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# Exporting our Resources – Developing a UK Plastic Packaging Circular Economy

**RECOUP**

Leading a more circular  
plastics value chain



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## Executive Summary

The last few years have been particularly challenging for the UK recycling industry. Political changes such as the UK leaving the EU (which introduced new hurdles and restrictions on the movement of material), the COVID-19 pandemic, cost of living crisis and drop in oil prices, have all impacted the logistical and economic drivers around plastics recycling. These, in addition to high operating costs and low demand and value for recycled content, have meant recycling plastic packaging domestically has faced an increasing challenge in being viable in comparison to cheap imports of recycled and virgin plastics from outside of Europe.

This is despite there being an increased focus on the need for the UK to process more of its waste material, especially plastic packaging, domestically.

In writing this report, RECOUP has engaged with the four UK enforcement bodies to better understand the volumes and destinations that plastic packaging is being sent to, as well as the checks and requirements in place to ensure its movement is being carried out legally and to the best environmental outcome.

Prior to 2023, the UK had shown a year-on-year shift away from export markets and towards domestic recycling. Furthermore, of the material that was exported, the amount going to non-OECD countries was in decline, with a low 6% of plastic exports going to these markets in 2021.

However, in 2023, more than **685,000 tonnes** of plastic packaging was exported and declared as recycled; **51%** of the overall plastic packaging declared as recycled for that year. This is a drop from the heights of 65% in 2017, but an increase compared to 46% in 2022.

Also, of the 685,000 tonnes, around **150,000 tonnes** went to non-OECD countries, equating to **22%** of the total exported tonnage. This is a sizable increase on 13% in 2022, and 6% in 2021, largely due to growth in material being sent to Asian markets.

Whilst there is increased focus and discussion seeking to reduce, or even eliminate, the export of plastic waste, at present, export of plastic packaging for recycling is essential for the UK, not only to meet its increasingly ambitious recycling targets, but also to ensure that material can achieve the best environmental outcome through facilities that are able to process volumes and formats that the UK is less equipped to handle.

In order to develop circular models, the UK needs to support and build UK infrastructure, and RECOUP's position statement on the export of plastic waste outlines the key points to enable this change.

RECOUP Position Statement

RECOUP’s position on the exporting of plastic waste for recycling focuses on the logical steps for the UK to achieve a best-in-class recycling infrastructure, and is based around five key points:

01

Reducing reliance on plastic waste exports in line with developing a roadmap to grow UK plastic recycling infrastructure and capacities.

02

Not supporting plastic waste being exported for recycling for economic reasons when it can and should be treated in the UK.

03

Supporting the intended ban on exporting material to non-OECD countries.

04

Currently supporting the export of plastic waste to OECD countries, including EU Member States, only as long as the infrastructure is in place to handle it, and there is evidence that the route the material takes meets circular outcomes.

05

Focus on ensuring that illegal, unethical or unnecessary exports are stopped.

Plastic export recycling markets should be utilised where necessary to achieve the best environmental outcomes, and failure to recycle this material in the UK highlights a need for greater investment in UK plastic recycling infrastructure.

RECOUP supports the principle behind the UK reducing the plastic waste it exports for recycling, but in a way that acknowledges the capabilities and limitations of the domestic recycling infrastructure. Export of material should not be treated as a substitute or hinder the investment in the growth of infrastructure, and as such the UK should continue to progressively work towards the reduction of the quantities being sent overseas for recycling.

Whilst export of plastic waste presents risks, challenges and additional environmental considerations, a ban on export in its entirety when looking at the UK's current plastic recycling infrastructure would mean that large quantities of 'hard to recycle plastics' would go to non-circular end markets, such as energy from waste or landfill.

The foundation for this position is outlined as follows.

### **1) Approaches for Recycling in EU Member States, OECD and Non-OECD Countries**

RECOUP believes that export of plastic waste to OECD countries, including EU Member States, should only be allowed in two instances:

- Where the infrastructure is both known to be in place and of sufficient quality and capacity to effectively handle it; and
- An equivalent recycling outlet isn't currently available in the UK.

As such, 'OECD countries' should not be used as a catch-all term for appropriate receiving destinations, and instead exports should be permitted based on the country's capabilities to recycle the material.

RECOUP supports the ban on export of all waste types to non-OECD countries. Whilst it's important not to get overly caught up in the media coverage of instances where UK waste has been found to be illegally handled and mis-managed, it draws attention to the broader issue of the limitations in terms of waste and recycling infrastructure in these developing countries. It also highlights the possible exploitation of these destinations for cheaper labour markets, and inadequate waste regulations which risks the material going into the natural environment as litter or incinerated. Although often less economically attractive, management of these materials should be done utilising infrastructure within Europe, if not within the UK itself.

### **2) Revisions to the Packaging Export Recovery Note (PRN)**

RECOUP would support revisions to the current Packaging Recovery Note (PRN) system that would change the incentivisation of exporting plastic packaging waste for recycling. At present, material recycled in the UK is measured at the point that the recycling has taken place once any contamination or non-target material has been removed and material yield losses in the recycling processes have taken place. Material that is exported using Packaging Export Recovery Notes (PERN) includes the weight of any contamination or non-target material that may be lost in the recycling steps that take place overseas, prior to reaching any end-of-waste status.

Removing the economic variable between PRNs and PERNs based on the point the note is claimed will make UK recycling more economically attractive to recyclers and balance the market. RECOUP believes robust research is needed that would enable PERN values to be adjusted so they are reflective of the assumed material yield losses.

### **3) Need for Robust Evidence and Verification**

When the export of plastic waste is permitted, RECOUP supports robust requirements that are met to ensure the receiving destination has the appropriate regulation and infrastructure to recycle the material to sufficient standards. This includes ensuring that the route the material takes is traceable, and that audit trails are planned and documented so that evidence can be provided to verify claims about it meeting circular outcomes at end of waste. These standards should cover the full journey of the material, not simply 'one step' from leaving the UK.

### **4) Fit for Purpose Enforcement Against Illegal Activity**

There should be a clear distinction between legal and illegal activity. It can be assumed that changes in legislation and restrictions will impact illegal export activity to some degree, but by definition this type of activity will operate outside of any legal structure and regulation. As such, it's important to focus on ensuring that unethical or unnecessary exports are stopped. It should be noted that regulatory changes and restrictions on exporting material should not be seen as a single solution of resolving the wider issue of waste crime, but ongoing, adequate and fit for purpose enforcement is essential to enable long-lasting and meaningful change.

## Introduction

In the UK, more than 2 million tonnes of plastic packaging is placed on the market each year<sup>1</sup> in both commercial and household environments. Whilst the UK has achieved its recycling targets in recent years, this has only been done with significant reliance on various export markets. With targets growing, as well as options and acceptance of export reducing as time goes on, this is something that requires renewed focus.

There have long been questions around what the UK should be doing to ensure that its waste is processed both ethically and in the most environmentally and economically positive way. This ranges from suggestions of restricting waste exports so it cannot be sent to non-OECD (Organisation for Economic Cooperation and Development<sup>2</sup>) or 'developing' countries, to banning plastic waste exports entirely. These positions often cite media reports of UK material found dumped or treated illegally in other countries, or poorer nations seemingly exploited to handle this material.

However, export of waste enables positive outcomes for some materials. Whilst the UK has a relatively developed infrastructure for recycling, there are significant gaps in both capacities and technologies that would need to be filled in order for specific formats and polymers to be recycled domestically, or to a standard that would not be considered 'downcycling'. Other countries, particularly those in the European Union (EU), have a significant head start when it comes to infrastructure for packaging types such as plastic films and flexibles, as well as more established capacities in areas such as chemical recycling.

There is a need for a delicate balance and consideration to ensure that the UK's need to export material is reduced, domestic infrastructure for recycling is developed, and exports of certain materials, or to certain countries, is appropriately regulated.

Additionally, whilst there is significant and long-term focus on the export of material, the UK's position as an OECD country outside of the EU bloc means that imported material should not be ignored. Much like export, varying infrastructure across different countries means that the UK can be an attractive destination for certain material types, in some cases at the expense of capacity for domestic waste. It is therefore vital that import data and drivers are not overlooked.

This report brings together data relating to the UK's import and export of plastic waste in recent years, investigating trends and other associating factors, as well as putting forward RECOUP's position on the future role of export as a way for the UK to manage its plastic packaging, meet demands and achieve its recycling targets.

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<sup>1</sup> <https://www.valpak.co.uk/knowledge-hub-post/packflow-covid-19-report/>

<sup>2</sup> <https://www.oecd.org/>

## Methodology and Data

In order to produce this report, RECOUP engaged with multiple regulators across the UK, including: the Environment Agency (EA)<sup>3</sup> for England, Natural Resources Wales (NRW)<sup>4</sup> for Wales, Scottish Environment Protection Agency (SEPA)<sup>5</sup> for Scotland, as well as DAERA (Department of Agriculture, Environment and Rural Affairs)<sup>6</sup> and NIEA (Northern Ireland Environment Agency)<sup>7</sup> for Northern Ireland.

Data has been collated from a combination of the EA's National Packaging Waste Database (NPWD)<sup>8</sup>, Freedom of Information (FOI) requests made to the forementioned regulators, and one-to-one discussions. The data and information in this report is accurate as of February 2024.

It should be noted that whilst the data used in this report reflects material imported and exported through official, regulated means, illegally exported waste will fall outside of these figures. This may be due to paperwork not having been sufficiently completed or provided, or waste having been mislabelled either intentionally or not. Furthermore, whilst export data should identify the final destination for the material and the regulators will have undertaken their due diligence, traceability of material beyond the first receiving country is challenging and cannot account for illegal or immoral handling or movement of material once it has left the UK.

There are a number of limitations to the data. This is in part due to historic legislation for England and Wales that does not provide data for Green List<sup>9</sup> (a pre-defined set of 'non-hazardous' waste streams) and exempt sites. The regulators in Scotland and Northern Ireland do receive this data and the Department for Environment Food and Rural Affairs (DEFRA) provides funding for this. For imported plastic waste, there is also limited data, with DAERA specifically stating that this is something that they do not have available.

Whilst data for England, Wales and Scotland has been provided dating back to 2017, data for Northern Ireland only dates back to 2022. This is reflected in the way in which both the Northern Irish and total UK data is presented in this report.

Data for both import and export is provided based on the port at which material is moved from, and intra-UK movements of material are not traced, with this instead done under Waste Transfer Notes (WTN). As England represents over 84% of the UK's population (Scotland is around 8%, Wales 5% and Northern Ireland 3%) the majority of the large export ports are based within England, meaning the majority of material leaving Great Britain (GB) goes through these ports, and the data reports as such. Northern Ireland, making up only 3% of the UK population, is an anomaly in terms of volumes due to its geographical position and land border with the Republic of Ireland (ROI) and therefore the EU.

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<sup>3</sup> <https://www.gov.uk/government/organisations/environment-agency>

<sup>4</sup> <https://naturalresources.wales/?lang=en>

<sup>5</sup> <https://www.sepa.org.uk/>

<sup>6</sup> <https://www.daera-ni.gov.uk/>

<sup>7</sup> <https://www.daera-ni.gov.uk/northern-ireland-environment-agency>

<sup>8</sup> <https://npwd.environment-agency.gov.uk/>

<sup>9</sup> <https://www.gov.uk/guidance/importing-and-exporting-waste#exporting-waste-under-article-18-green-list-controls->



## Export of Plastic Packaging Waste from the UK

The UK has long been reliant on exporting material, particularly waste plastic packaging, to increase its recycling rates and meet associated environmental targets. In 2023, over 685,000 tonnes of the 1,186,000 tonnes (51%) of plastic packaging declared as recycled was exported.

In 2009, 82% of UK plastic packaging declared as recycled had been exported, whilst in 2022 this was down to 46%. During this time there have been a number of changes across the globe with regards to attitudes towards plastics, use of less developed nations as recipients for waste, as well as a focus on our impacts on the environment more broadly. Some specific examples of changes that have impacted the movement of waste includes political changes such as the UK leaving the EU (which introduced new challenges and restrictions on the movement of material), the COVID-19 pandemic, cost of living crisis and drop in oil prices, all of which impacted the logistical and economic drivers around plastics recycling more generally.

In 2017, China and Hong Kong imported a combined 7.7 million tonnes. However, in 2018, China banned the great majority of plastic waste imports, altering the market dramatically. This impacted the global market, including UK exports<sup>10</sup>. Following this, a number of other large receiving countries (mostly Asian destinations such as Malaysia) also introduced restrictions. These changes saw a renewed focus on domestic recycling in the UK, as well as sourcing new export countries.

Some developing nations went from accepting negligible amounts of plastic waste in 2017 to thousands of tonnes in 2023, including African countries like Angola and Ethiopia, and Asian nations like Myanmar, Uzbekistan, and Azerbaijan. Other countries massively increased their already sizable intake, like Turkey – which now imports 146% more plastic waste than it did in 2017 – and Vietnam, whose rate has risen by 153%. Some wealthier countries have also upped their imports, like the Netherlands, Belgium, Czechia, the US, and Denmark<sup>11</sup>.

The most significant development for the UK has been Turkey as the primary receiving destination, with it having received over 980,000 tonnes of plastic for recycling from the UK between 2017 and 2024. In the calendar year of 2023, Turkey received almost a quarter of all exported plastic waste for recycling from the UK, with EU member states and non-OECD Asian countries also receiving significant volumes.

Country	2023	OECD Status
Turkey	24%	OECD
Germany	14%	EU
Belgium	8%	EU
Malaysia	7%	Non-OECD
Vietnam	7%	Non-OECD
Ireland	7%	EU
Spain	7%	EU
Netherlands	7%	EU
France	4%	EU
Indonesia	3%	Non-OECD

Figure 1. A table of the top 10 receiving countries of plastic waste export from the UK in 2023.

<sup>10</sup> <https://blog.cleanhub.com/plastic-waste-exports>

<sup>11</sup> <https://blog.cleanhub.com/plastic-waste-exports>

In total, 36 different countries received plastic waste from the UK in 2023.

Prior to 2023, the UK had shown a year-on-year shift away from export markets and towards domestic recycling. Furthermore, of the material that was exported, the amount going to non-OECD countries was in decline, with a low 6% of plastic exports going to these markets in 2021.

However, in 2023, the amount of plastic packaging waste exported increased by around 100,000 tonnes in comparison to the previous year, and the proportion that was sent to non-OECD countries increased from 13% in 2022 to 22% in 2023, a 100% increase in terms of the tonnage. This was largely due to growth in material being sent to Asian markets, particularly Malaysia and Vietnam.

Concerns have been raised as to the UK’s position as an OECD country for material exports out of the EU. In light of the EU’s ban on export to non-OECD countries, this could provide a loophole for the movement of material from EU Member States, via the UK, to these markets.

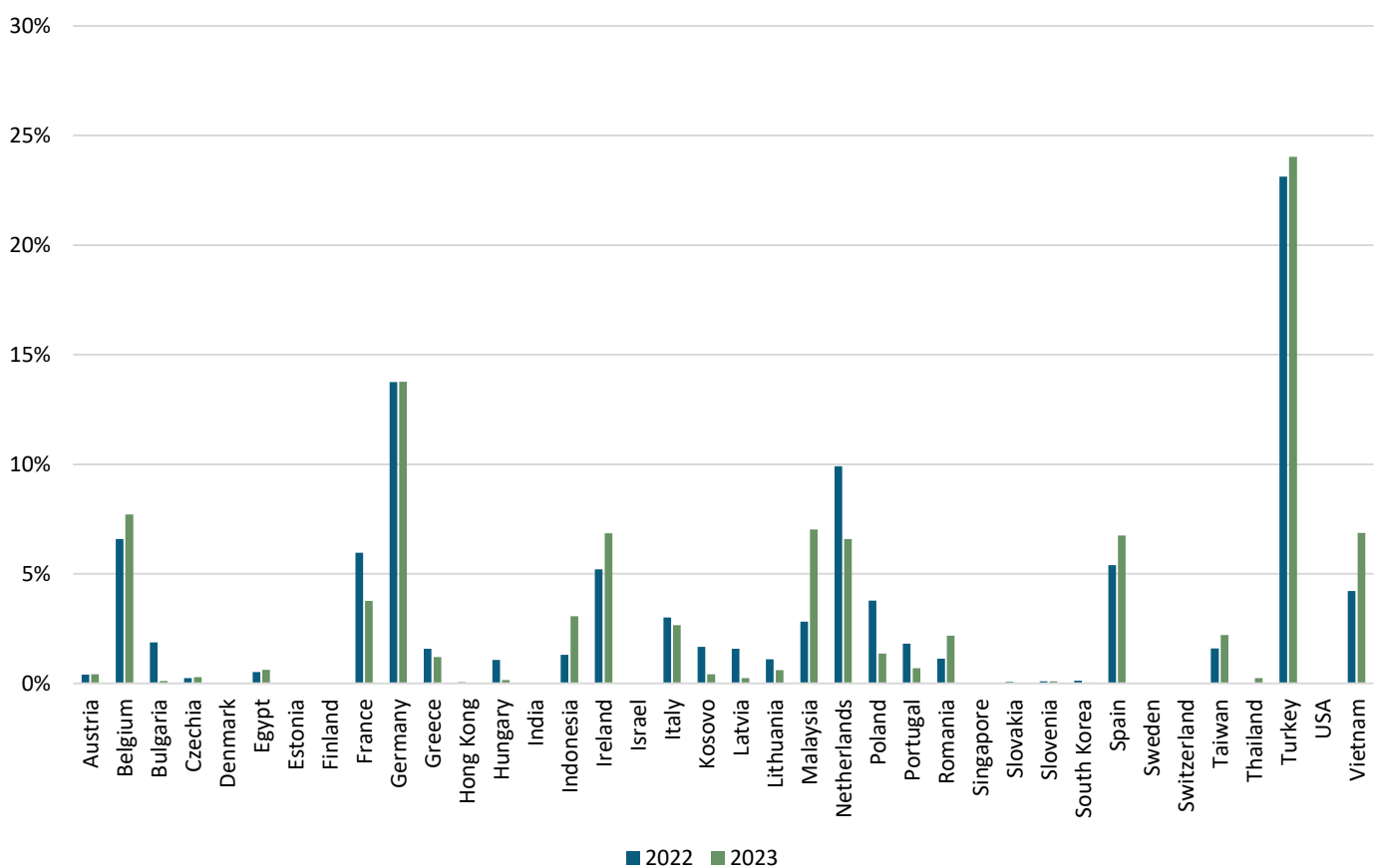


Figure 2. Proportion of plastic packaging waste exported out of the UK in 2022 and 2023 based on receiving destination.

Whilst EU Member States remain the most prominent destination for UK plastic packaging waste, this has declined year-on-year. Turkey, captured in the graph below as part of 'Europe', remains the single largest recipient of waste plastic packaging.

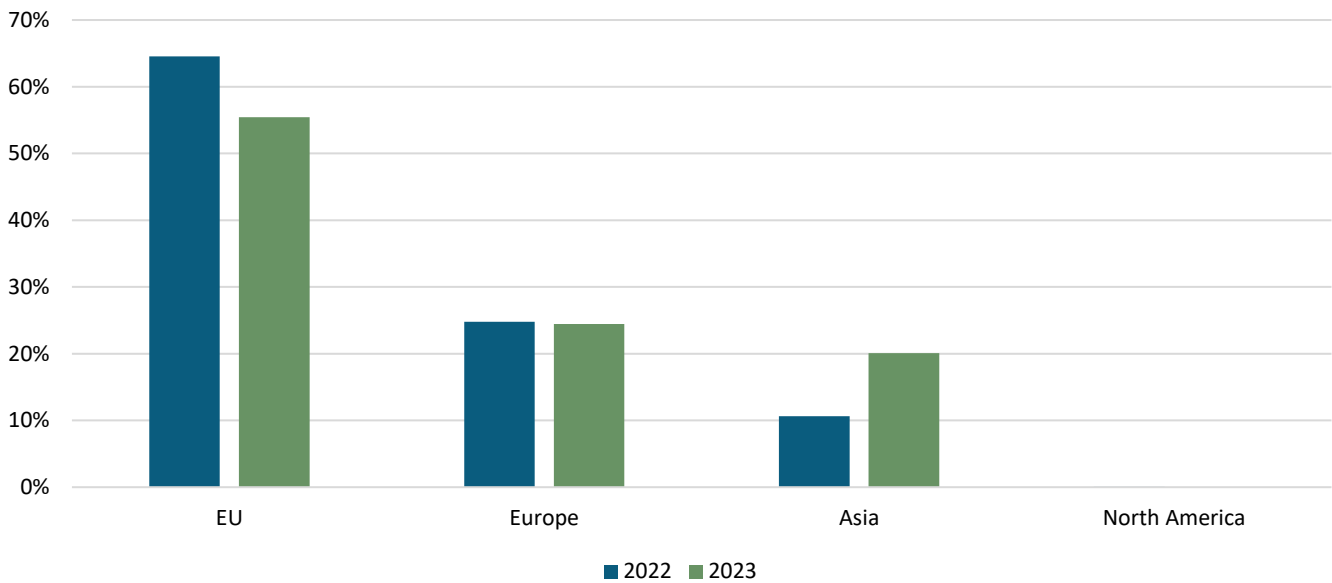


Figure 3. Proportion of plastic packaging waste exported out of the UK in 2022 and 2023 based on receiving region.

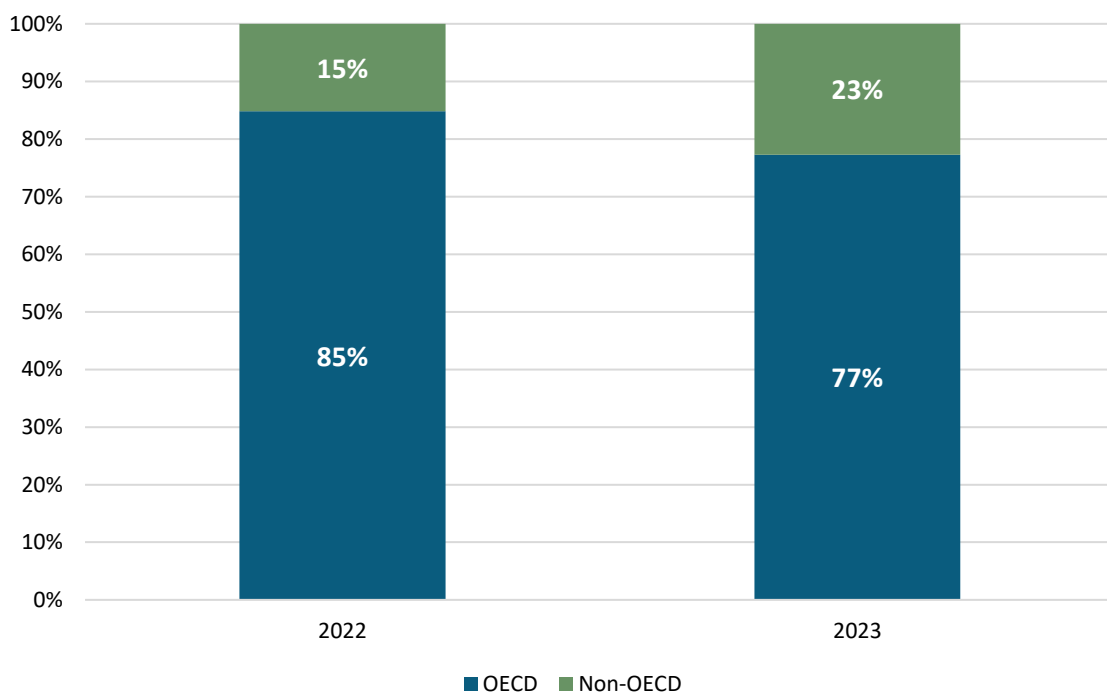


Figure 4. Proportion of plastic packaging waste exported out of the UK in 2022 and 2023 based on the receiving destinations' OECD status.

In 2021 and 2022 the UK was recycling more material domestically than it exported, possibly in part due to ongoing impacts of the COVID-19 pandemic and the logistical challenges it created in moving material. For 2023, this trend appears to have reversed.

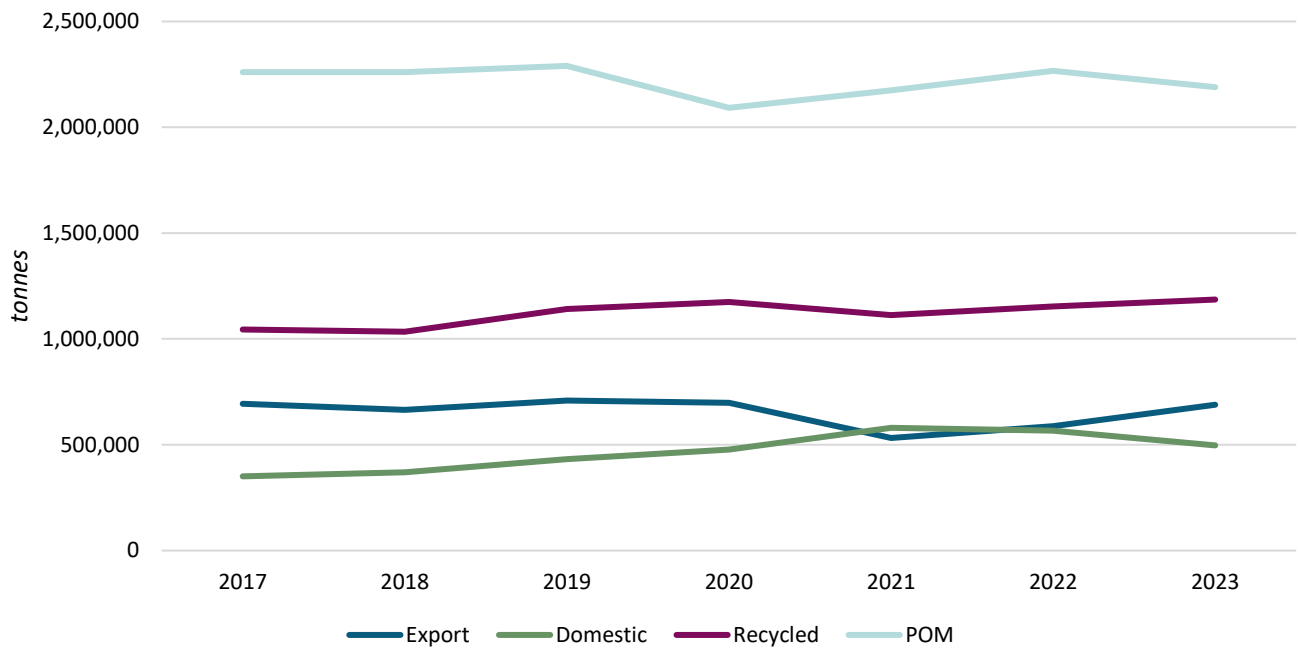


Figure 5. Tonnes of UK plastic packaging placed on the market, declared as recycled, and how much was exported and recycled domestically (2017 to 2023). Official recycling rates for 2023 are not available at the time of this report (Feb 2024).

## England

Since China restricted the import of waste for recycling in 2017, Turkey has become by far the greatest individual receiving country of plastic packaging from the UK. In the last 7 years, more than 960,000 tonnes of plastic packaging were sent there for recycling, from England alone.

To give a clear understanding of the scale, England sent just shy of 1 million tonnes solely to Turkey, and almost 2.3 million tonnes to the 27 countries of the EU collectively.

In total, England exported more than 4.3 million tonnes of the UK's total 4.6 million tonnes of plastic packaging exported for recycling between the start of 2017 and the end of 2023.

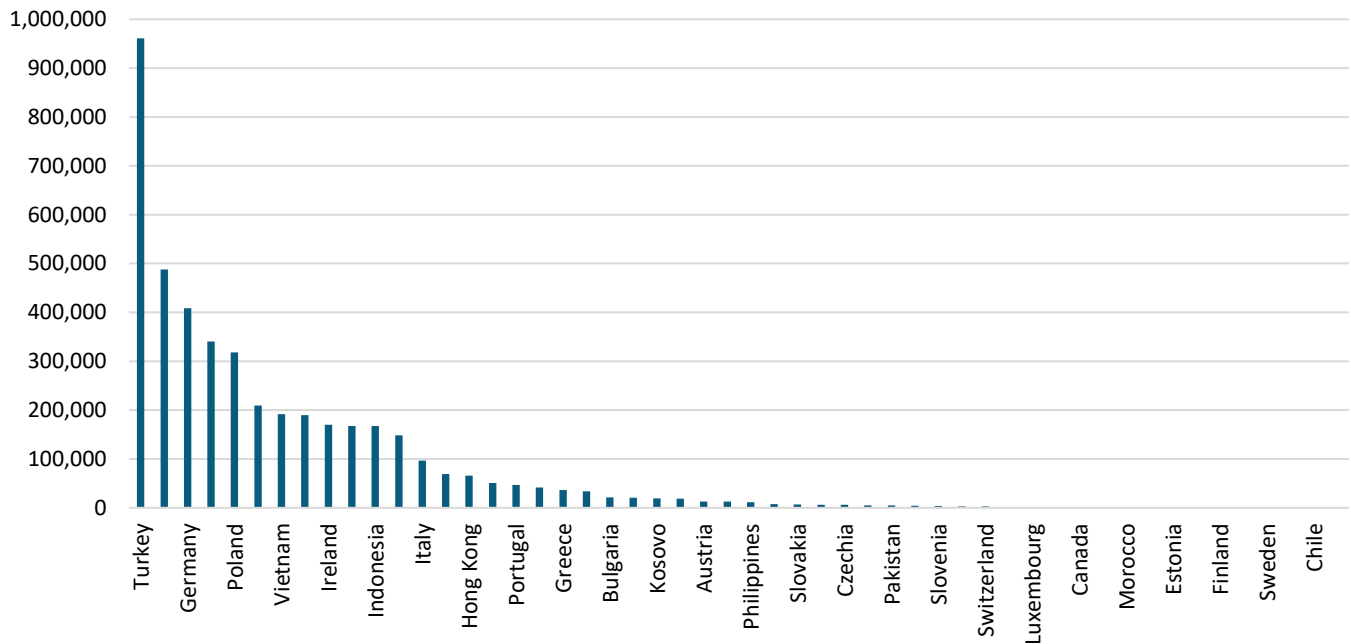


Figure 6. Graph showing the total tonnages of plastic packaging waste sent from England to countries for recycling 2017 to 2023.

Export from England to non-OECD countries has also seen a significant increase in the last couple of years. In 2021, this was at its lowest point, with 5.9% of plastic exported for recycling sent to non-OECD countries. In 2022 this rose to 16.2%, and in 2023 to 25.8%. This percentage is proportionately higher for English exports than from the devolved nations. The increase in proportion sent to non-OECD countries is in line with tonnages increasing as well. 5.9% exported to non-OECD countries in 2021 equated to only 31,500 tonnes, compared to 156,000 tonnes which was 25.8% in 2023.

When plastic waste is moved between the four UK nations it carries a WTN, with the exporting nation being considered the country of which the port and point of export from the UK takes place. Due to the logistics and size of ports in England, this is often the most attractive point of export and is reflected in the proportion of waste that goes out from the country in comparison to the devolved nations, particularly Wales and Scotland.

	2017	2018	2019	2020	2021	2022	2023
<b>England</b>	98.9%	97.7%	97.6%	98.7%	97.6%	87.8%	87.1%
<b>Wales</b>	0.9%	2.1%	2.2%	1.2%	1.9%	2.2%	1.9%
<b>Scotland</b>	0.2%	0.1%	0.2%	0.1%	0.5%	0.6%	1.1%
<b>Northern Ireland</b>	<i>No data</i>					9.4%	9.9%

Figure 7. A table showing the proportion of plastic waste exported from each UK nation.

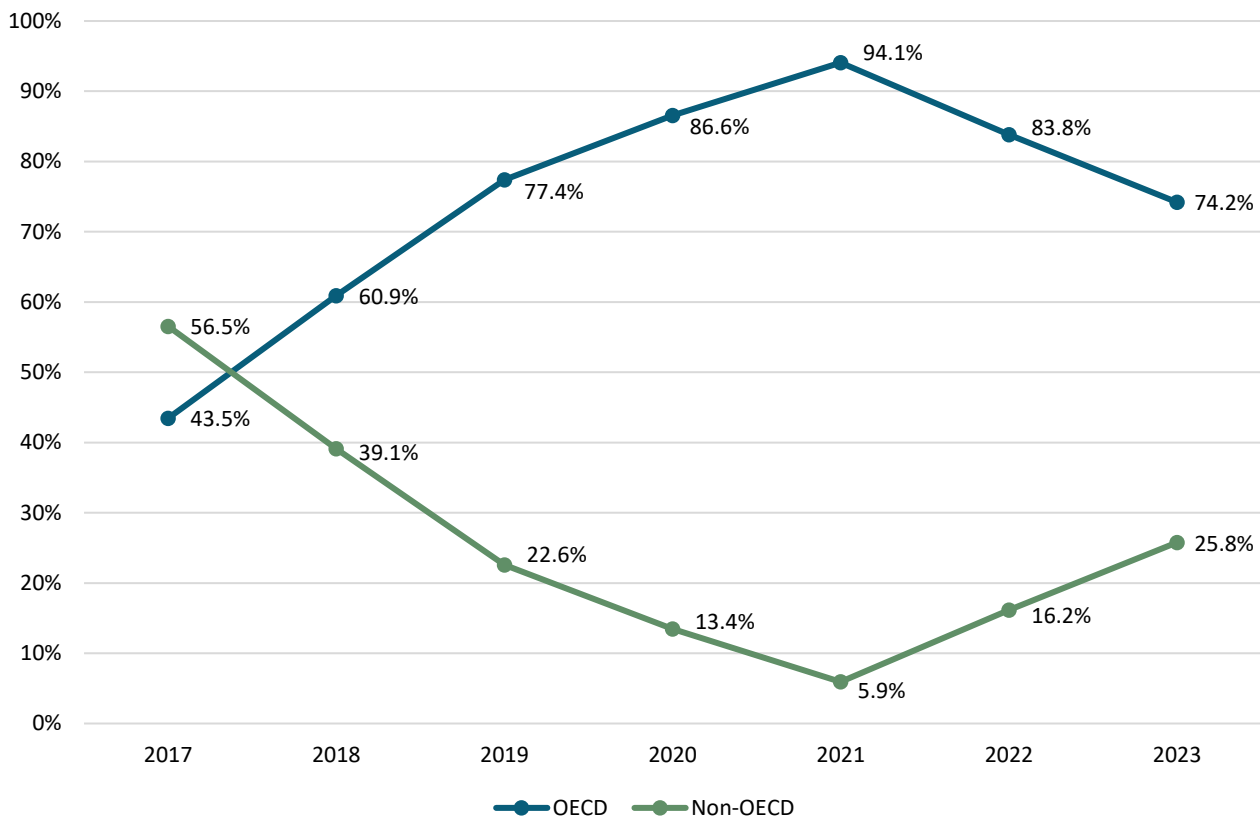


Figure 8. The split of plastic packaging exported from England for recycling by the receiving country's OECD/EU Member State or non-OECD status.

The growth of exported tonnages in 2023 was especially significant in countries including Turkey, and non-OECD countries like Vietnam and Malaysia. Other non-OECD countries that received UK waste include Taiwan, Egypt and Kosovo.

At the same time, material sent to EU States declined as a percentage but tonnages remained consistent due to the overall increase in the total amount of material exported.

As part of the research conducted in this report, discussions were held with exporters of waste. Receiving sites were identified in both Egypt and Kosovo specifically, and the justification for the need for export was around available infrastructure to ensure recycling was achieved and sourcing demand for recycled material at a time when the European plastics recycling market was especially challenging due to low demand and value for recycled plastic, and cheap virgin plastic imports.

Country	OECD	Continent	%
Turkey	Yes	Europe	25.7%
Germany	Yes	EU	9.4%
Malaysia	No	Asia	8.0%
Vietnam	No	Asia	7.8%
Ireland	Yes	EU	7.6%
Belgium	Yes	EU	7.5%
Spain	Yes	EU	6.6%
Netherlands	Yes	EU	6.1%
Indonesia	No	Asia	3.4%
France	Yes	EU	3.0%
Italy	Yes	EU	2.9%
Taiwan	No	Asia	2.5%
Romania	No	EU	2.5%
Greece	Yes	EU	1.4%
Poland	Yes	EU	1.2%
Portugal	Yes	EU	0.7%
Egypt	No	Asia	0.7%
Lithuania	Yes	EU	0.6%
Kosovo	No	Europe	0.5%
Austria	Yes	EU	0.5%
Czechia	Yes	EU	0.3%
Thailand	No	Asia	0.3%
Latvia	Yes	EU	0.3%
Hungary	Yes	EU	0.2%
Bulgaria	No	EU	0.1%
Slovenia	Yes	EU	0.1%
South Korea	Yes	Asia	<0.1%
Israel	Yes	Asia	<0.1%
Denmark	Yes	EU	<0.1%
Finland	Yes	EU	<0.1%
India	No	Asia	<0.1%
Singapore	No	Asia	<0.1%
Estonia	Yes	EU	<0.1%
Hong Kong	No	Asia	<0.1%
Sweden	Yes	EU	<0.1%
Switzerland	Yes	Europe	<0.1%

Figure 9. Receiving countries of plastic from England in 2023.

### Wales

Wales makes up around 5% of the population and is geographically around 8-9% of the UK. It is also limited in terms of ports and points of entry and exit for material outside of the UK, meaning that aside from relatively small imports and exports to the Republic of Ireland and western European markets, material is often moved across the internal border into England. As such, volumes recorded as being exported from Wales are proportionately low by comparison and, like England, Annex VII and Green List waste data is not necessarily received by NRW, meaning there is export data known to be unrecorded. These factors combined mean that the volumes of waste exported annually are much lower than in England, with just less than 82,000 tonnes exported in the 5 years from 2017 to 2023.

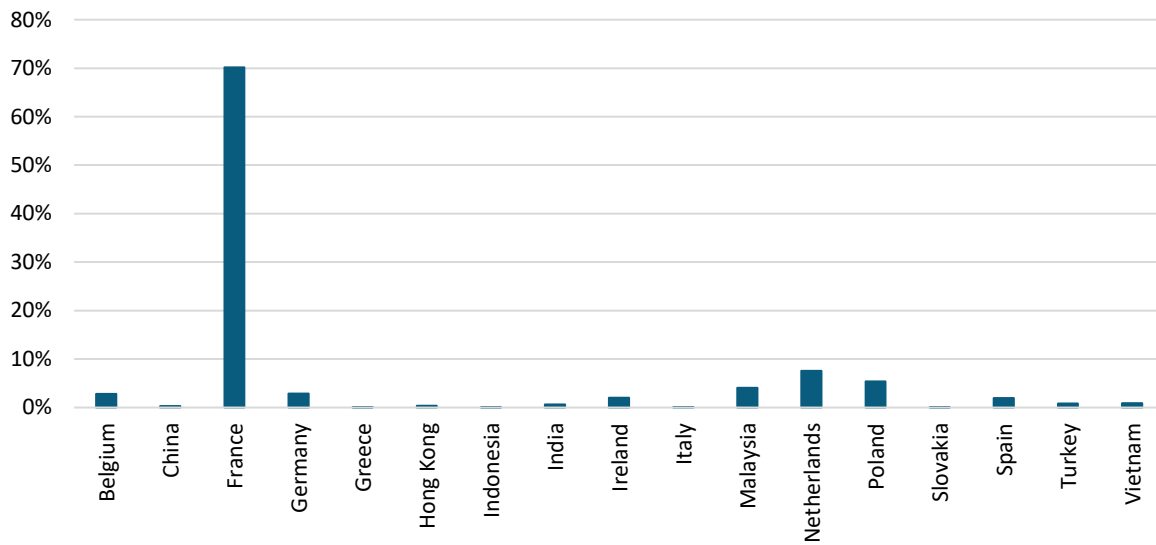


Figure 10. Graph showing the total tonnages of plastic packaging waste sent from Wales to countries for recycling 2017 to 2023.

In 2021 and 2022, all material exported out of Wales went to EU Member States. However, in 2023, a small amount was sent to both Turkey (an OECD country) and Indonesia (a non-OECD country).

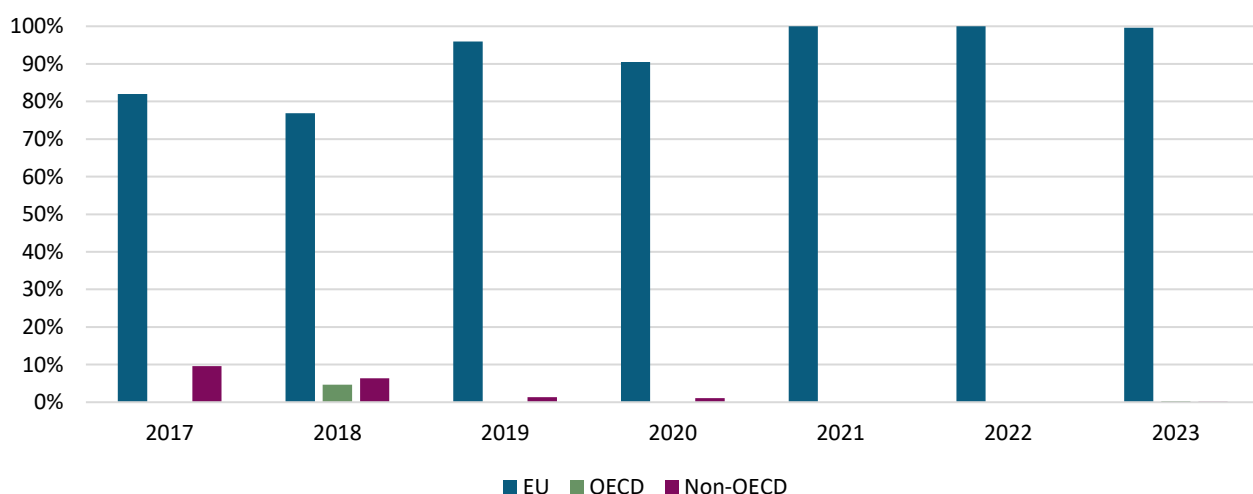


Figure 11. Total percentage of plastic packaging exported from Wales by year and the receiving country's OECD status (2017-2023).



### Scotland

Scotland exported less than 20,000 tonnes of plastic for recycling in the 6-year period from 2017 to 2023. This could be in part due to the rurality of the country, its limited number of ports and its low population (account for around 8% of the UK) and therefore comparatively small volumes of plastic waste. However, the amount exported has increased year-on-year and 2023 was the first time in those 6 years that material was sent to non-OECD countries, namely Indonesia, India, Vietnam, and Romania (an EU Member State).

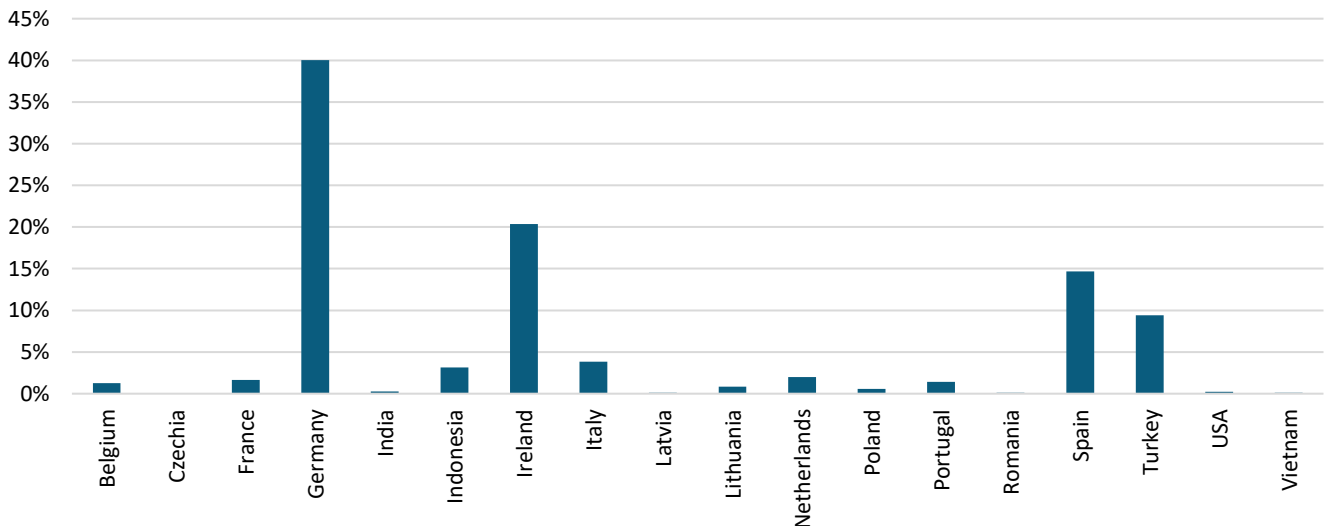


Figure 12. Graph showing the total tonnages of plastic packaging waste sent from Scotland to countries for recycling 2017 to 2023.

Prior to 2023, Scotland had not recorded exporting plastic packaging to any non-OECD destinations since 2017, and bar a spike of exports to Turkey in 2021, had sent little material to countries outside of the EU.

Whilst the spike in exports to Turkey in 2021 have a dramatic visual impact on the graphics in Figure 13, the 1,500 tonnes of plastic waste sent there is just 1% of the plastic packaging sent out of England to Turkey in the same year.

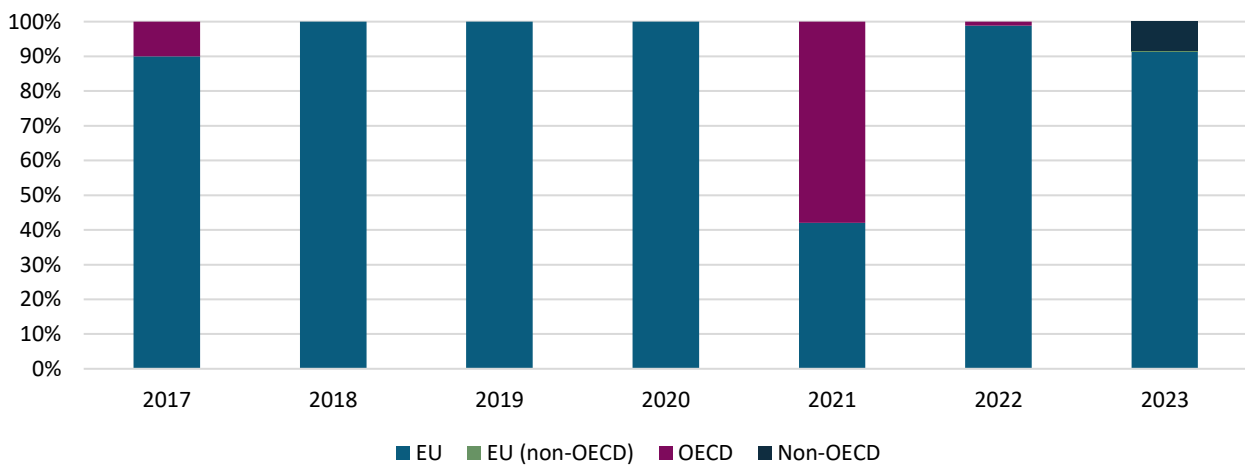


Figure 13. Proportion of plastic packaging export tonnage from 2017 to 2023 Split by nation's OECD status.

### Northern Ireland

The NIEA reported that, in 2023, 69,000 tonnes of plastic waste was exported from Northern Ireland. This is an increase on the 57,000 tonnes in 2022, and 56,000 tonnes in 2021. This relates to material exported outside of the UK, including into the Republic of Ireland where almost half of the material is sent. Of the material exported, very little is sent to non-OECD destinations.

It is worth noting that, going forward, the political status in Northern Ireland and its relationship between the British mainland, the Republic of Ireland and the EU, may impact reporting requirements and legislation around the movement of material.

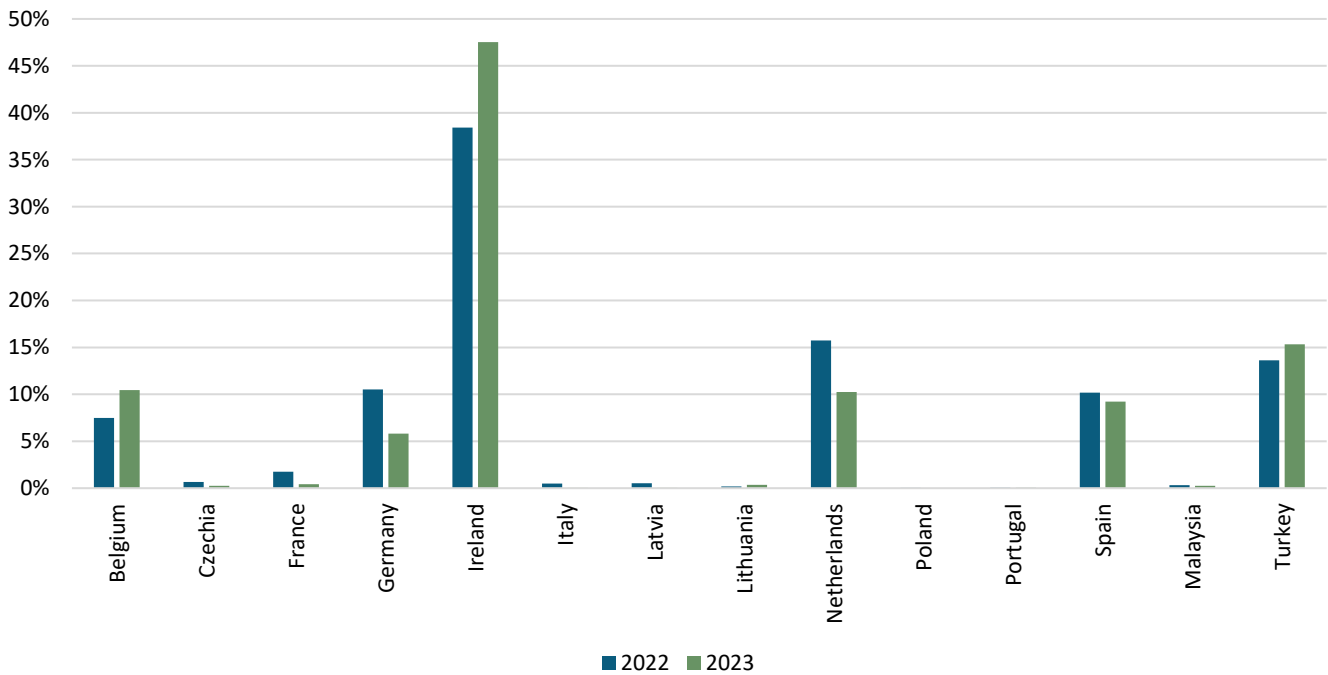


Figure 14. Receiving countries of exported plastic packaging waste from Northern Ireland (2022–23)

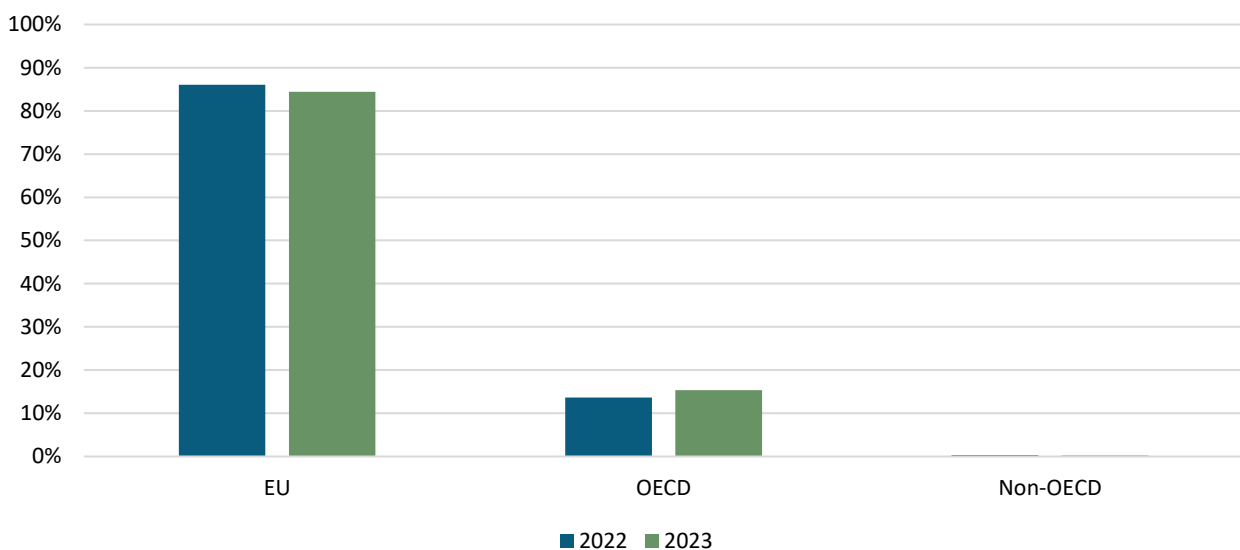


Figure 15. Split by nation's OECD status for Northern Irish plastic packaging exports for 2022 and 2023.

## Drivers for Export

Plastic waste is a commodity and its trade for recycling is subject to a number of influences and drivers. These range from domestic circumstances and legislation to international factors.

Whilst export of waste for recycling is common in the UK as a way of ensuring that material is recycled, it is by no means a UK-specific activity, with countries all over the world importing and exporting large quantities of plastic waste each year, “simultaneously getting rid of the plastic they can’t process, while taking in the plastic they can turn into material that can be used to manufacture new goods.”<sup>12</sup>

It is clear that export has its place to ensure circularity is achievable for plastic waste, but the question is often why it is required at all. Considerations include:

- UK infrastructure
- Labour and processing costs
- Supply and demand of recycled materials
- Non-circular solutions and costs
- The current UK compliance scheme: Packaging Recovery Notes (PRNs) and Packaging Export Recovery Notes (PERNs)

### UK Infrastructure

Whilst the UK is very much a developed country in terms of its recycling infrastructure, and one of the mid-to-high performers in terms of plastic packaging recycling rates in Europe, there are known gaps in the country’s ability to recycle certain types and formats of plastics.

In 2022, RECOUP’s Plastics Sorting & Reprocessing Infrastructure report<sup>13</sup> found significant shortfalls in domestic capacity. Most notably, this includes capacity to recycle post-consumer plastic films and flexibles that require specialist sorting and recycling systems to effectively process, as well as recyclate approved for contact sensitive uses. Other developments, including chemical recycling infrastructure, have also been slow to come online in the UK, with infrastructure more prevalent in the EU and US.

This means that export often provides recycling solutions for materials that would otherwise end up in energy recovery or landfill if it were to be disposed of in the UK.

### Labour and processing costs

The UK is a ‘highly developed’ country, and costs associated with the industry are proportionately high in comparison to some less developed countries. Both sorting and reprocessing come with costs, ranging from staff costs for manual labourers (e.g. pickers on sorting lines, drivers, technicians for equipment) to land and materials for the construction and operation of facilities. Rising energy prices and other operational costs have also become an increasingly relevant factor.

As such, countries where these operational costs are lower are economically attractive and offset the costs of moving material from the UK to be recycled there.

<sup>12</sup> <https://blog.cleanhub.com/plastic-waste-exports>

<sup>13</sup> <https://www.recoup.org/wp-content/uploads/2023/09/uk-plastic-packaging-sorting-reprocessing-infrastructure-2022-update-full-v11-1667559372.pdf>

### Supply and demand of recycled materials

As a tradeable commodity, the value of recycled plastic content and therefore the need and drive for recycling is influenced by the supply and demand of both recycled and virgin feedstock.

Due to the resource requirement of the process, recycling is often a more costly process than producing virgin feedstock. Legislative interventions, including the UK Plastic Packaging Tax<sup>14</sup>, have sought to help balance this by providing financial incentives for using recycled content.

However, in 2022 and 2023, the European plastic recycling market saw significant challenges when it came to demand and value of material. This was, in part, due to the availability of cheap virgin feedstock from outside of Europe significantly undercutting the price of recycled content to the point where measures such as the Plastic Packaging Tax which adds a £217.85 (as of April 2024) per tonne incentive to use recycled content were not sufficient to cover the gap.

Into 2024, the market has begun to recover somewhat, but this remains an ongoing challenge.

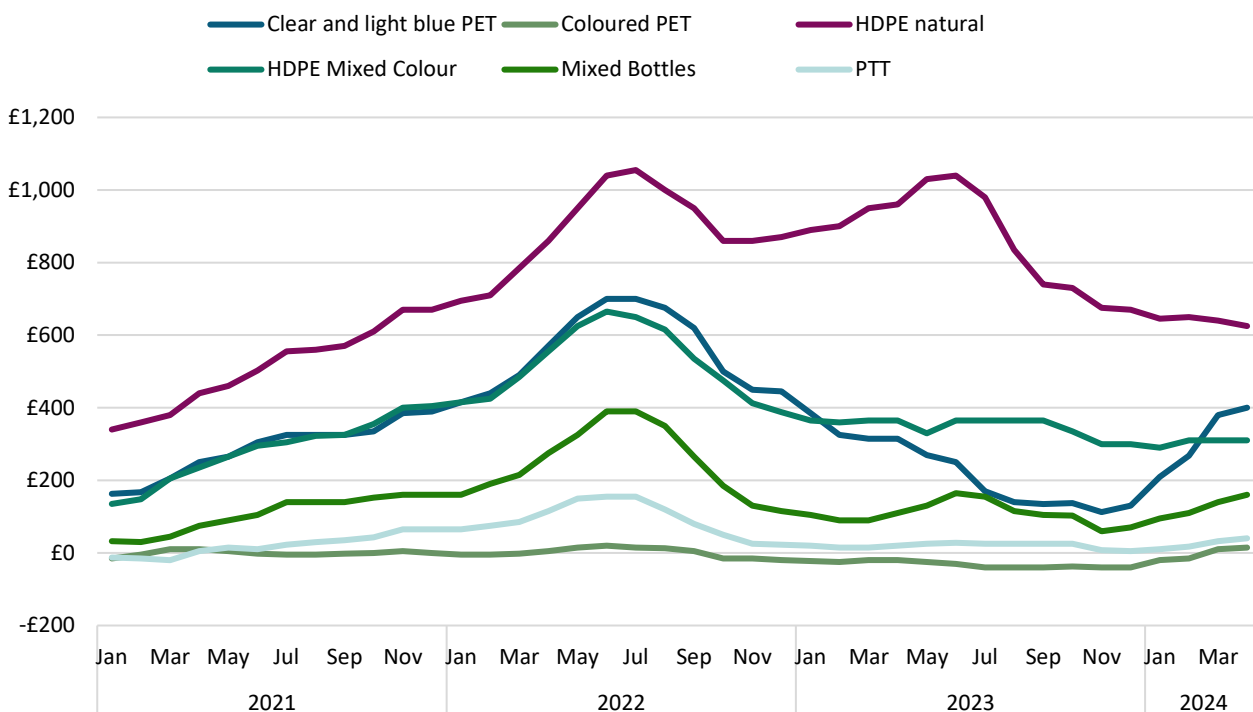


Figure 16. Plastic prices from January 2021 to March 2024<sup>15</sup>.

### Non-circular solutions and costs

On the opposite side of recycling is the non-circular infrastructure and end destinations that waste can be treated by. This includes landfill and energy recovery/energy from waste (EfW), as well as other treatments including Refuse Derived Fuel (RDF).

<sup>14</sup> <https://www.legislation.gov.uk/ukxi/2022/117/contents/made>

<sup>15</sup> Data from Let's Recycle and REB Market Intelligence

The UK has long been moving away from landfilling of material and towards energy recovery and recycling. However, recently, the available capacities for incineration of waste, including potentially recyclable materials, has become a growing concern <sup>16</sup>. To dissuade the landfilling and incineration of material, taxes are in place per tonne of material that is sent to these solutions. This has increased modestly over the past few years.

<i>(per tonne)</i>	2020	2021	2022	2023	2024
<b>Landfill Tax</b>	£94.15	£96.70	£98.60	£102.10	£103.70
<b>Energy from Waste (EfW)</b>	£92.50	£95.00	£100.00	£103.00	£104.00

Figure 17. Landfill Tax and Energy from Waste costs per tonne since 2020 <sup>17</sup>.

In April 2025, the Landfill Tax rate is due to rise by 21.6% from £103.70 to £126.15 per tonne <sup>18</sup>.

EfW and incineration will be impacted by the expansion of the UK’s Emission Trading Scheme (ETS). This will mean that, from 2028, burning of waste will incur costs relating to its carbon impact. This will drive a financial incentive to ensure that plastics are removed from waste streams sent for incineration and into recycling and to other end destinations <sup>19</sup>.

### The current UK compliance scheme: Packaging Recovery Notes (PRNs) and Packaging Export Recovery Notes (PERNs)

The Producer Responsibility Obligations (Packaging Waste) Regulations 2007 <sup>20</sup> is the current legislation in place to ensure producers fund the management of their packaging at its end of life. This is done through the purchase of PRNs and PERNs for every tonne of material that is recycled.

The money raised through this system (over £300 million for plastic PRN and PERNs in 2023) is then attributed to a number of categories. These include: infrastructure and capacity, funding collection, reduction in price and developing markets, cost of complying with the regulation, and developing communication strategies.

A long running issue with the system is that it financial incentivises export. At present, the point of which the tonne of material is measured for a domestic PRN is at the point of material reprocessing. For a PERN however, this is measured at the point of export. This means that the tonne of material measured for the PERN includes material that would be lost through the recycling process, effectively making exported material more valuable.

<sup>16</sup> <https://www.bbc.co.uk/news/uk-politics-68993208>

<sup>17</sup> <https://www.letsrecycle.com/prices/efw-landfill-rdf/>

<sup>18</sup> <https://www.letsrecycle.com/news/landfill-tax-to-jump-21-6-to-126-15-from-2025-26/>

<sup>19</sup> <https://www.suez.co.uk/en-gb/news/blog-240221-uk-emissions-trading-scheme-a-costly-headache-or-a-green-goldmine>

<sup>20</sup> <https://www.legislation.gov.uk/uksi/2007/871/contents/made>

Despite the Extended Producer Responsibility (EPR) <sup>21</sup> proposals that are coming into force across the UK, the PRN system is due to be retained for the time being. In 2022, a consultation took place looking at possible reforms <sup>22</sup>, though updates have been limited.

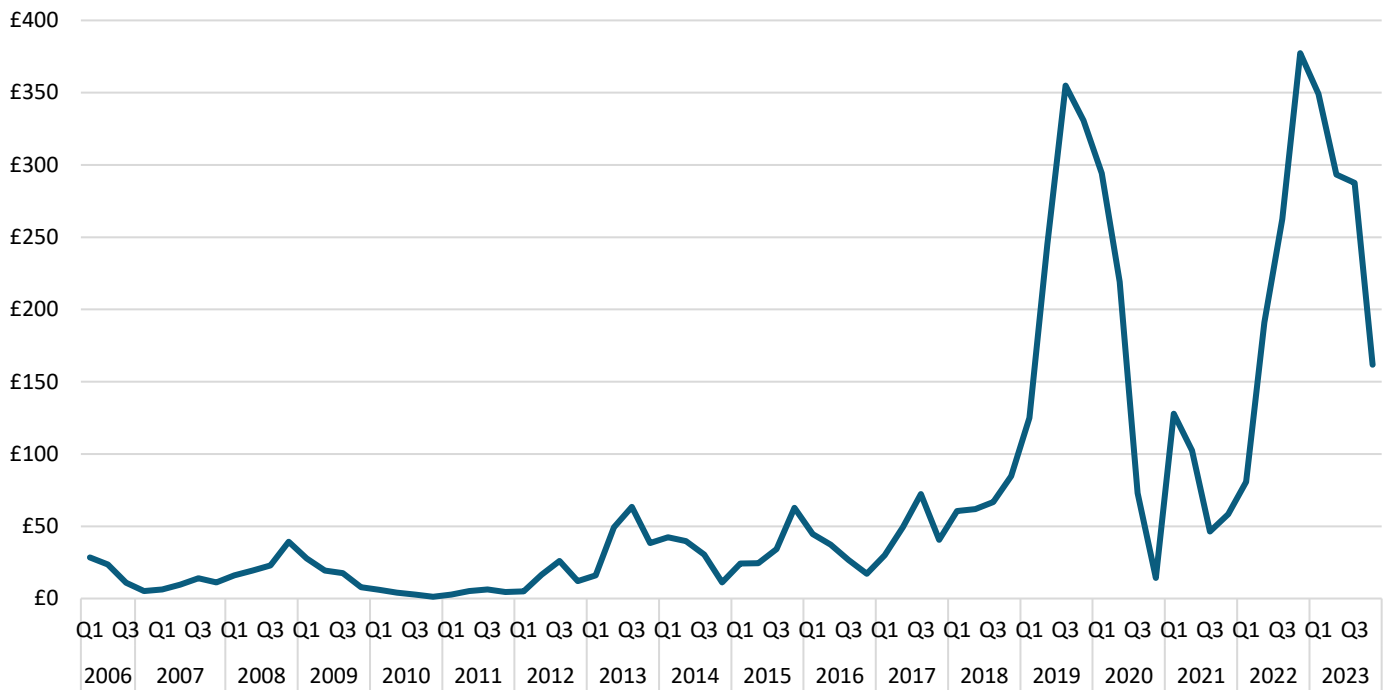


Figure 18. A graph showing the volatility of the PRN/PERN prices since 2006, ranging from around £10 to £400 per tonne <sup>23</sup>.

<sup>21</sup> <https://www.gov.uk/guidance/extended-producer-responsibility-for-packaging-who-is-affected-and-what-to-do>

<sup>22</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1114183/PRN\\_Reform\\_Consultation\\_-\\_Summary\\_of\\_responses\\_and\\_government\\_response.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1114183/PRN_Reform_Consultation_-_Summary_of_responses_and_government_response.pdf)

<sup>23</sup> Data from Let’s Recycle and REB Market Intelligence

## Plastic Packaging Waste Imported into the UK

There is significant focus on the export of plastic packaging waste from the UK, but it is important to acknowledge the UK's position as an importer of some plastic waste types. However, the enforcement bodies across the four nations of the UK acknowledged significant limitations in the data available relating to plastic waste imports.

Whilst data was not made available, the import of plastic waste for recycling from the Republic of Ireland (with agricultural plastics given as one particular example) was frequently highlighted, although the volumes predicted to be comparatively low if compared to the UK's exports.

SEPA stated that, as of 2024, an allowance on imports from Ireland that meant material could be brought into the UK without a notification charge (effectively a delay on a policy change from the open market prior to the UK leaving the EU), would be changed to enforce the charge.

Import of plastic waste is an area that should not be overlooked, and further data will be sought. Data in this area should benefit considerably from the introduction of Digital Waste Tracking that will help to trace the origins and destinations of materials moved into, around, and from, the UK.

## Legislation

Whilst some export of waste has often been labelled as unnecessary or unethical, legislation has been limited in addressing this. In recent years, however, efforts and discussions have begun to move towards restricting export of waste to some countries.

### UK

There has been growing discussion around ensuring that plastic packaging is not exported to countries that do not have the infrastructure and legislation in place for handling the material that would be considered on par with that of the UK. This has been defined through members of the OECD<sup>24</sup>, which evidences countries to have met strict requirements and proof of collaboration to join, all-be-it not necessarily relating to waste management infrastructure.

The Environment, Food and Rural Affairs (EFRA) Select Committee's report<sup>25</sup> on their inquiry into plastic waste released in 2022 recommended banning all exports of UK plastic waste by the end of 2027. However, the UK Government rejected this recommendation in January 2023.

In 2023, a consultation was scheduled to be issued by DEFRA and the EA, banning the export of plastic waste to non-OECD countries<sup>26</sup>. As of June 2024, this consultation has not been released, though some details of the proposed ban have been issued, including clarification that EU Member States that are non-OECD would not be subject to the ban. Further consultations have also been proposed in relation to Green List waste and associated costs of export. These are due to be launched in 2024.

Separately, consultations took place from both the EA<sup>27</sup> and SEPA<sup>28</sup> with respect to amending the costs and details of notifiable waste to bring them in line with the expense incurred by the authorities for delivering them. These changes were introduced in April 2024.

### Digital Waste Tracking

From April 2025, the UK is due to introduce Digital Waste Tracking<sup>29</sup>, a system that will effectively create a digital version of the current Annex VII<sup>30</sup>. This will enable waste to be tracked through its journey into, around, and out of, the UK, providing a level of transparency to plastic waste import, export and recycling that has not been seen previously.

The enforcement bodies, the EA, SEPA, NRW and DAERA, as well as the majority of industry, have stressed this is an important and positive introduction, something that RECOUP strongly agrees with. However, it should be acknowledged that such a system will be complex and require additional time and resource to setup and operate, and that the data and information acquired will likely highlight the issues within the current system rather than provide an immediate solution.

<sup>24</sup> <https://www.oecd.org/>

<sup>25</sup> <https://committees.parliament.uk/work/1391/plastic-waste/>

<sup>26</sup> <https://www.mrw.co.uk/news/consultation-on-plastic-waste-export-ban-to-non-oecd-due-this-summer-31-03->

<sup>27</sup> <https://www.gov.uk/government/news/environment-agency-consults-on-updating-charges-for-international-waste-shipments>

<sup>28</sup> <https://consultation.sepa.org.uk/charging-team/proposals-to-amend-tfs-fees-charges-scotland/>

<sup>29</sup> <https://www.gov.uk/government/publications/digital-waste-tracking-service/mandatory-digital-waste-tracking>

<sup>30</sup> <https://www.gov.uk/government/publications/annex-vii-document-for-green-list-waste-shipments>



Packaging Export Recovery Notes (PERN) vs Packaging Recovery Notes (PRN)

PRNs are the UK’s current system for producer responsibility and have largely remained the same since their introduction in 1997. Companies are required to purchase PRN or PERNs depending on how much packaging they place on the UK market, representing an investment in the industry to help manage the waste that is subsequently created.

This money is then attributed to various areas of investment. This includes: infrastructure and capacity, funding collection, reduction in price and developing new markets, costs of complying with regulations, developing communication strategies, and retained for future investment.

In 2023, £306 million was raised through plastic PRNs and PERNs alone.

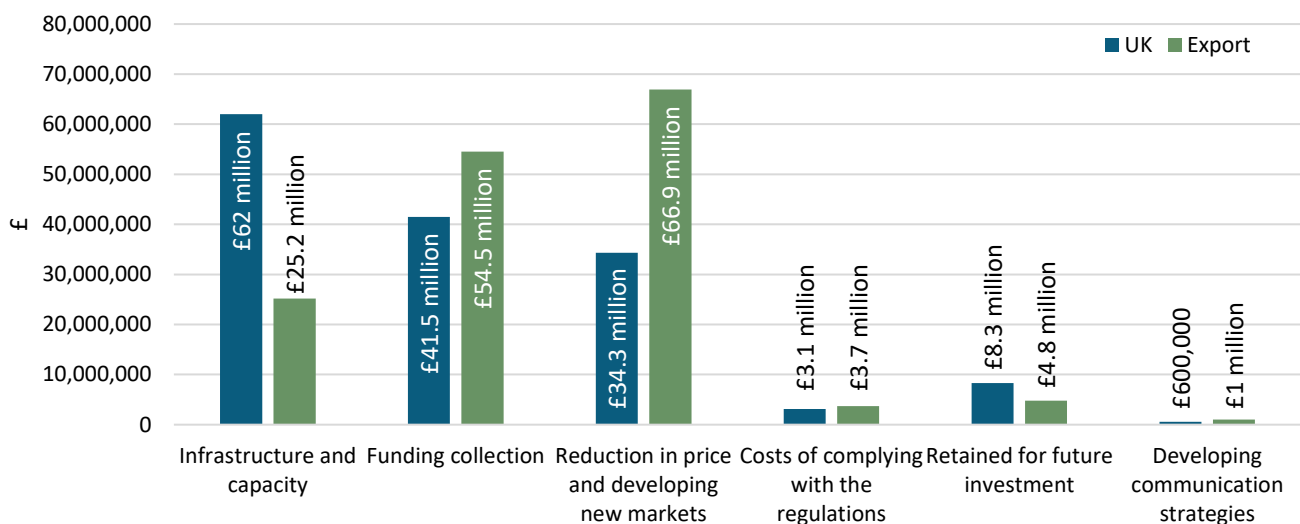


Figure 19. Funds attributed from plastic PRN and PERNs in 2023<sup>31</sup>.

A long-standing challenge with this system is the economic incentive it applies to PERNs over PRNs, and therefore export over domestic recycling. The point of which the tonnage of the note is measured varies between the two, with PRNs measured at the point of reprocessing, and PERNs measured at the point of export. This effectively means that PERNs are issued, per tonne, including the weight of contamination and non-target material, and prior to any yield losses that may be amassed during the recycling process.

Further challenges with the PRN system include the volatility of prices which in recent years have gone from highs of £400+ per tonne, to lows of under £10 per tonne, depending on the demand and the UK’s recycling at the time. This creates further challenges due to plastics being measured as one item, rather than being split by format or industry source. For example, a PRN for a highly recyclable item (e.g. HDPE milk bottle) is the same price as for a hard-to-recycle item (e.g. metallised PP sachet).

The PRN and PERN systems were both reviewed during the process of introducing EPR. However, both are to be retained for the immediate future.

<sup>31</sup> <https://npwd.environment-agency.gov.uk/Public/PublicSummaryData.aspx>

In 2023, a consultation on reviewing the PRN system was issued by DEFRA, though as of March 2024, limited outcomes and follow-up have been seen.

RECOUP feels that a review of the PRN/PERN system is required and that systems are put in place to ensure a fair balance of PRN prices between different import, export and plastic types.

### European Union (EU)

In 2023, the EU agreed legislation that will ban plastic waste export to non-OECD countries by 2026<sup>32</sup>. This is included as part of the Plastic Packaging Waste Regulations (PPWR)<sup>33</sup>.

Building on this legislation, restrictions on export to OECD countries are also being introduced. This will mean that plastic waste exported to OECD countries outside the EU and the European Free Trade Association (EFTA) will need to be moved as notified waste. Auditing of sites may also need to take place to ensure that the receiving facility is legitimate. This will mean that importing sites in the UK will need to provide proof of their operations to an auditor from the EU country exporting.

Whilst these changes appear to primarily target exports to Turkey, the UK, as an OECD country outside both the EU and EFTA, will fall into this category.

Concerns have been raised as to the UK's position as an OECD country for material exports out of the EU. Considering the EU's ban on export to non-OECD countries, this could provide a loophole for the movement of material from EU Member States, via the UK, to these markets.

### Basel Convention

In 2021, the Basel Convention introduced amendments to waste shipment and requirements<sup>34</sup>. This introduced PIC (Prior Informed Consent) for packaging types deemed hazardous and non-Green List, clarification and definition of in-scope plastic types and mixes, as well as the requirements around its end destination in relation to export. As a party to the Basel Convention, this is therefore in place in the UK.

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<sup>32</sup> [https://resource.co/article/eu-proposed-ban-sending-plastic-waste-non-oecd-countries-affect-uk-exports#:~:text=EU%20proposed%20ban%20on%20sending%20plastic%20waste%20to%20on,countries%20to%20affect%20UK%20exports&text=The%20European%20Commission%20\(EC\)%20has,the%20UK%20to%20European%20ports.](https://resource.co/article/eu-proposed-ban-sending-plastic-waste-non-oecd-countries-affect-uk-exports#:~:text=EU%20proposed%20ban%20on%20sending%20plastic%20waste%20to%20on,countries%20to%20affect%20UK%20exports&text=The%20European%20Commission%20(EC)%20has,the%20UK%20to%20European%20ports.)

<sup>33</sup> [https://www.europarl.europa.eu/RegData/etudes/BRIE/2023/745707/EPRS\\_BRI\(2023\)745707\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2023/745707/EPRS_BRI(2023)745707_EN.pdf)

<sup>34</sup>

<https://www.basel.int/Implementation/Plasticwaste/Amendments/Overview/tabid/8426/Default.aspx>

## Waste Crime

Waste crime is often mentioned synonymously with export, particularly in cases where material identified as originating in the UK has been found dumped abroad. This is a cause for concern both in terms of the activity, but also in respect of material potentially incorrectly declared as recycled actually being dumped or burned. In recent years, media stories have shown examples of plastic waste from UK sources in a number of developing, or less well-regulated, countries, including non-OECD countries like Myanmar <sup>35</sup>, OECD countries such as Turkey <sup>36</sup>, and EU Member States including Romania <sup>37</sup>.

There is a challenge of identifying the source of these illegal exports, as waste criminals operate outside of the system, and so their actions are not part of officially reported and recorded data. This highlights the difference between legitimate and illegitimate export. Taking example from above, Myanmar has not received any plastic from the UK for recycling through the approved exported data from the UK's enforcement bodies, suggesting UK material found dumped there has made its way outside of the system. This highlights a challenge for the enforcement bodies whose remit ends at the point the material has left the UK, and that whilst due diligence can take place, a significant reliance is on the country receiving the waste to handle it effectively and to a standard that would be considered acceptable and responsible. Furthermore, there is the risk of a receiving country being an interim step to a final destination. For example, material may be sent to one country under the pretence that it will be recycled in that country, but instead is exported again.

It should be noted that whilst this data in this report reflects export of plastic through official means, the examples of illegal waste shipping and dumping that can be seen in the media will not be accounted for in the data of this report. This may be as they are illegally exported in the first instance or have been exported to one of the countries recorded before being moved on again.

To help prevent and reduce the number of illegal exports, more robust reporting and auditing is needed to ensure that material goes to its stated destination and is managed in a way that would be deemed suitable in the UK. The receiving country's recycling and legislative infrastructure should also be strongly considered, making sure that the risk of material being illegally managed or re-exported is reduced. Digital Waste Tracking will be an important step to help better understand the potentially difficult areas when it comes to this.

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<sup>35</sup> <https://www.ban.org/news/2023/10/31/plastic-packaging-from-a-uk-supermarket-found-dumped-in-vulnerable-myanmar-communities#:~:text=Packaging%20from%20a%20UK%20supermarket%20has%20been%20dumped%207%2C00%20miles,little%20ability%20to%20push%20back.>

<sup>36</sup> <https://www.bbc.co.uk/news/uk-57139474>

<sup>37</sup> <https://www.bbc.co.uk/news/av/world-europe-59557493>

## Enforcement

The UK regulators use a variety of tools to identify exports that should be investigated further. In the first instance, waste is monitored on a devolved basis with the EA enforcing for England, NRW for Wales, SEPA for Scotland, and DAERA for Northern Ireland. These bodies state that a number of considerations are made prior to permitting export of plastic for recycling. These include due diligence around the receiving destination and facility, frequency of previous exports, and comparative exports that can be referred to.

There are, however, significant blind spots when it comes to data on the movement on this material. Firstly, material moved between the four UK nations does not travel via export controls and instead is moved under a Waste Transfer Note (WTF). Secondly, material that is moved under Green List controls rather than notification does not require the exporter to provide the documentation (Annex VII) to the regulators if it is shipped out of England or Wales. This is not the same as material sent from Scotland or Northern Ireland.

For its part, the EA do say, “the UK’s competent authorities [EA, NRW, SEPA, DAERA] must prohibit exports of waste to non-OECD countries if [they] believe the waste will not be managed in an environmentally sound manner.”<sup>38</sup> Despite this, export to non-OECD countries has remained relatively consistent for a number of years, and in fact grown year-on-year from 2022 to 2023.

As part of its enforcement, EA and SEPA provided information on stops made of exported material since 2021 from England and Scotland. Whilst it shows countries like Turkey and Netherlands (who receive large volumes of plastic for recycling) are subject to the most checks, focus is also given to non-OECD countries such as India, Malaysia and Vietnam.

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<sup>38</sup> <https://npwd.environment-agency.gov.uk/FileDownload.ashx?FileId=2eeb01cf-1b0c-4cb3-99f1-4ad8e9bb82b7>

Country	Tonnes	No. of stops
Austria	100	4
Belgium	62.5	3
Bulgaria	25	1
Egypt	1,000	1
France	50	3
Germany	275	11
Greece	25	1
Hong Kong	75	3
India	300	7
Indonesia	25	1
Israel	50	1
Lithuania	25	1
Malaysia	850	16
Netherlands	975	39
Pakistan	325	7
Poland	100	4
Singapore	125	1
Slovakia	50	2
Thailand	125	5
Turkey	4,075	46
UAE	125	5
USA	25	1
Vietnam	75	3

*Figure 20. List of receiving countries of material exported from England and Scotland that had stops between 2021 and 2023. Countries in blue are non-OECD.*

The EA also provided data relating to waste that had been repatriated. This is material that had been found to be exported illegally once abroad and had to be returned to the UK. This can be due to a number of reasons ranging from the misdescription of waste to large scale criminal activity. This does not link specifically to plastic packaging but demonstrates how the list of countries repatriating waste differs in places to that of the legitimately exported material.

Repatriation of Waste (2021 - 2023)		
Country	Tonnes Recovered	No. of Instances
Belgium	4,986	72
Canada	38,000	4
France	16,113	64
Germany	7,444	55
Guernsey	413	20
Ireland	2,380	24
Italy	288	3
Netherlands	38,128	125
Norway	1,698	24
South Georgia and the South Sandwich Islands	18	2
Switzerland	47	2

Figure 21. List of countries where waste was repatriated by the EA between 2021 and 2023.

In cases where material has been found to be illegally exported, punishments can vary. A couple of high-profile examples include:

- A large waste management company was found guilty of illegal export for contaminated waste mislabelled as paper in 2015<sup>39</sup> and again in 2019<sup>40</sup>. Fines were for £500,000 and £1.5 million respectively.
- Another company was found to have committed illegal export of plastic waste to Poland, by labelling shipments that consisted of “majority of plastics which were unsuitable for recycling” as clean sorted plastic waste under Green List controls. The company was fined £870,000<sup>41</sup>.

<sup>39</sup> <https://deframedia.blog.gov.uk/2019/09/30/biffa-ordered-to-pay-over-500000-for-exporting-banned-waste/>

<sup>40</sup> <https://www.gov.uk/government/news/biffa-fined-15-million-for-reckless-export-breach>

<sup>41</sup> <https://www.gov.uk/government/news/manchester-company-fined-over-870000-for-illegal-waste-exports>

## Acronyms

DAERA – Department of Agriculture, Environment and Rural Affairs

EA – Environment Agency

EFRA – Environment, Food and Rural Affairs Committee

EFTA – European Free Trade Area (Iceland, Liechtenstein, Norway and Switzerland)

EFW – Energy from Waste

EU – European Union

FOI – Freedom of information

GB – Great Britain (England, Wales and Scotland)

NIEA - Northern Ireland Environment Agency

NPWD – National Packaging Waste Database

NRW – Natural Resources Wales

OECD – Organisation for Economic Co-operation and Development

PERN – Packaging Export Recovery Note

PRN – Packaging Recovery Note

RDF – Refuse Derived Fuel

ROI – Republic of Ireland

SEPA - Scottish Environment Protection Agency

UK – United Kingdom (England, Wales, Scotland and Northern Ireland)

WTN – Waste Transfer Note

# WHO ARE RECOUP

RECOUP is the UK's leading independent authority and trusted voice on plastics resource efficiency and recycling. As a registered charity, our work is supported by members who share our commitments including a more sustainable use of plastics, increased plastics recycling, improved environmental performance and meeting legislative requirements. We achieve these by leading, advising, challenging, educating and connecting the whole value chain to keep plastics in a circular system that protects the environment, underpinned by evidence and knowledge.

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## CONTACT

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01733 390021

[enquiry@recoup.org](mailto:enquiry@recoup.org)

[www.recoup.org](http://www.recoup.org)