports. <https://www.lastbeachcleanup.org/plastic-waste-exports>
- Trading Economics. <https://tradingeconomics.com/netherlands/population-as-a-percent-of-eu-population-eurostat-data.html#:~:text=Netherlands%20%2D%20Population%20as%20a%20%25%20of%20EU%20population%20was%203.90%25,EUROSTAT%20on%20May%20of%202023>. Accessed on 19 May 2023.
- United Kingdom (U.K.) Trade Info. <https://www.uktradeinfo.com/trade-data/ots-custom-table/>. Accessed 12 May 2023.
- United Nations (U.N.) Comtrade Database. <https://comtradeplus.un.org/>. Accessed 12 May 2023.
- United States Trade@ Online. <https://usatrade.census.gov/>. Accessed 12 May 2023.