

# The Ellen MacArthur Foundation's Plastics Initiative

## 2024 Recycling Rate Survey Results Summary

### 1. Context

#### 1.1 The Global Commitment, Plastics Pact Network and recyclability

**The Global Commitment** is led by the Ellen MacArthur Foundation ('the Foundation') in collaboration with the [UN Environment Programme](#), and unites over 1000 [businesses, governments, and other organisations](#) from around the world.

**The Plastics Pact Network** is a global network of national and regional Plastics Pacts, driving action towards a common vision of a circular economy, where plastic never becomes waste. There are currently eleven national and regional [Plastics Pacts](#) across the five continents, collectively representing over 550 organisations. Led by a local organisation, each Plastics Pact brings together businesses, policymakers, and NGOs within a country or region to build a circular economy for plastics. The Plastics Pact network enables co-ordinated action and vital knowledge exchange between Pacts from different countries, and leading organisations globally.

Both the Global Commitment and the Plastics Pact Network work towards a common vision and a set of 2025 targets to address plastic waste and pollution at its source.

A key target is the commitment to make 100% of plastic packaging reusable, recyclable or compostable by 2025. It was adopted by all Global Commitment signatories responsible for putting plastic packaging onto the market and Plastics Pacts in the global network. This commitment is underpinned by a specific definition of 'recyclable packaging' which states that:

*"A packaging or packaging component is recyclable if its successful post-consumer collection, sorting, and recycling is proven to work in practice and at scale."*

In clearly going beyond mere 'technical recyclability', this definition is important to achieve real-world progress.

The test and threshold to assess if the recyclability of a packaging design is proven 'in practice and at scale' for the **Global Commitment** is: does that packaging achieve a 30% post-consumer recycling rate in multiple regions, collectively representing at least 400 million inhabitants? An alternative test, especially relevant for more local organisations, is to check if a 30% post-consumer recycling rate is achieved in all the markets where their packaging is sold.

The test and threshold to assess if the recyclability of a packaging design is proven 'in practice and at scale' for **Plastics Pacts** is to assess both: does that packaging achieve a 30% post-consumer recycling rate in multiple regions, collectively representing at least 400 million inhabitants, and is a 30% post-consumer recycling rate achieved in the Pact market(s)?<sup>1</sup> If the threshold is met either globally or locally then it can be concluded for the purposes of the Plastics Pact reporting that a 'system for recycling' exists for that plastic packaging category.

Making the recycling system effective is a shared responsibility of a wide range of stakeholders, from design through to sorting and recycling. Therefore, the definition does not ask signatories to commit to the recycling of all their plastic packaging being proven to work in every market where their products are sold. It does, however, ask for clear proof points that recycling is happening in practice and at scale,

showing replicability, indicating that the design of the packaging (which is entirely within the producer's control) is not a barrier to making recycling work in practice.<sup>1</sup>

## *1.2 The objectives of the Recycling Rate Survey*

The Survey has been designed to help in the assessment of whether the recyclability of a given category of plastic packaging is proven 'in practice and at scale' by gathering and collating data on recycling rates by packaging category across a broad range of geographies. In doing so, it aims to go some way to filling the data gap on plastic recycling rates globally, and to driving alignment of assessments of recyclability across the Global Commitment signatory group and Plastic Pacts in the network.

More practically, the survey outputs, as presented in this document, aim to help signatories to the Global Commitment and Plastic Pacts members assess (through step 1 of the recyclability assessment tool) and report on the proportion of their packaging that is recyclable by indicating for a list of common plastic packaging categories, for which categories survey contributors indicated that they reach a 30% recycling rate across regions covering at least 400 million inhabitants.

## **2. The 2024 Recycling Rate Survey**

### *2.1 Contributors and Methodology*

As in previous years, to assess if the recyclability of a packaging design is proven 'in practice and at scale', an online survey was shared with organisations from the Ellen MacArthur Foundation network. These organisations were selected because we believed they would have access to the best available data or informed opinions for the regions in which they are active. They include Plastics Pacts lead organisations, Extended Producer Responsibility organisations, governmental organisations, waste management companies, and recycling associations.

The survey results include responses provided by contributors having responded to our survey from January 2024 to March 2024. These results are based on contributions from 14 organisations. A list of contributors can be seen in Appendix I of this document.

Furthermore, this year we conducted a deep dive on PP other rigids. This category was chosen as it was the closest to the 30% threshold in previous years and, therefore, has a higher potential to become recyclable in practice and at scale by 2025. Consequently, we ran the recycling rate survey for all categories with our contributors, followed by additional research on 'PP other rigids'. We carried out desk research and collected information directly from recycling companies across several geographies to gather their field perspective.

### *2.2 Recycling Rate Survey output*

The main change compared to the 2023 Recycling Rate Survey concerns 'PP Other Rigids'. This category is now considered recyclable in practice and at scale (i.e. 30% recycling rate for at least 400 million inhabitants).

As a result of this year's research, based on studies and practical experience of recyclers, we consider that a system is in place to recycle 'PP other rigids' in practice and at scale. The countries where 'PP other rigids' is recycled at or above 30% are listed in the table below. Our research also confirmed that, in most cases, 'PP bottles' and 'PP other rigids' are recycled together and data on 'PP other rigids' only is

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<sup>1</sup> More information on the definition of 'recyclable' and other definitions used in the Global Commitment is available on the Ellen MacArthur Foundation website [here](#). Plastics Pact lead organisations can find more information on this on the Resource Hub for Pacts members.

hard to access. Therefore, the recycling rates shown below for PP other rigids are calculated based on rates for all PP rigid packaging.

Additionally, to further clarify the scope of the recyclability assessment of EPS packaging, we are now explicitly including two categories of rigid EPS packaging. As such, the first category is 'EPS and XPS in business-to-consumer packaging for FMCG', for which we have not found evidence and will be considered as **not** recyclable in practice and at scale (same as last year). The second category is 'EPS transport packaging'. This category was not in the scope of our assessment in prior years and is a new category added this year. This category is considered recyclable in practice and at scale based on the data available to us.

Table 1 provides a summary of the output of the survey. It indicates for which categories of plastic packaging the survey results indicated that a system for recycling exists in practice and at scale, i.e. for which of these the survey found evidence that a 30% recycling rate for one or more regions, collectively covering at least 400 million inhabitants is being met.

- For each packaging category, the table indicates in which geographies survey contributors indicated (by unanimous or majority view in the case of multiple responses being received for that geography) that, in their view or based on data available to them, the rate of recycling of the packaging category is 30% or higher.<sup>2</sup>
- If the total population covered by these countries exceeds 400 million, it has been indicated in the table that for that packaging category, a system for recycling is considered to exist in practice and at scale.

In addition to the tables referenced above, two additional resources are provided:

- A consolidated list of sources referenced by contributors in support of their responses is provided in Appendix IV of this document
- The [full survey output](#), including individual responses by country and packaging category, estimates of recycling rates and sources provided, is available for download in spreadsheet format separately

As with previous years, if a signatory considers a packaging type recyclable in practice and at scale, that is not considered as such in the table below, we provide the opportunity to submit evidence demonstrating these claims for that packaging type (please see the [reporting guidelines](#) for information about which evidence should be provided).

### *2.3 Disclaimer*

This paper has been prepared and produced by the Ellen MacArthur Foundation (the "Foundation"). The Foundation has exercised care in the preparation of the paper, and it has used information it believes to be reliable. However, the Foundation makes no representations and provides no warranties to any party in relation to any of the content of the paper (including as to the accuracy, completeness, and suitability for any purpose of any of that content). The Foundation (and its related people and entities and their employees and representatives) shall not be liable to any party for any claims or losses of any kind arising in connection with, or as a result of, use of or reliance on information contained in this paper.

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<sup>2</sup> Countries were listed where there was a single response for that packaging category indicating a 30% or higher recycling rate (with none opposing that view), or in the case of multiple responses where there was a unanimous or majority view that the 30% rate is being achieved.

Table 1: Summary of output

Packaging category	Evidence found that a 'system for recycling' exist in practice and at scale today <sup>3</sup>	Countries/Regions where responses provide evidence for a 30% recycling rate being achieved <sup>4</sup>	Total population for which survey responses provide evidence of a 30% recycling rate being achieved <sup>5</sup>
PET bottles	Yes	<b>Regions:</b> EU+3 <b>Countries:</b> Argentina; Australia; Austria; Belgium; Bolivia; Brazil; Bulgaria; Canada; China; Costa Rica; Cyprus; Czech Republic; Denmark; Ecuador; El Salvador; France; Germany; Guatemala; India; Indonesia; Italy; Japan; Mexico; Netherlands; New Zealand; Norway; Panama; Paraguay; Peru; Poland; Portugal; Russia; South Africa; Spain; Sweden; Switzerland; United Kingdom	4.4 billion
PET Thermoforms	No	<b>Countries:</b> Australia; Canada; Belgium; New Zealand; United Kingdom	150 million
Other PET rigid	No	<b>Countries:</b> Canada; Belgium Portugal; United Kingdom	128 million
HDPE Bottle	Yes	<b>Regions:</b> EU+3 <b>Countries:</b> Australia; Belgium; Bulgaria; Canada; Cyprus; France; Germany; Greece; India; Italy; Netherlands; New Zealand; Philippines; Poland; Portugal; Russia; South Africa; Spain; Sweden; United Kingdom	2.2 billion
HDPE Other rigids	Yes	<b>Countries:</b> Belgium; Bulgaria; Canada; Cyprus; Germany; Italy; Netherlands; New Zealand; South Africa; Spain; Sweden; United Kingdom	409 million
PP Bottle	Yes	<b>Regions:</b> EU+3 <b>Countries:</b> Belgium; Bulgaria; Cyprus; Denmark; Germany; Italy; Netherlands; Poland; Russia; Spain; Sweden; United Kingdom	589 million
PP other rigid	Yes <sup>6</sup>	<b>Regions:</b> EU+3 <b>Countries:</b> Belgium; South Africa; United Kingdom	589 million
PE Tubes	No	<b>Country:</b> Portugal	10 million
PS rigid	No		0
EPS and XPS in business-to-consumer packaging for FMCG <sup>7</sup>	No		0
EPS for transport packaging <sup>8</sup>	Yes	<b>Regions:</b> EU+3 <b>Countries:</b> Japan	652 million
PVC rigid	No	<b>Country:</b> Australia	26 million
>A4 mono-material PE flexibles in B2B context	Yes	<b>Regions:</b> EU+3 <b>Countries:</b> Austria; Belgium; Bulgaria; Cyprus; France; Germany; Greece; Italy; Netherlands; Poland; Portugal; South Africa; Spain; Sweden; United Kingdom	589 million

<sup>3</sup> The question 'Does a system for recycling exist in practice and at scale today?' is answered 'yes' for a specific packaging category if for this category the recycling rate is indicated as reaching 30% or higher in geographies together covering more than 400 mln inhabitants on the basis of the data in the third and fourth columns of the table.

<sup>4</sup> For 2 geographies, more than one contribution was received. For more details, see the [full output table](#).

<sup>5</sup> This is an aggregate number based on the countries' population estimates from World Populations Review. For the purpose of population calculations 'Europe' is taken as the European Union, Norway, Switzerland and the United Kingdom.

<sup>6</sup> In most cases, 'PP bottles' and 'PP other rigids' are recycled together and data on 'PP other rigids' only is hard to access. Therefore, the recycling rates shown for PP other rigids are calculated based on rates for all PP rigid packaging.

<sup>7</sup> This category includes EPS and XPS such as for takeaway and retail food packaging as well as packaging peanuts.

<sup>8</sup> This category includes EPS packaging used for insulation (e.g. fish boxes) , or for the protection of large items (e.g. white goods or furniture).

>A4 mono-material PE flexibles in B2C context	No	<b>Countries:</b> Belgium; South Africa	72 million
Other >A4 flexibles	No	<b>Countries:</b> Belgium; South Africa	72 million
<A4 PE flexibles	No	<b>Countries:</b> Belgium; South Africa	72 million
<A4 PP flexibles	No	<b>Country:</b> Belgium	11 million
<A4 multimaterial flexibles	No	<b>Country:</b> Belgium	11 million
Other <A4 mono-material flexibles	No	<b>Country:</b> Belgium	11 million

## 2.5 Notes on Table 1

Please keep in mind that:

- While this table presents information on recycling rates for common plastic packaging categories across a wide range of geographies, we are aware that data is still lacking for a number of geographies.
- Some responses covered only a minority of plastic packaging categories for the relevant geography (e.g. China).
- If your organisation only puts packaging on the market in one or a few countries, and if you have evidence that a 30% post-consumer recycling rate is achieved for a given packaging category in all those markets, your assessment of recyclability of your packaging may be different.

## 2.6 Additional notes to interpret the table (based on frequently asked questions)

The table is aimed at reporting progress to date and as such it is a point-in-time assessment of today's situation. In other words, the table does not:

- make any judgement on recyclability in the future (what is not recycled in practice and at scale today could be in the future)
- make any judgement on what is the most appropriate way forward (scale up recycling system, innovate recycling technology, change packaging design, eliminate, substitute, ...)
- claim that, if a system for recycling exists in practice and at scale for a certain category, that all packaging in that category is recycled, or that this category is recycled in all countries globally
- claim that, if no system for recycling exists in practice and at scale for a certain category, that no single packaging in that category is recycled.

This analysis at 'packaging category'-level is step one of a two-step process (outlined in Appendix II of the Global Commitment Reporting Guidelines document provided to all Global Commitment signatories and in Appendix III of the Plastics Initiative, Plastics Pact Vision and Definitions document provided to Plastics Pact lead organisations) and should always be seen in that context. For those categories that have a system for recycling in place in practice and at scale, step two of the assessment looks at how any specific packaging design (considering labels, glues, inks, caps, additives, etc.) fits into that system.

## Appendices

### Appendix I: Contributors to the 2024 Recycling Rate Survey

Note: This table excludes one contributor who elected to contribute anonymously.

<b>Contributors</b>	<b>Geographies for which responses were provided</b>
Amcor	Europe
Australian Packaging Covenant Organisation (ANZPAC Plastics Pact)	Australia
China Plastics Recycling Association of CRRRA(CPRA)	China
Fostplus	Belgium
Green Cape	South Africa
PETCORE Europe	Europe
Plastic Change	Denmark
Plastics Recyclers Europe	Europe
Plastretur	Norway
PREZERO	Austria, Italy, Germany
The Recycling Partnership	USA
WRAP UK	United Kingdom
WWF US	USA

Appendix II: List of packaging categories

	Packaging category	Examples (non exhaustive)
Rigid / 3D	PET bottles	
	PET thermoforms	Trays, cups, blisters, etc.
	Other PET rigid	Jars, etc.
	HDPE bottle	
	HDPE other rigid	Pots, trays, cups, jars, etc.
	PP bottle	
	PP other rigid	Pots, tubs, trays, cups, jars, etc.
	PE tubes	
	PS rigid	Pots, trays, etc.
	EPS and XPS in business-to-consumer packaging for FMCG <sup>9</sup>	Takeaway & retail packaging, hanger foam protectors, etc.
	EPS for transport packaging <sup>10</sup>	Fish boxes, transport packaging for white goods, etc.
	PVC rigid	Blisters, bottles, trays, etc.
Flexible / 2D	>A4 mono-material PE in B2B	Pallet wraps, large LDPE bags, etc.
	>A4 mono-material PE in B2C	Wrap around bottles, wrap around toilet paper, etc.
	Other >A4 flexibles	
	<A4 flexibles, PE	Pouches, sachets, wrappers, small bags, etc.
	<A4 flexibles, PP	Pouches, sachets, wrappers, small bags, etc.
	<A4 flexibles, multimaterial	Pouches, sachets, wrappers, small bags, etc.
	Other <A4 flexibles, mono-material	wrappers, small bags, etc.

<sup>9</sup> This category includes EPS and XPS such as for takeaway and retail food packaging as well as packaging peanuts.

<sup>10</sup> This category includes EPS packaging used for insulation (e.g. fish boxes), or for the protection of large items (e.g. white goods or furniture).

*Appendix III: Mixed responses*

We have provided below a list of countries where we received ‘mixed responses’ (i.e. two contributors, each providing conflicting opinions) on whether the respective packaging category meets the 30% recycling rate threshold.

Adding the countries with mixed opinions does not change the indication on whether the 400 million threshold is met.

Packaging category	Country	Population
PET bottles	Chile	19,629,590
	Colombia	52,085,168
	Greece	10,341,277
HDPE Other rigids	Austria	8,958,960
	France	64,756,584
	Norway	5,474,360
PP Bottle	France	64,756,584
	Greece	10,341,277
	Norway	5,474,360
PP other rigid	Germany	83,294,633
	Netherlands	17,618,299
	Norway	5,474,360
PS rigid	Greece	10,341,277
EPS and XPS in business-to-consumer packaging for FMCG	Austria	8,958,960
	Greece	10,341,277
>A4 mono-material PE flexibles in B2B context	Norway	5,474,360
>A4 mono-material PE flexibles in B2C context	Austria	8,958,960
	Greece	10,341,277
	Norway	5,474,360



*Appendix IV: Consolidated list of sources referenced by respondents in support of their responses in 2024*

1. 2023 Flexible Films Market in Europe State of Play, ICIS, 2023, <https://www.icis.com/explore/resources/flexible-films-market/>
2. Plastics recycling annual report in China, CPRA, 2023
3. Fost Plus, Dataset, 2022
4. Plastics SA - Plastics 2022, An analysis of the South African plastics industry data, Annabe Pretorius, 2023
5. Petcore ICIS Study 2023
6. Annual Report - Dansk Retur System; Emballagestatistik 2021 - The Danish Environmental Protection Agency
7. PET Market in Europe: State of Play 2024, PRE, UNESDA, NMWE, PETCORE, ICIS, 2024
8. 2023 Flexible Films Market in Europe – State of Play, PRE, ICIC, 2023
9. Plastretur's official reporting to the Norwegian Ministry of Environment, 2022
10. The Association of Plastic Recyclers, 2021 U.S. Post-consumer Plastic Recycling Data Report, <https://circularityinaction.com/2021PlasticRecyclingData>, 2023;
11. US EPA, Advancing Sustainable Materials Management: 2018 Tables and Figures, [https://www.epa.gov/sites/production/files/2020-11/documents/2018\\_tables\\_and\\_figures\\_fnl\\_508.pdf](https://www.epa.gov/sites/production/files/2020-11/documents/2018_tables_and_figures_fnl_508.pdf), 2020
12. State of Residential Recycling, The Recycling Partnership, 2024, <https://recyclingpartnership.org/residential-recycling-report/>
13. Packflow Refresh 2023, Valpak, 2024; Household and infrastructure reports, RECOUP, 2022+, <https://www.recoup.org/our-work/policy-legislation/policy-infrastructure-reports/> ; multiple other sources