



MONITORING THE QUALITY OF MATERIALS

Quality Observatory – 2025 Report



HOUSEHOLD
PACKAGING AND PAPER

TOGETHER,
LET'S MAKE THINGS
HAPPEN



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Sorting quality: a key requirement for recycling performance

⇒ An essential condition for the long-term sustainability of recycling streams

In 2025, the quality of sorted materials is more than ever emerging as an essential condition for the performance and long-term sustainability of recycling streams. Behind the progress achieved in collection and sorting, one key requirement remains: ensuring the consistent production of material streams that meet industrial expectations and the requirements of end markets.

When quality deteriorates, the entire value chain is weakened. The impacts are far-reaching: facility performance, the economic balance between stakeholders, operational safety, and the ability of recycling streams to produce recycled materials that meet the expected standards.

⇒ Understanding better to act more effectively

This requirement comes within a rapidly evolving context. Consumption patterns are changing, the mix of incoming materials is evolving, and the decline in graphic paper volumes is permanently altering the composition of collected streams. At the same time, collection quality can vary significantly across territories, with sorting errors differing widely in both nature and magnitude.

In this context, quality management and the continuous improvement of sorting center performance are key levers. Regular monitoring of material streams helps to objectively identify deviations, determine their root causes, and implement the most appropriate corrective actions.

⇒ A collective responsibility

Improving quality cannot be achieved by a single stakeholder alone. It relies on the collective commitment of the entire value chain, including local authorities, collection and sorting operators, buy-up operators, and recyclers.

Sharing a common diagnosis is the first step towards building coherent and coordinated action plans. This is precisely the objective of the 2025 edition of the Quality Observatory, which we are making available together with methodological tools for diagnosis and self-monitoring. CITEO also continues to support stakeholders in defining and deploying corrective actions, notably through its dedicated calls for projects.

⇒ Building a more robust circular economy together

Our ambition is clear: to sustainably improve material quality in order to strengthen recycling performance, secure end markets, and support the transformation of recycling streams. By working collectively on quality, we can build a more robust, more efficient, and value-creating circular economy for all.



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1 RECYCLING: OVERALL RISE IN RECYCLING PERFORMANCE

The recycling rate for both household packaging and graphic paper continued to increase in 2024.

2024 key figures (CITEO and Adelphe's scope)

HOUSEHOLD PACKAGING

Recycling performance

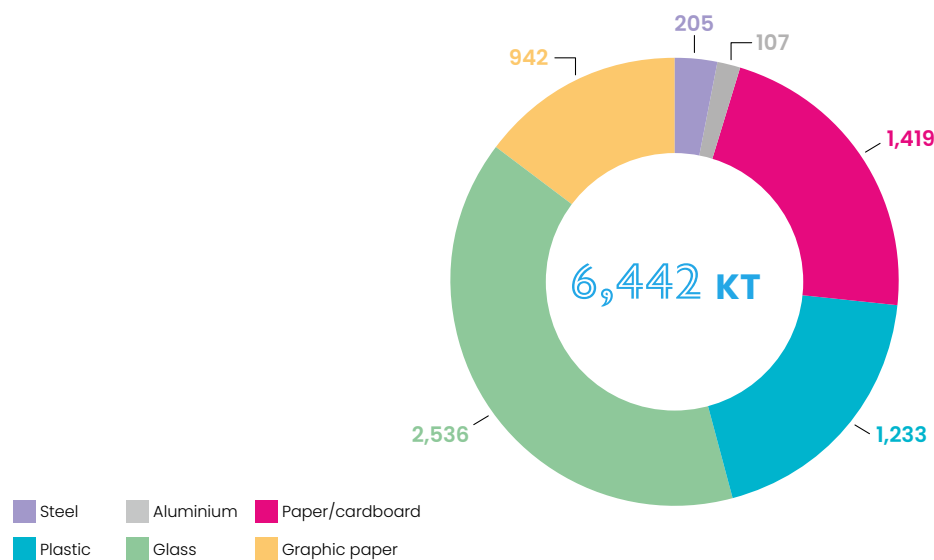
Approximately **70%** recycling rate
or **3.8 M** tonnes recycled
or **2.4 M** tonnes of CO₂ cut
or the equivalent of **8,400** round-trip Paris-New York

GRAPHIC PAPER

Recycling performance

69% recycling rate + 6 % in 1 year
or **0.8 M** tonnes of graphic paper recycled
or **15.4 BN** litres of water saved – that's the equivalent of 5,124 Olympic pools filled with water

Household packaging and graphic paper tonnage that contributes to funding the scheme



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NEW RECYCLING STREAMS

Currently, 75% of plastic packaging is assigned a recycling stream and 10% is assigned a stream under development. The remaining 15% requires further eco-design work to be carried out on it.

The simplification of consumer sorting processes and the development of secondary sorting centres allow CITEO to secure supplies for recyclers and embark on a new phase of plastic recycling. This progress is rooted in collaboration between all stakeholders in the stream, especially through consortia.

After the industrial sorting stage, secondary sorting centres separate packaging on a more granular level with the aim of supplying recycling plants with bales of materials containing as few unwanted materials as possible.

There are currently four operational or planned secondary sorting centres: Bourgogne Recyclage in Ruffey-lès-Beaune (21) – 30,000 t/year, Suez in Épinal (88) – 25,000 t/year, Environnement Massif Central (EMC) in Mende (48) – 15,000 t/year, Sepur in Thiverval-Grignon (78) – 30,000 t/year, due to open in late 2026, planned site.

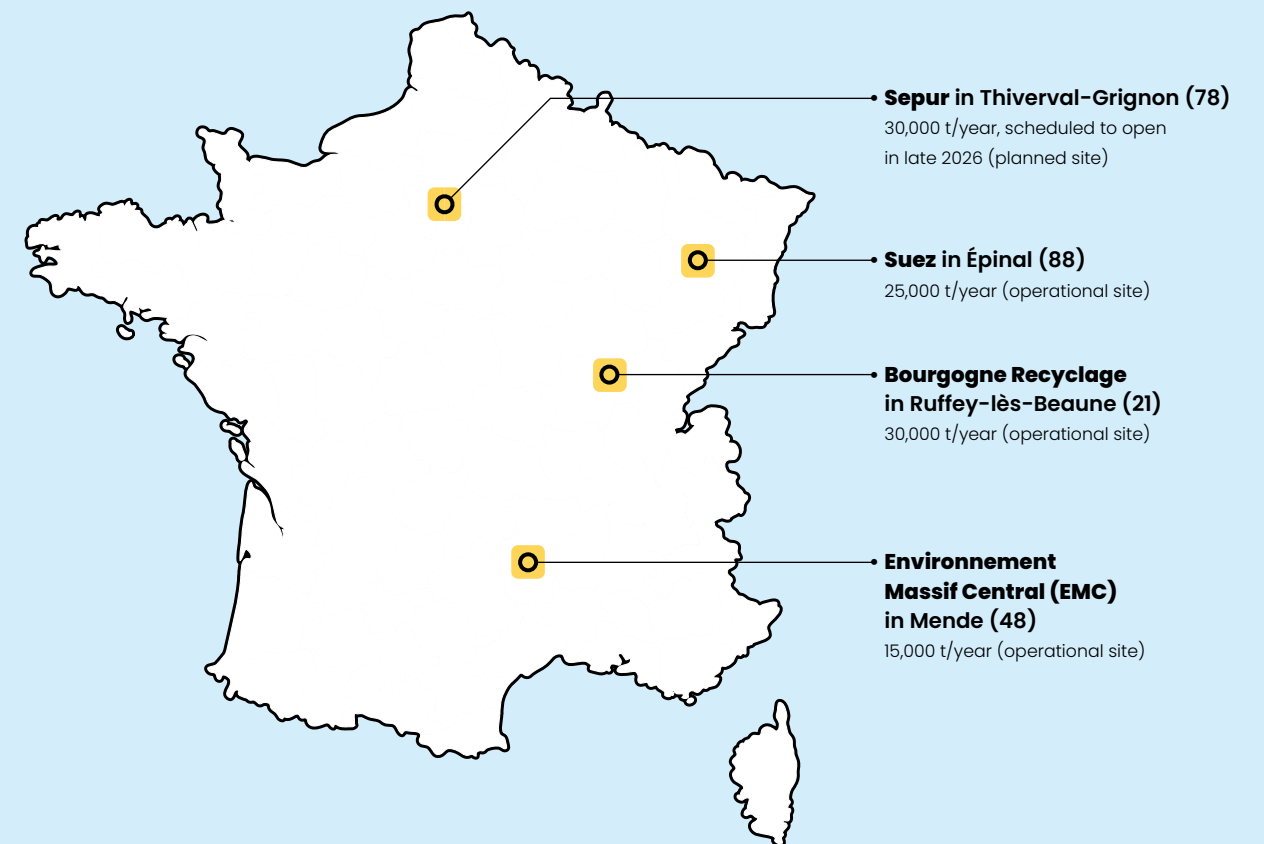
Packaging types covered:

- ⇒ Compact polystyrene (PS) pots and jars for recycling to food contact grade
- ⇒ PE and PP plastic film (bags, food film)
- ⇒ Coloured PET bottles
- ⇒ White opaque PET bottles (milk bottles)

Outlook

Mechanical and chemical recycling plants are helping to increase the plastic recycling rate. This initiative also forms part of a 3R strategy combining reduction, reuse and recycling.

SECONDARY SORTING CENTERS



2 CITEO'S QUALITY OBSERVATORY

CITEO's Quality Observatory provides an annual update on the quality of materials sorted by household packaging waste sorting centres in France. In preparation, CITEO performs **characterisation*** analyses all year round throughout France. The analyses make sure that **material standards*** are met, as the latter are used as a basis for the quality criteria drawn up for the various materials exiting the sorting centre. They ensure that the materials channelled towards recycling are suitable for the recycling process.

CITEO's Quality Observatory Report: a key reference document

CITEO commissions specialist consulting firms to perform these analyses.

Characterisation analyses for the 2025 campaign were carried out by Austral, V2R and Terra.

Sorting centres and recyclers are selected to ensure results are representative of national production, based on geographic area, whether the facilities have been modernised, and tonnages produced per sorting centre.

The data gathered by the Quality Observatory are presented to all the stakeholders through consultation committees. They are the only reference data available covering all of France.

Complying with standards is crucial for ensuring that the recycling system operates smoothly from a technical, financial and environmental perspective, as it guarantees:

1 The efficiency of the industrial packaging and paper recycling system.

The quality standard for secondary raw materials needs to be compatible with the separation methods and technology available at sorting facilities, as well as the input capacity of end recycler processes. A lack of compatibility could result in a 'sub-standard' material, leading to additional management costs for recyclers, or inversely, an 'above standard' material, generating much higher sorting costs.

2 The system is economically viable.

The rate of contribution paid to CITEO by its clients is calculated precisely according to needs and costs to be covered.

3 The fairness of the system on a national scale.

Complying with standards means that the funds reserved for local authorities are fairly allocated to prevent the forwarding of materials that do not meet the quality requirements of recyclers.

OUTCOME OF THE 2025 CAMPAIGN



ALL MATERIALS

The quality is stable or slightly lower, depending on the material.



STEEL

Significant improvement in average steel content for the stream and **36%** of analyses show almost full compliance with the standard.



ALUMINIUM

Almost all the analyses showed compliance with the standard.



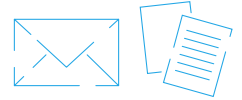
PAPER/CARDBOARD

The average quality of sorted MPC¹ (**+ 0.3 pts**) and of NLPC² (**+ 0.3 pts**) is stable. Significant improvement in quality (**+ 2 pts**) for LPC³.



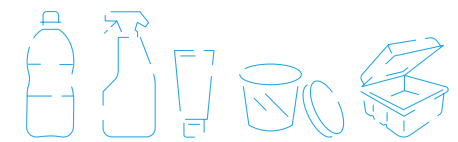
GRAPHIC PAPER

The average quality is lower (**- 1.9 pts**).



PLASTICS

Stable quality levels with a slight deterioration for 2 streams.



GLASS

According to glass processors, the proportion of 'poor' quality glass in streams is stable at around **5%**.



* See glossary.

1. Sorted mixed paper/cardboard
2. Non-laminated paper/cardboard
3. Laminated paper/cardboard



3 MATERIAL PROFILES

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IMPORTANT

In light of the low number of analyses performed against certain standards (mixed paper and cardboard to be sorted, plastic sorted by resin), the findings were not representative enough and therefore not robust enough to be shared.

STEEL

Steel packaging is sorted magnetically using an **overband magnet**^{*}. The overband magnet is installed above a conveyor belt transporting waste materials. Using a magnetic field, it attracts ferrous metals (mainly steel) and sends them towards a collection bin.

What the standard says

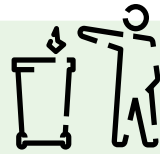
- Minimum magnetic metal content of **88%**, equivalent to steel packaging content of at least **95%** for bundles
- Maximum moisture content of **5%**

FOCUS

The importance of consumer sorting

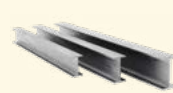
The presence of unwanted materials, especially plastics, significantly increases the risk of fire during steel recycling.

This leads to higher CO₂ emissions and creates safety issues. They may compromise bundle compression quality. This can result in falling materials, potentially causing bodily injury and damage to equipment.



What is the recycled material used for?

Building materials, automotive parts, household appliances, packaging, etc.



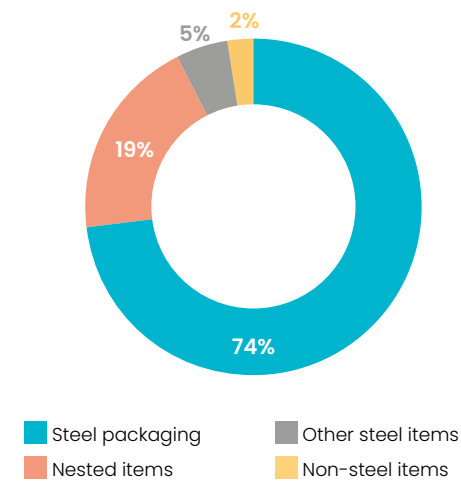
Average steel packaging content¹ of:

88.1%

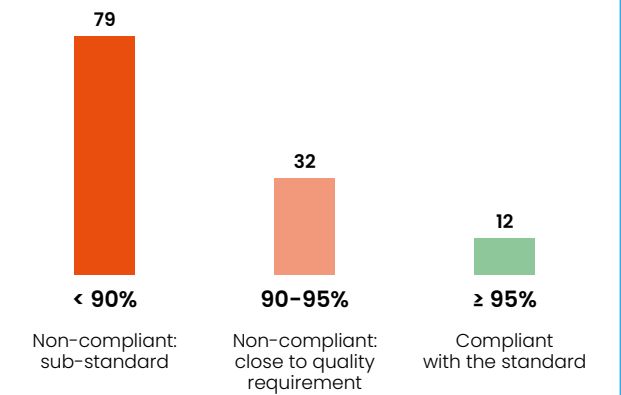
+ 0.1% since 2024

Content specified in the standard: **95%**

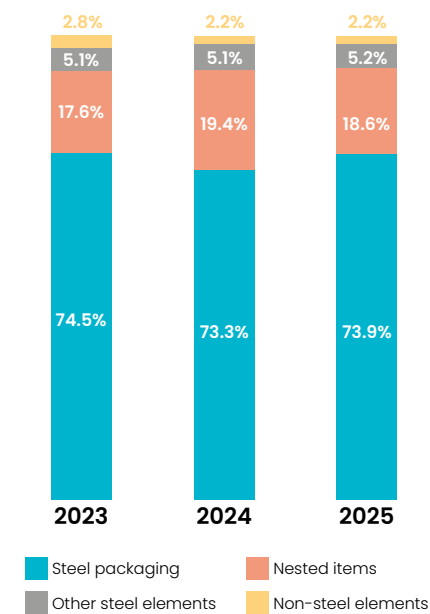
Overall composition



Compliance findings (in number of analyses)



Changes since 2023



^{*} See glossary.

¹ As a general rule: the steel packaging content for nested items is 76%
Data generated based on 123 analyses performed against the steel standard in 2025.

RIGID ALUMINIUM

Two different methods are used to remove non-ferrous metals from waste flows from which ferrous metals (steel) have already been separated:

- **Manually*** by a sorting operator
 - **Mechanically*** by an **eddy current separator*** (ECS), enabling aluminium packaging to be automatically sorted
- The ECS propels aluminium and other non-ferrous metals forward into a specific bin using an electromagnetic field.

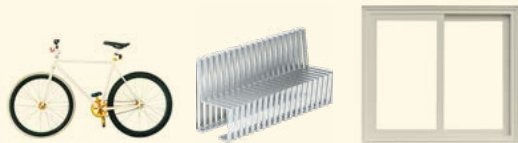
What the standard says

- Minimum aluminium content of **45 %**, equating to at least **65%** aluminium packaging content for bales, and maximum polymer content of **5%**
- Maximum moisture content of **10%**



What is the recycled material used for?

Bike frames, window frames, furniture, engine housings, etc.



FOCUS

Changes in the standard for separately collected aluminium: more stringent quality requirements for rigid streams in 2026



The rigid aluminium standard is changing over the course of 2026, with a significant increase in minimum aluminium content, set to rise from 45% to 60%.

The required aluminium packaging content is thus rising from 65% to 87%.

This change marks an important step for the stream, recognising the quality already achieved by sorting centres and operators, while also aligning the standard with real performance levels observed in the field.

By raising this threshold, the stream is acknowledging the reliability and purity of rigid aluminium tonnage, which is highly sought after by recyclers for its stability and high material value (this clarification also draws a clearer distinction between this stream and the second potential stream of aluminium foil, whose composition and recycling potential are different.)

This update is part of a process of continuous improvement aimed at securing industrial outlets, supporting sorting quality and enhancing the environmental performance of aluminium packaging recycling.

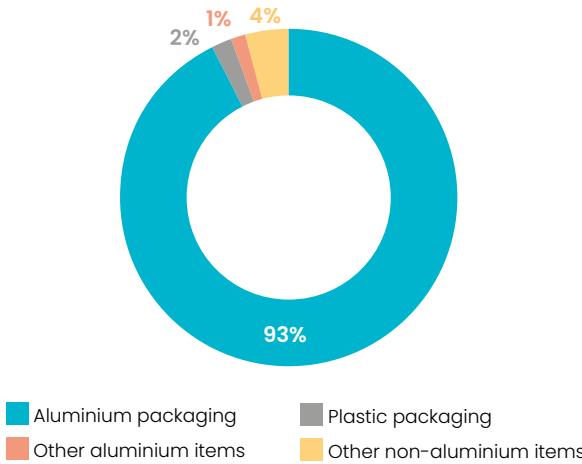
Average aluminium packaging content of:

93.4%

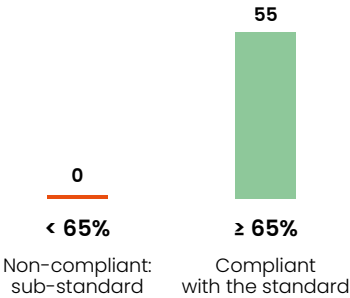
+0.7% since 2024

Content specified in the standard: **65%**

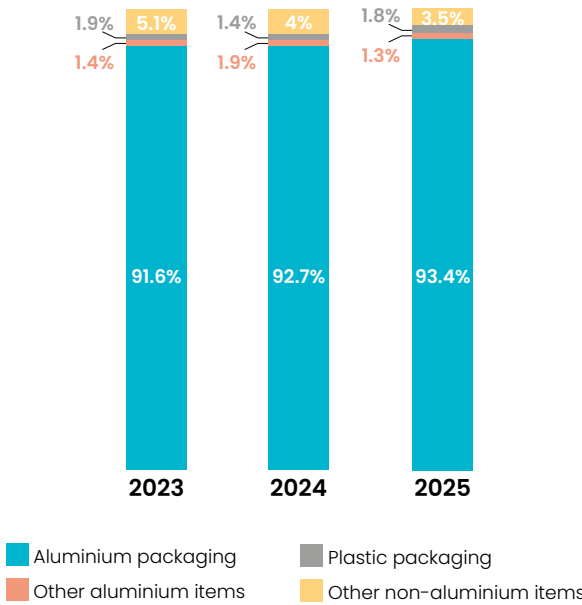
Overall composition



Compliance findings (in number of analyses)



Changes since 2023



* See glossary.

Data generated based on 55 analyses performed against the rigid aluminium standard in 2025.

SMALL ALUMINIUM ITEMS AND ALUMINIUM FOIL

As with other aluminium packaging, small-sized aluminium items and aluminium foil are separated from other small waste items using an eddy current separator.



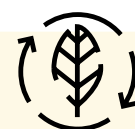
FOCUS

Change in the status of coffee capsules

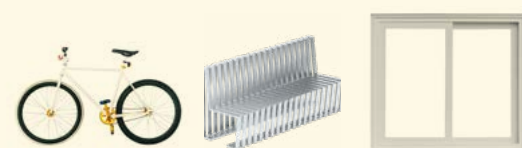


Following a major review of regulations on packaging and packaging waste, the Packaging and Packaging Waste Regulation (PPWR), the European Commission proposed to henceforth classify individual coffee capsules as packaging. This change of status was initially scheduled for August 2026 but has been postponed to January 2027. This means they will be subject to the same rules as other packaging regarding collection, recyclability and end of life.

What is the recycled material used for?



Bike frames, garden lights, window frames, engine housings, etc.



Aluminium content

No conversion rule has yet been established for converting aluminium content under this standard to an applicable aluminium packaging rate. Consequently, the findings are presented here for information only and do not allow us to predict the quality of the small-sized aluminium packaging stream.

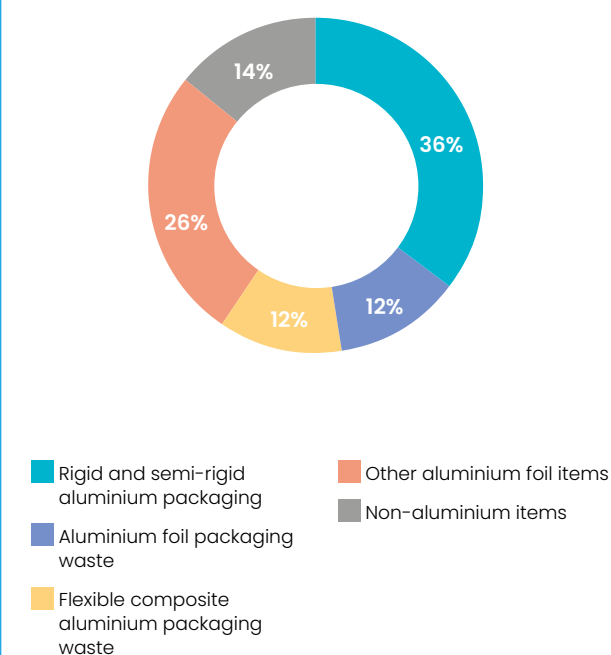
Only end recyclers are able to calculate the aluminium output rate at pyrolysis based on material balance.



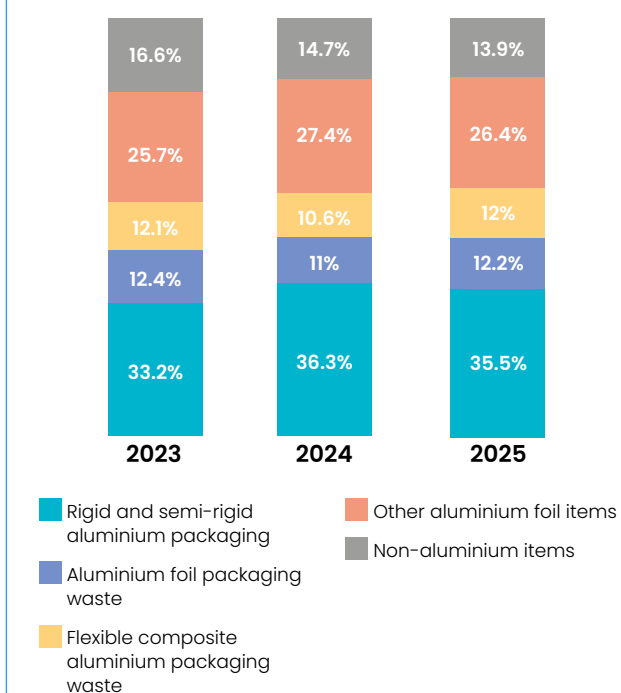
What the standard says

Minimum aluminium content of **40%** and maximum unwanted item content of **10%** of which glass must constitute no more than **2%**

Overall composition



Changes since 2023



Data generated based on 74 analyses performed against the small-sized aluminium items and aluminium foil standard in 2025.

GRAPHIC PAPER REQUIRING DE-INKING

Graphic paper requiring de-inking mainly consists of newspapers and magazines. It can be extracted using **optical sorting*** machines.



What the standard says

- A graphic paper content of at least **97%** and a maximum content of materials other than graphic papers (non-fibrous materials and unwanted fibres; non de-inkable recyclable fibres) of **3%**, of which non-fibrous material must constitute no more than **1.5%**
- Maximum moisture content of **10%**

FOCUS Graphic paper update

The volume of recycled graphic paper continues to fall due to a decline in quantities placed on the market (discontinuation of commercial catalogues, reduction of advertising leaflets, development of digital practices), decreasing from 1.3 Mt in 2021 to 800 kt in 2024.



What is the recycled material used for?

Newspapers and magazines, office paper, etc.



* See glossary.

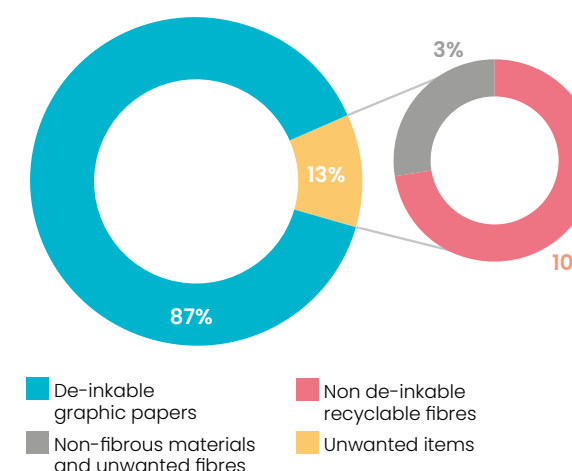
Graphic paper requiring de-inking – average content:

87.2%

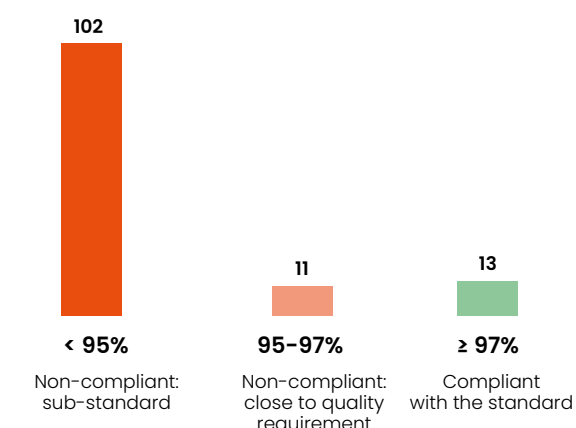
-1.60% since 2024

Content specified in the standard: **97%**

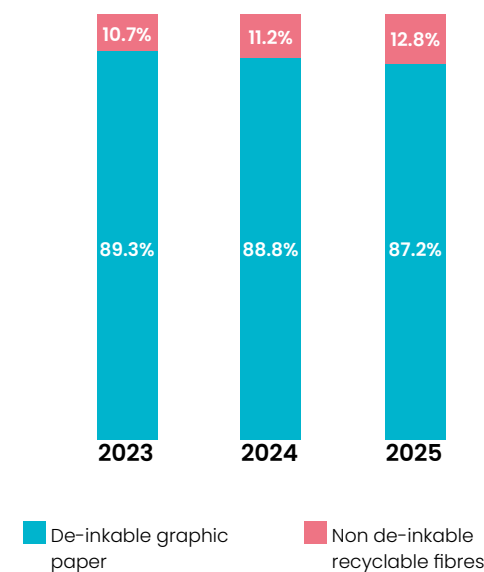
Overall composition



Compliance findings (in number of analyses)



Changes since 2023



Data generated based on 126 analyses performed against the graphic paper requiring de-inking standard in 2025.

SORTED MIXED PAPER AND CARDBOARD (MPC)

The standard for sorted mixed paper and cardboard includes a range of different papers and cardboards that are sorted manually or separated using **optical sorting*** equipment.

DOWNGRADING

If a stream sorted to meet the standard for graphic paper requiring de-inking does not fulfil the required quality criteria, it can be re-classed as sorted mixed paper and cardboard and still benefit from CITEO's support. However, a stream cannot be re-classed if it does not meet the standard for sorted mixed paper and cardboard.

What the standard says

- A minimum of **97.5%** paper/cardboard packaging and graphic paper and a maximum of **2.5%** non-fibrous materials and unwanted fibre
- Maximum moisture content of **10%**

What is the recycled material used for?

New paper/cardboard packaging.



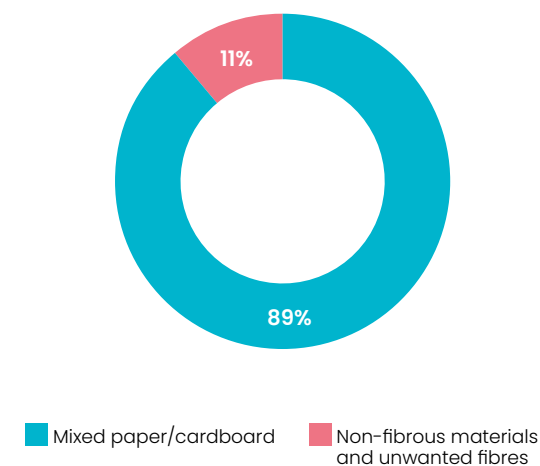
Sorted mixed paper/cardboard content:

89.1%

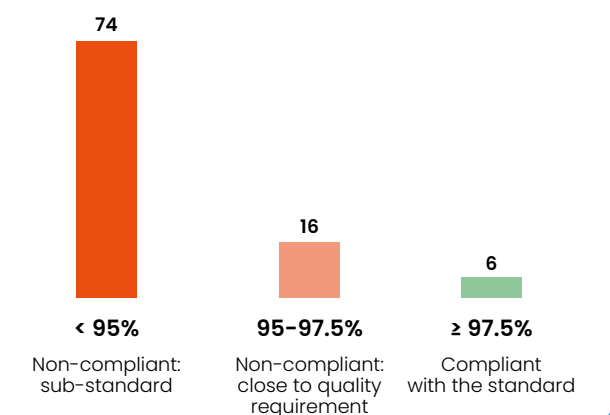
-0.2% since 2024

Content specified in the standard: **97.5%**

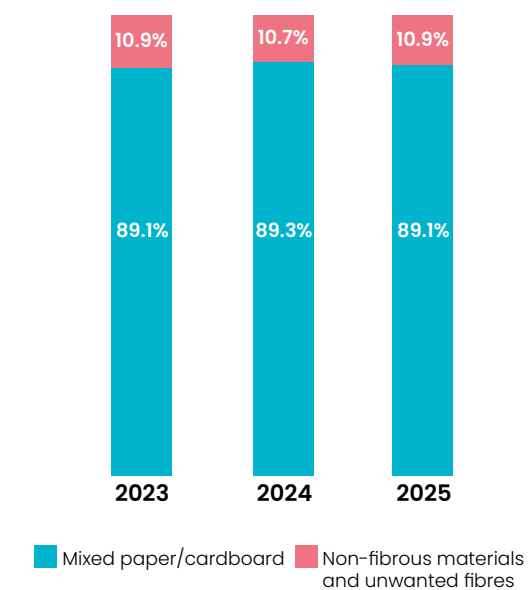
Overall composition



Compliance findings (in number of analyses)



Changes since 2023



* See glossary.

Data generated based on 96 analyses performed against the sorted mixed paper and cardboard standard in 2025.

NON-LAMINATED PAPER/CARDBOARD

Paper/cardboard packaging is sorted mechanically or manually. An increasing number of sorting centres are equipped with optical sorting machines, which nevertheless still require manual checks at output.

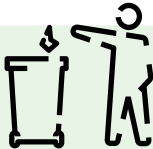


What the standard says

- A non-laminated paper/cardboard content of at least **95%** for bales
- In the event of a second stream, a corrugated cardboard content of at least **95%**
- Maximum moisture content of **12%**

FOCUS R&D

The Valomat project conducted in partnership between the Pulp and Paper Research & Technical Centre and CITEO is exploring the possibility of material recovery of the polyolefin fraction of pulper rejects. French paper manufacturers currently focus on energy recovery from this tonnage which represents an estimated 100,000 tonnes per year in France (household and professional packaging). The aim is to investigate the technical feasibility of a material recovery solution for this waste along with its economic impact and any environmental benefits.



What is the recycled material used for?

Shipping and packing boxes, shoe boxes, etc.



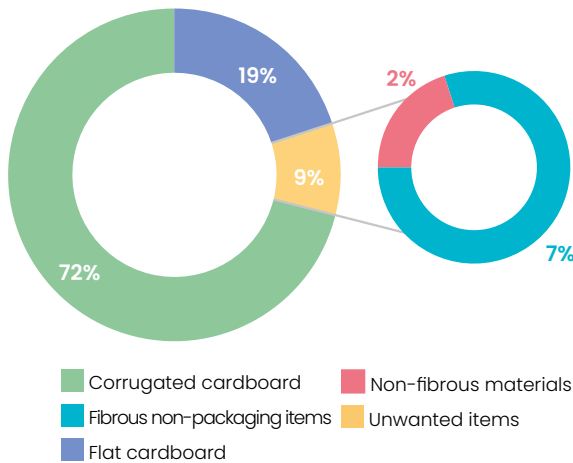
Average non-laminated paper/cardboard content:

91%

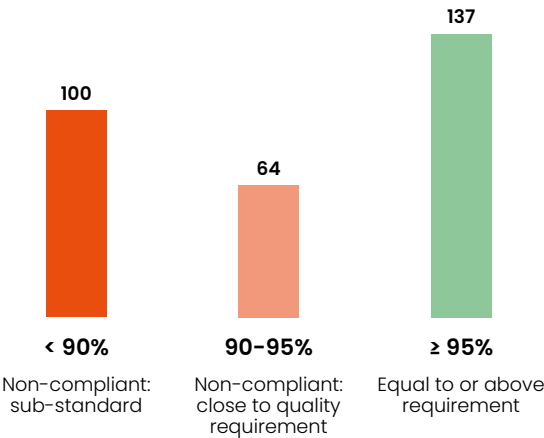
Same as in 2024

Content specified in the standard: **95%**

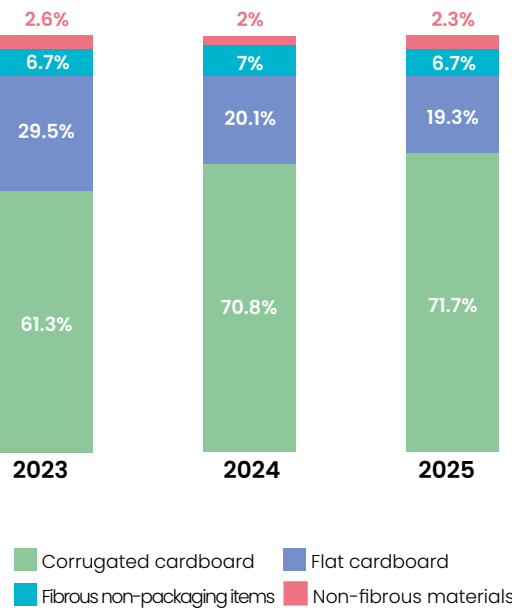
Overall composition



Compliance findings (in number of analyses)



Changes since 2023



Data generated based on 301 analyses performed against the non-laminated paper/cardboard standard in 2025.

LAMINATED PAPER/CARDBOARD

Laminated paper/cardboard packaging contains 50% paper/cardboard by weight and includes another material (plastic, metal, etc.). Mostly made up of liquid packaging board (LPB), but also including other laminated packaging, the laminated paper/cardboard stream is mainly sorted using optical sorting technology, and very rarely by hand.

What the standard says

- A laminated paper/cardboard content of at least **95%** for bales
- Maximum moisture content of **12%**

FOCUS PolyAl recycling

The shift from certain plastic packaging to complex cellulose packaging is at the origin of the Recynew project, led by the Pulp and Paper Research & Technical Centre and funded by a consortium of stakeholders including CITEO. It is investigating the potential impacts of the main new product families placed on the market on the recycling stages and process water quality. The ultimate aim is to issue recommendations to optimise packaging recycling and help implement the guidance of the Single-Use Plastics Directive (SUPD).

What is the recycled material used for?

Toilet paper, paper towels.



Average laminated paper/cardboard content:

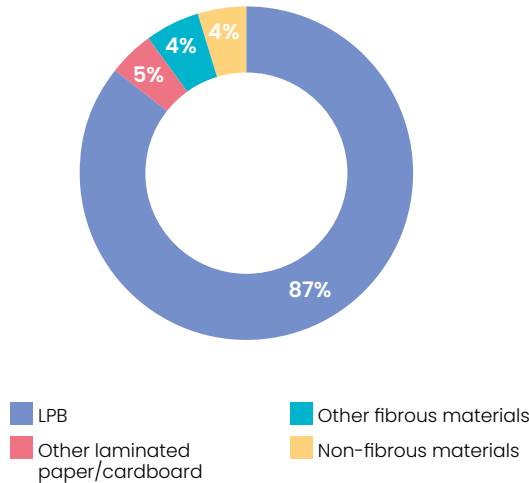
92.2%

+2% since 2024

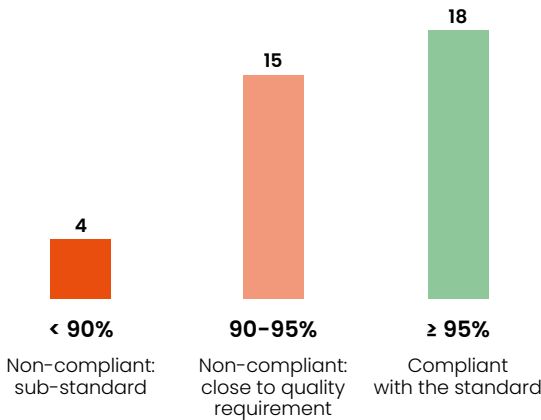
Content specified in the standard: **95%**



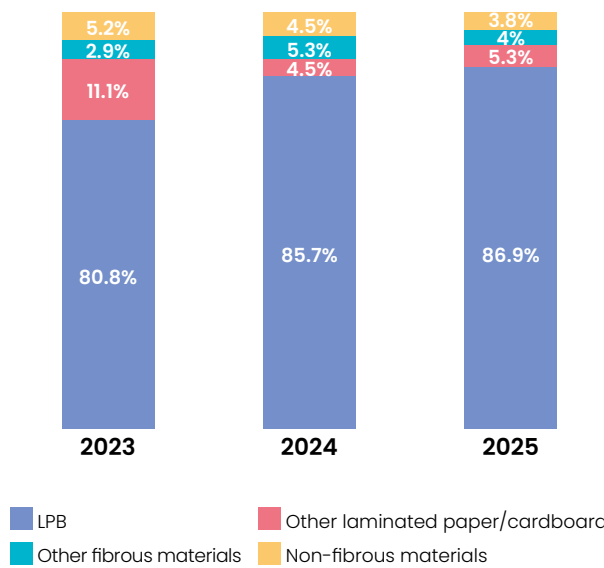
Overall composition



Compliance findings (in number of analyses)



Changes since 2023



Data generated based on 37 analyses performed against the laminated paper/cardboard standard in 2025.

PLASTIC

OUTPUTS FROM SORTING CENTRES

2025 was the last year in which sorting centres could produce plastic standards without emerging streams or simplified sorting. From 2026, plastic stream production in sorting centres will be structured around two sorting models:

- simplified sorting (plastic mono-stream);
- emerging streams.

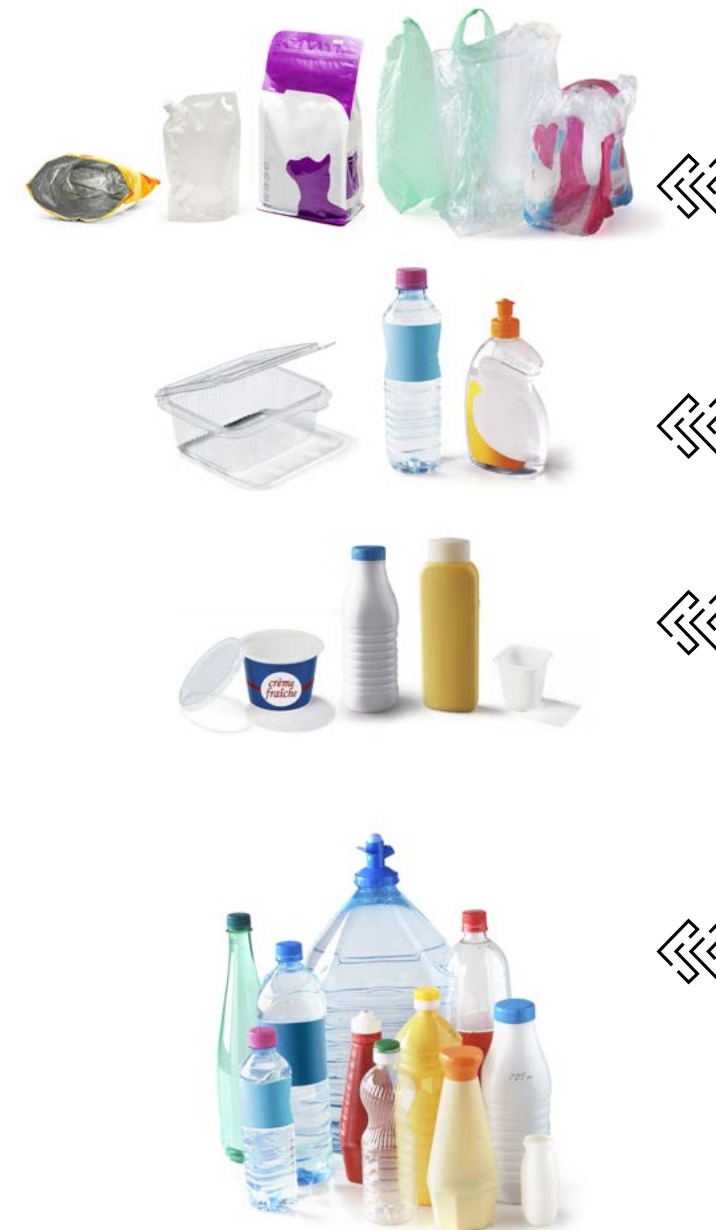
Two-stage sorting aims to:

- avoid overinvestment in sorting centres to separate resins that are present in low proportions;
- aggregate tonnages to rationalise and enable the development of recycling streams, such as PS.



'ESI 2015' sorting scheme

- **Clear PET Mix**
A clear or colourless PET bottle, jar/pot and tray content of at least **98%**
- **Dark PET Mix**
A dark or coloured PET bottle, jar/pot and tray content of at least **98%**. Clear PET is also tolerated.
- **PE/PP/PS**
At least **98%** with a tolerance threshold of **95%** for PE, PP or PS rigid household packaging
- **PE films**
A minimum PE film and bag content of **95%**



2026 sorting scheme

TWO PLASTIC STANDARD SCHEME

- **Emerging stream standard (flexible film stream)**
A minimum of **90%** films and bags mainly composed of polyolefins (PE and PP-based).
- **Clear PET 'emerging stream'**
A minimum of **98%** clear or colourless PET from bottles and **3%** from mono-PET pots/jars and trays
- **HDPE/PP**
A minimum of **95%** for the HDPE and PP stream for sorting centres with emerging streams
- **Emerging stream standard (mixed rigid plastic)**
A minimum content of **90%** where packaging that meets plastic standards with the simplified sorting instruction are concerned (more details in the corresponding material profile)

SIMPLIFIED SORTING SCHEME

- **Rigid streams to be sorted (mixed stream)**
A minimum rigid plastic packaging content of **90%** for all plastic types

What is the recycled material used for?

PET:
clear plastic bottles, coloured plastic bottles, polyester fibre, etc.



PE/PP/PS:
yoghurt pots, pipes, flower pots, etc.



PLASTICS: 'ESI 2015' SORTING SCHEME

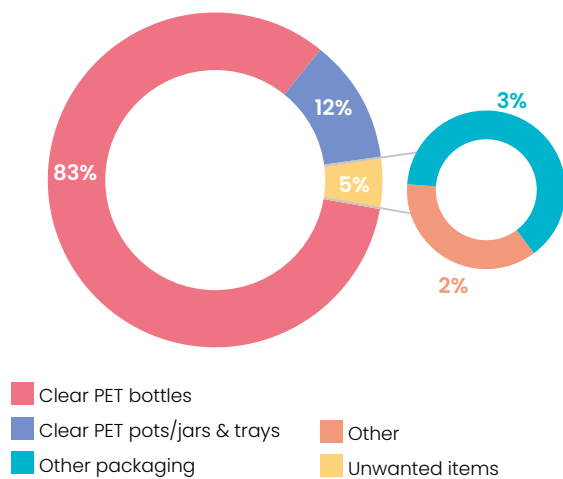
Clear PET Mix (standard 98%):

94.8%

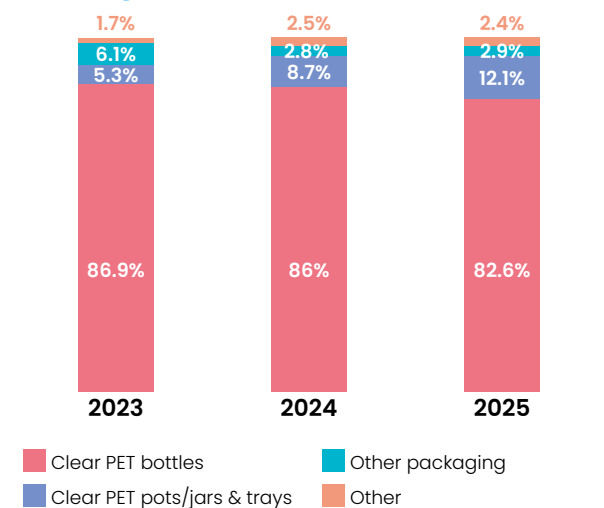
+0.1% since 2024

Data generated based on 53 analyses performed against the clear PET standard in 2025.

Overall composition



Changes since 2023



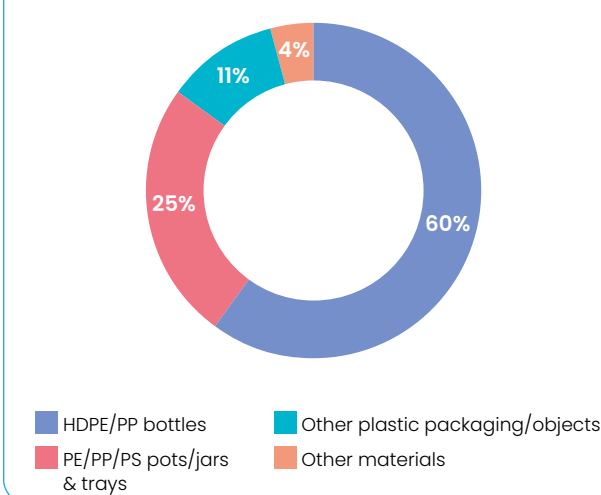
PE/PP/PS (standard 98%):

85.6%

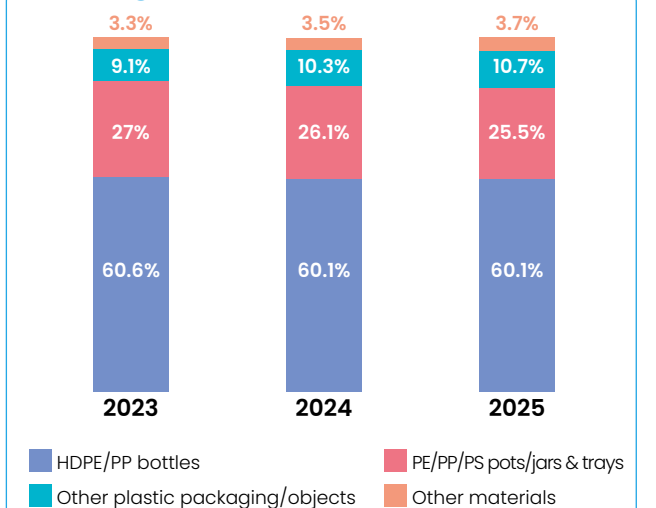
-0.6% since 2024

Data generated based on 32 characterisation analyses performed against the PE/PP/PS standard in 2025.

Overall composition



Changes since 2023



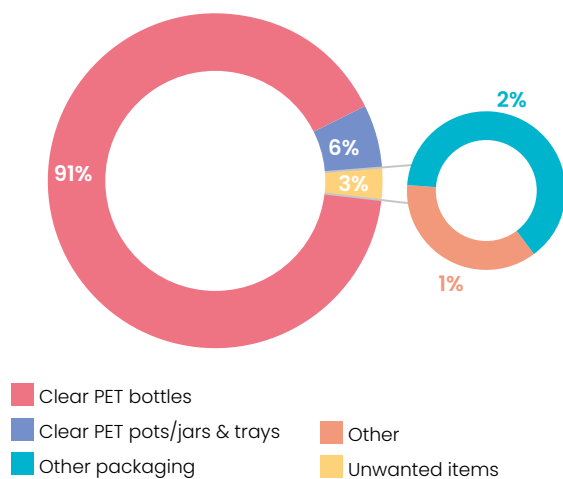
Dark PET Mix (standard 98%):

97.2%

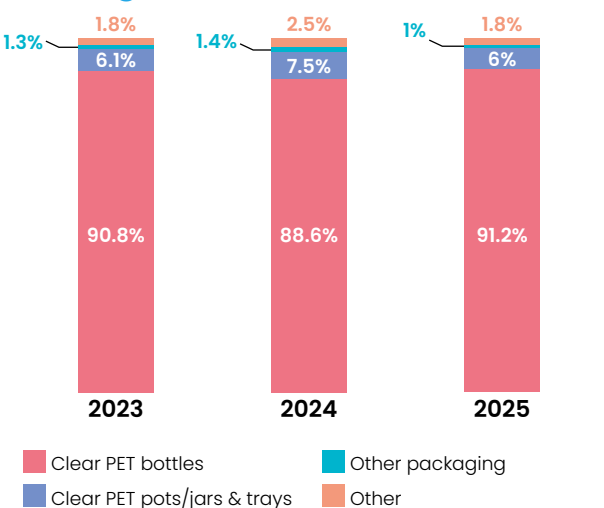
+1.1% since 2024

Data generated based on 35 analyses performed against the dark PET standard in 2025.

Overall composition



Changes since 2023



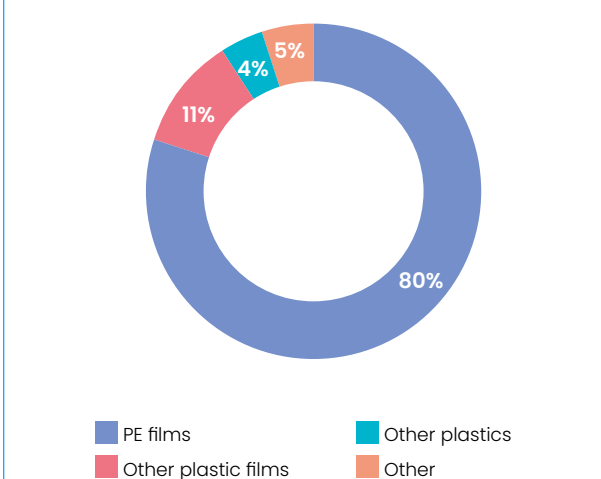
PE films (standard 95%):

80.8%

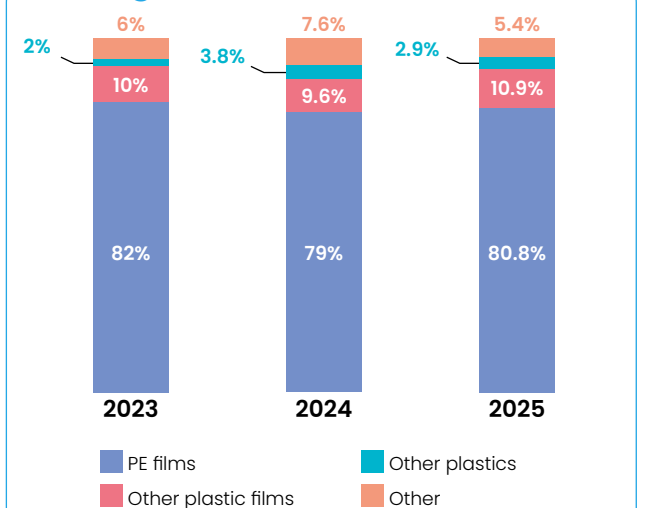
+1.8% since 2024

Data generated based on 40 analyses performed against the development stream standard in 2025.

Overall composition



Changes since 2023



PLASTICS: 2026 SORTING SCHEME

'BOTTLES STREAM' CLEAR PET

The 'bottles stream' clear PET standard sets a minimum single-layer clear PET packaging content of 98% and a maximum single-layer clear PET tray content of 3%.

In sorting centres, the clear PET packaging items are separated via optical sorting, then compacted into bales to be sent to recyclers.



R&D PET fines



The 'PET fines' R&D project conducted in partnership between CITEO and the Technical Centre of the French Plastics and Composites Industry (IPC) aims to explore recovery options for PET fines, a by-product generated during the mechanical recycling of PET bottles and trays. Its purpose is to identify levers for action to limit the production of these fines at source while also optimising their incorporation into tailored recovery streams.



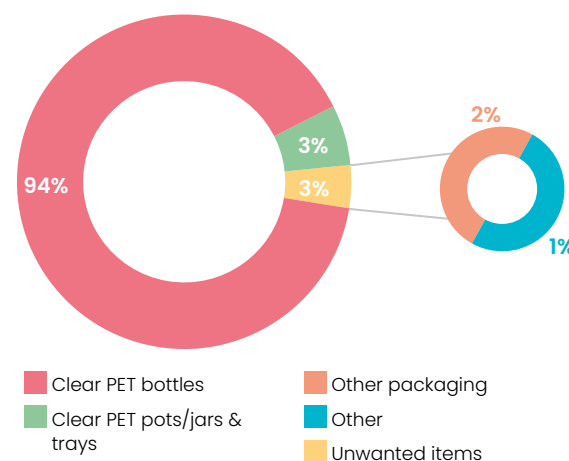
Average clear PET packaging content:

96.9%

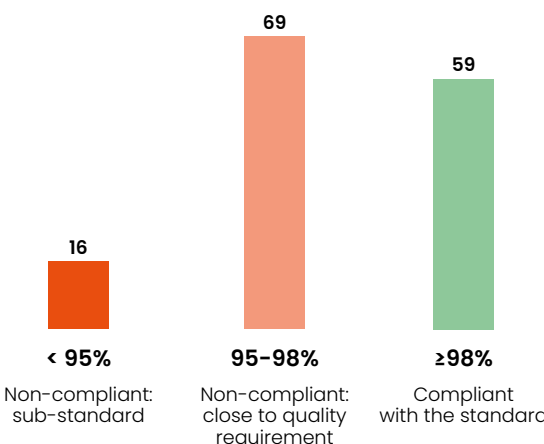
+0.1% since 2024

Content specified in the standard: 98%

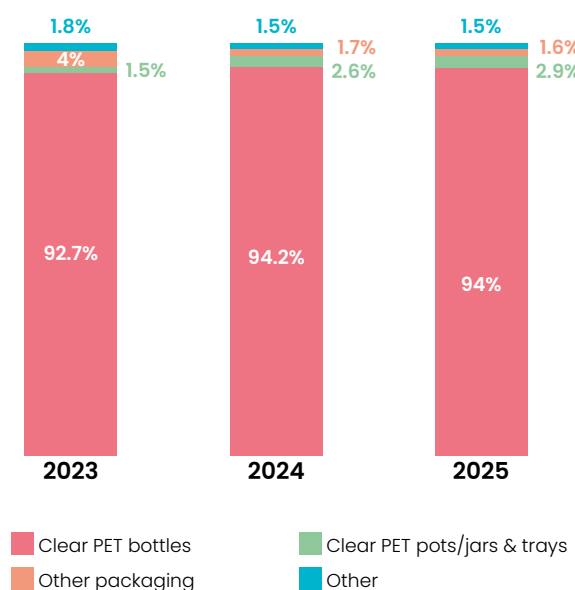
Overall composition



Compliance findings (in number of analyses)



Changes since 2023



Data generated based on 144 analyses performed against the clear PET standard in 2025.

HDPE/PP

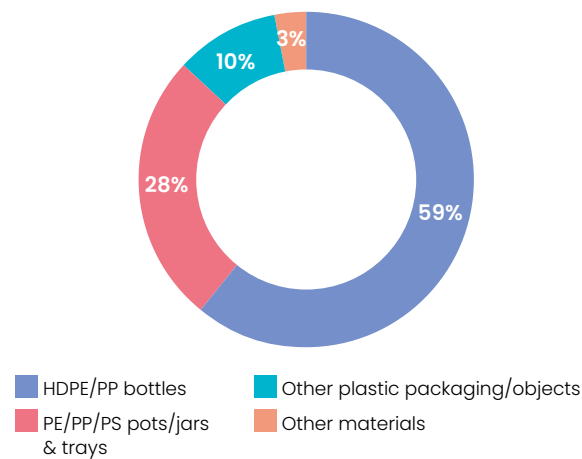
Average HDPE/PP packaging content:

86.7%

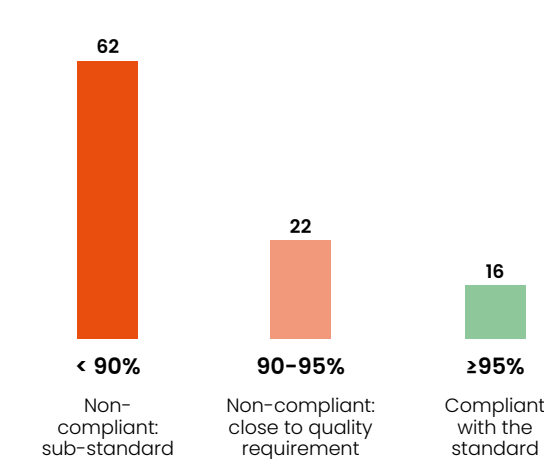
-1.8% since 2024

Content specified in the standard: 95%

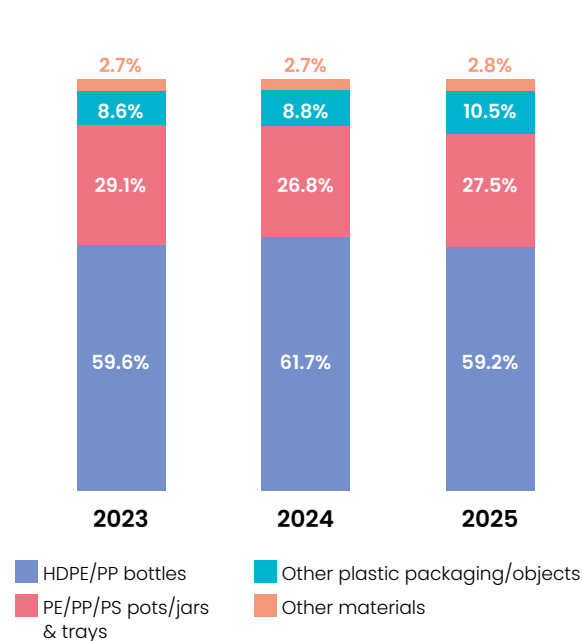
Overall composition



Compliance findings (in number of analyses)



Changes since 2023



Data generated based on 100 characterisation analyses performed against the HDPE/PP standard in 2025.

EMERGING STREAM FLEXIBLE FILM STREAM

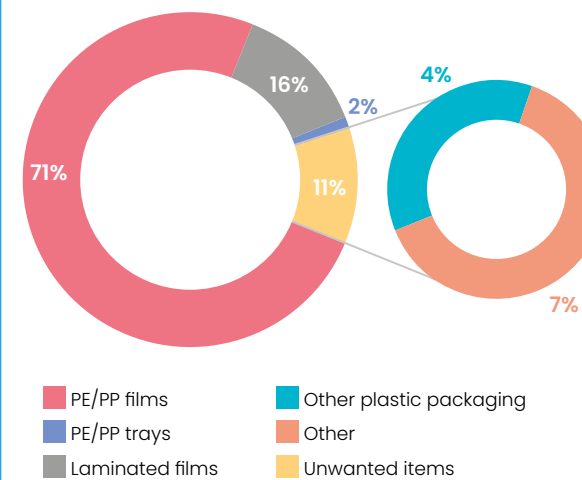
Average PE/PP film packaging content:

88.8%

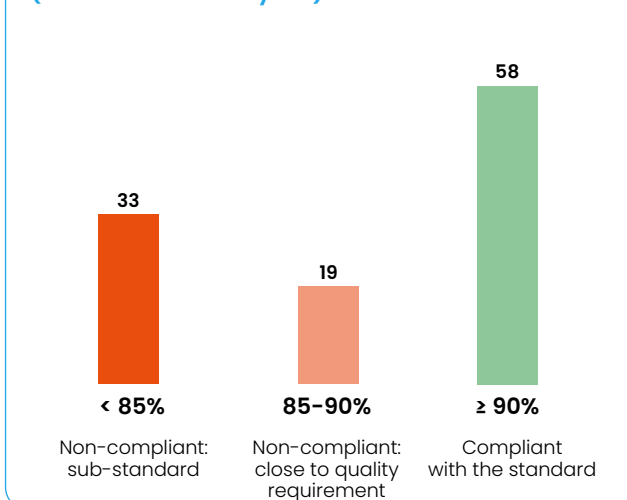
-0.2% since 2024

Content specified in the standard: 90%

Overall composition



Compliance findings (in number of analyses)



FOCUS

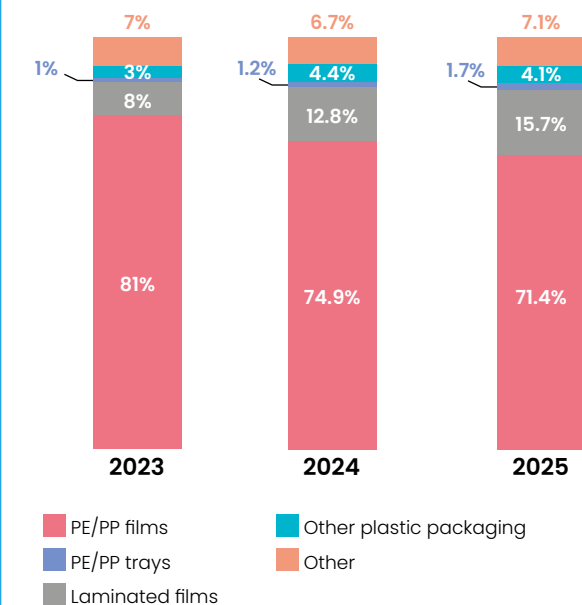
Recycling of PE/PP films

At the end of 2025, the flexible PP (polypropylene) packaging recycling stream changed status nationally, from ‘under development’ to ‘operational’!

This was achieved in large part due to the commissioning of modern recycling plants (TotalEnergies in France, Indaver in Belgium). The momentum is likely to be maintained with the construction of new plants currently underway (Machaon in France).



Changes since 2023



Data generated based on 110 analyses performed in 2025 against the emerging stream – flexible film stream – standard.

EMERGING STREAM MIXED RIGID PLASTIC

Average emerging stream packaging content:

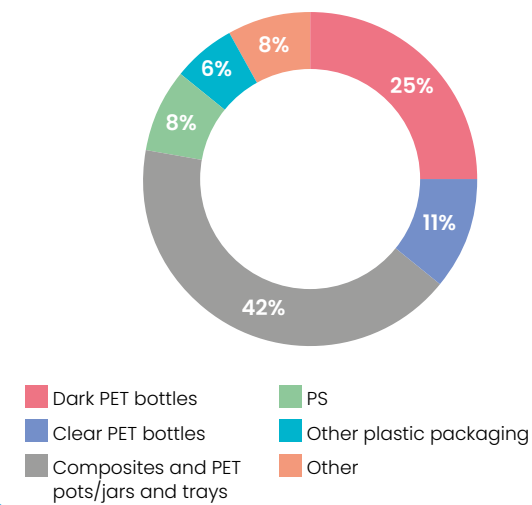
92.3%

+0.7% since 2024

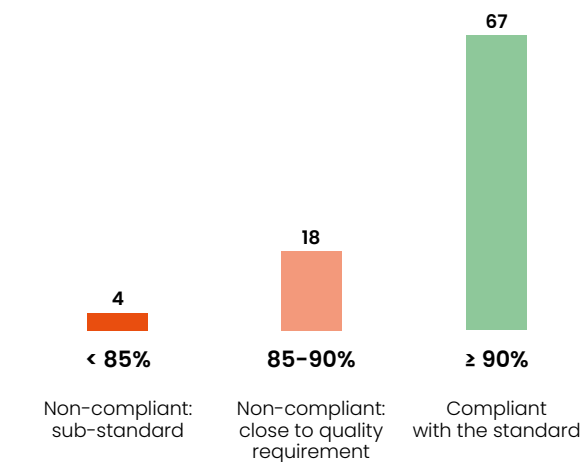
Content specified in the standard: 90%



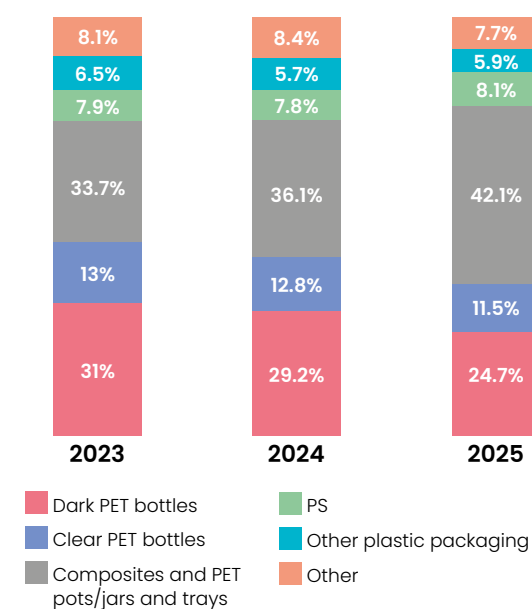
Overall composition



Compliance findings (in number of analyses)



Changes since 2023



FOCUS PS recycling

Since 2025, compact PS (polystyrene) packaging that meets COTREP guidelines are recyclable.

The stream is keeping up momentum with the help of the Indaver plant in Belgium, which can now recycle yoghurt pots into new yoghurt pots!



Data generated based on 89 analyses performed in 2025 against the development stream – mixed rigid plastic – standard.

RIGID PACKAGING TO BE SORTED MIXED STREAM

Average rigid packaging to be sorted content:

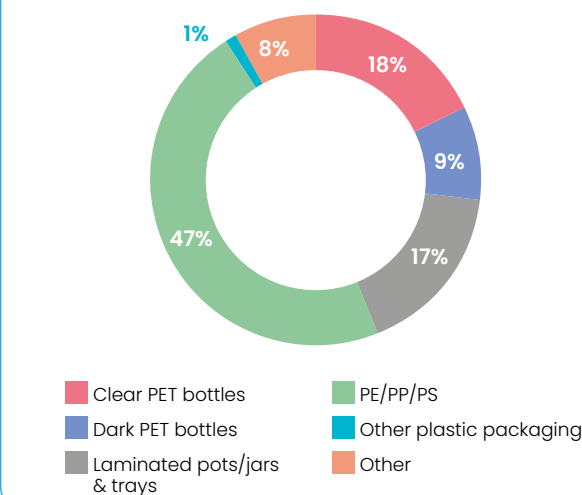
92%

+1% since 2024

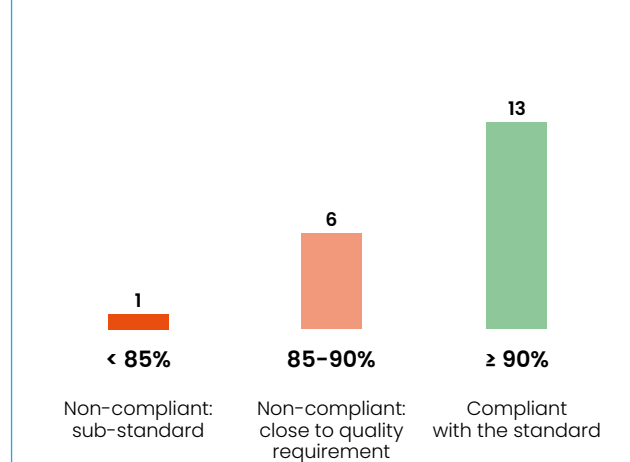
Content specified in the standard: 90%



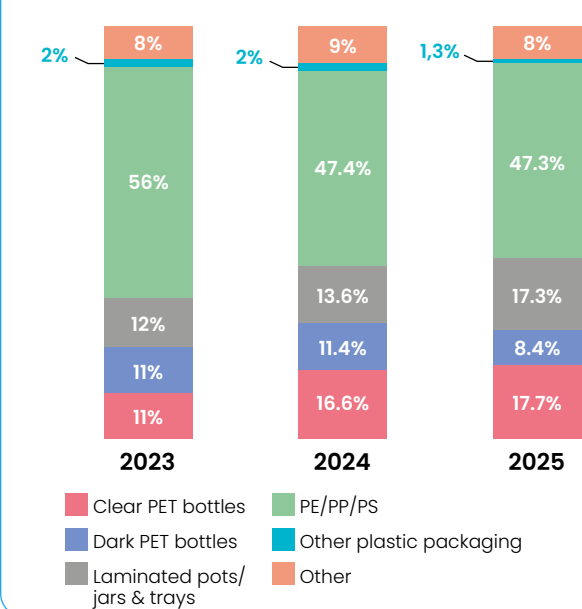
Overall composition



Compliance findings (in number of analyses)



Changes since 2023



FOCUS Recycling of rigid PET packaging

With regard to pots, jars, trays and other rigid PET (polyethylene terephthalate) items, CITEO is relaunching calls for proposals for recyclers and adapting flows in secondary sorting centres to counter the delays accrued on certain chemical recycling projects.

Our goal? To recycle as much of this type of packaging as possible, and as soon as possible.

Starting in 2026, we hope to recycle clear PET/PE pots, jars and trays. A delamination stage will allow them to be mechanically recycled, and most of the recycled material will be food-contact grade.

Data generated based on 20 analyses performed against the rigid plastic to be sorted standard, including 14 samples against the 'without clear PET' standard and 6 against the 'with clear' PET standard.

GLASS

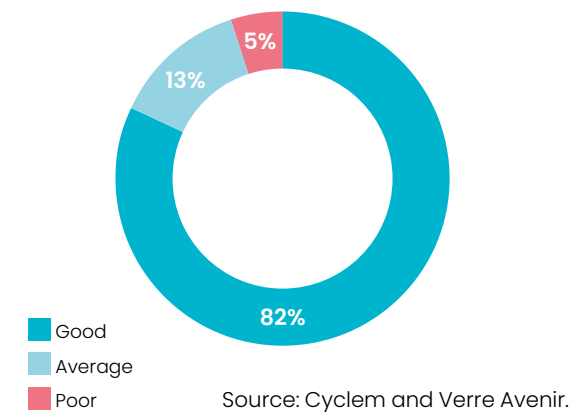
Glass household packaging is collected separately. Most of the glass collected is taken to consolidation facilities, and then on to 'treatment plants' which sort and prepare the glass. The process gets rid of most of the unwanted materials and grades the pieces of glass to produce **cullet*** that is equivalent in quality to the raw material used in glass furnaces for manufacturing new glass packaging.

What the standard says

A glass household packaging content of at least **98%**



Breakdown of non-compliance instances for incoming items at treatment plants



* See glossary.

FOCUS Glass update



In 2025, glass recycling still plays a key role in the circular economy. While glass continues to be collected efficiently, the recycled glass market is changing, reflecting a more challenging economic climate. Rising energy costs and adjustments to industrial output are affecting buy-up capacities for collected glass.

In this context, glass manufacturers have joined forces with CITEO to fully leverage existing schemes to ensure the buy-up guarantee and enable all local authorities' household glass to be removed and recycled.

However, strain on the sector has led to increased storage requirements for collected glass. Inadequate storage conditions can then diminish the quality of household glass and lead to contamination by unwanted items. It is therefore essential that storage practices are compliant in order to preserve material quality, ensure that it is recycled, and secure outlets for the stream.

What is the recycled material used for?

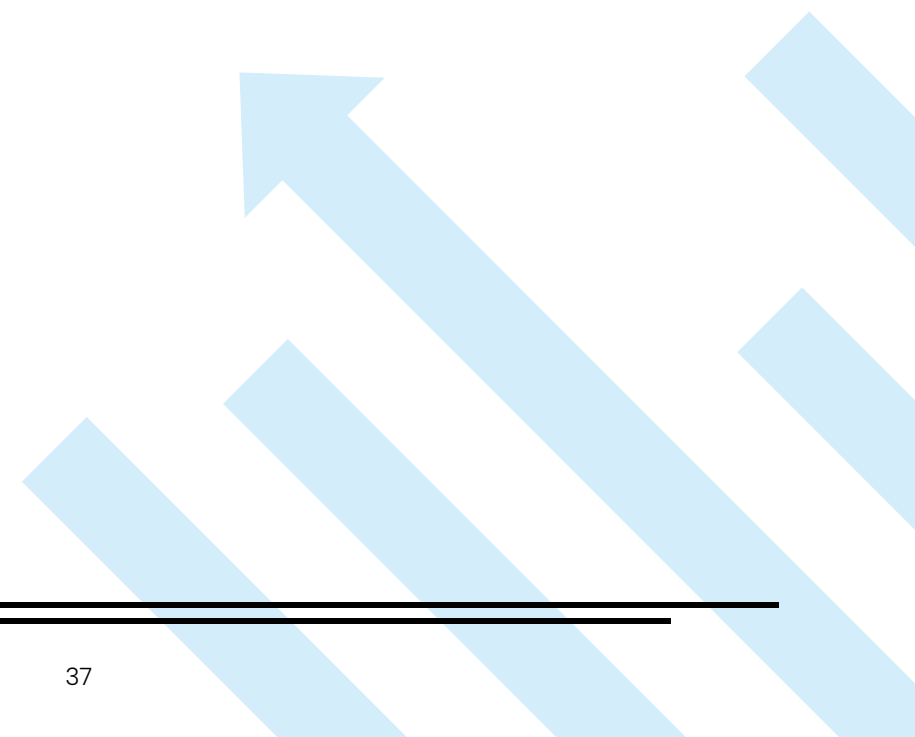
New glass packaging.



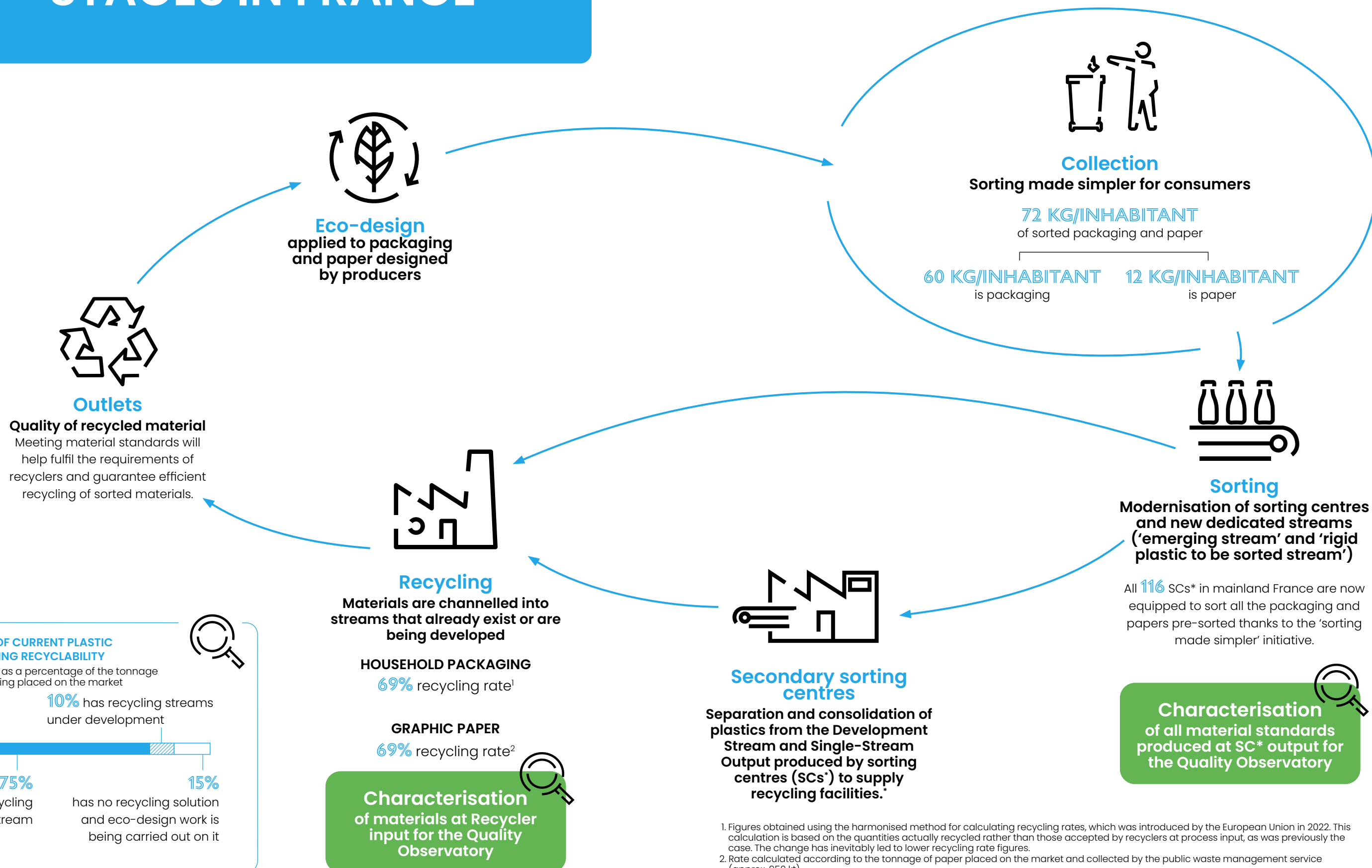


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THE MAIN RECYCLING STAGES IN FRANCE



CHANGES TO SORTING SCHEMES FOR PLASTIC STANDARDS IN FRANCE

2026 SORTING SCHEME

BEFORE THE EXTENSION OF SORTING INSTRUCTIONS



Clear PET bottles



Coloured PET bottles



HDPE and PP bottles



Sorting rejects

'ESI 2015' SORTING SCHEME



Clear PET bottles
Clear mono-PET trays



Coloured PET bottles
Coloured mono-PET trays



HDPE and PP bottles
PP/PE/PS pots/jars and trays



LDPE films



Sorting rejects
(multi-layer trays/PVC/
small-sized films)

SCHEME WITH TWO PLASTIC STANDARDS (EMERGING STREAM)



Clear PET bottles
Clear mono-PET trays (3%)



HDPE and PP bottles
PP or PE pots/jars and trays



LDPE + PP and laminated films



Emerging stream:
Coloured + opaque PET bottles
Mono-PET + PS pots/jars and trays
Multi-layer trays



Sorting rejects (PVC / films that are
too small) and sorting process errors if
recoverable packaging is present

SIMPLIFIED SORTING SCHEME (RIGID PLASTIC TO BE SORTED STREAM)



All rigid plastics:
Clear/dark PET,
HDPE/PP bottles
Clear/dark PET, PS pots/jars and
trays, multi-layer trays



LDPE + PP and laminated films



Sorting rejects (PVC / films that are
too small) and sorting process errors if
recoverable packaging is present

GLOSSARY

THE CHARACTERISATION PROCESS

Random selection of a bale*
or bulk pile to be analysed



Sample collection



Sorting of the different
constituent materials



Weighing of sorted materials



Comparison of the results
with the standard



Bale/Bundle: in sorting centres, once sorted, waste is compressed by a press into cubes of the same size for each material, called 'bales', or 'bundles' for steel.

Characterisation: a measurement of waste composition performed by sorting a sample and weighing the various sorted categories.

Collection: this refers to the collection of waste to be transferred to a sorting or processing facility. Collection starts when the waste collection service (public or private) picks up the waste.

Cullet: glass that has been sorted and cleared of impurities at a treatment plant so that it can be used in a glass furnace.

Eddy current separator: a piece of equipment used at sorting centres to eject aluminium packaging using eddy current properties.

ESI: Extension of Sorting Instructions (the nationwide programme to extend collection and sorting to include all plastic packaging).

Extended producer responsibility: a principle under which producers are responsible for the end of life of products that they place on the market. As such, they fund or organise the collection, recycling or recovery of waste from these products. This system is aimed at reducing environmental impact and encouraging eco-design.

Graphic paper: a term used to refer to paper used for graphic printing.

HDPE: high-density polyethylene.

Household waste sorting centre: a plant at which waste is separated by material and prepared for transfer to recyclers.

Manual sorting: an operation enabling materials to be separated by category as they travel along a sorting belt. It is performed by sorting operators at a sorting centre.

Material standards: household packaging and graphic paper waste standards describe the general characteristics of such waste, in terms of composition and quality (number of streams, humidity threshold and impurities), and, in some cases, how they are prepared (bulk, bales or bundles) for transport to recycling facilities.

Mechanical sorting: automated sorting carried out by machines at a sorting centre.

Optical sorting system: equipment used to sort packaging according to its material content, by using a bright light and recording the light waves reflected by the waste.

Overband: a piece of equipment that uses an electromagnet to capture all magnetic ferrous metals.

Packaging: any item, regardless of the type of materials used in its composition, designed to contain and protect goods, enable their handling and transport from the producer to the consumer, and display them.

Any 'non-recycled' items used for the same purposes should also be considered as packaging.

PET: polyethylene terephthalate.

PP: polypropylene.

PS: polystyrene.

Recycling: any recovery operation by which waste is reprocessed as substances, materials or products intended to serve their original purpose or other purposes. Operations involving energy recovery of waste, conversion of waste into fuel, and backfilling cannot be classified as recycling operations.

Recycling disruptor or unwanted item: elements or waste included in the recyclable waste flow that disrupt recycling.

* See glossary.



All paper can be sorted and recycled, including this document.