

4evergreen

Perfecting circularity together





9.30 AM

4evergreen alliance and its activities

Hans Wortman, 4evergreen alliance Chair

9.40 AM

The 4evergreen Guidance on the Improved Collection & Sorting of Fibre-based Packaging for Recycling

Jonathan Edmunds - DS Smith, Michel Willems - Smurfit Kappa

10:00 AM

Presentations from Waste Management Companies and Organisations – Q&A

Fost Plus - Maarten Delanghe, Account Manager Operations

Comieco - Roberto di Molfetta, Recycling Manager

Veolia Germany - Linda Bockmühl

Association of Cities and Regions for Sustainable Resource Management (ACR+) - Jean-Benoit Bel, Senior Project Manager

Municipal Waste Europe - Vanya Veras, Secretary General

11:00 AM

Closing remarks



Program



PART 1

who we are



4evergreen

brings together companies across the fibre-based packaging value chain who are committed to raising circularity and sustainability

where we come from



Today, 81,6% of paper and board packaging is recycled.* As we discussed how our sector could become more circular, it became clear that **finding innovative and practical solutions is best done together.**



In 2019, many companies in the packaging value chain contacted Cepi to discuss and **understand the implications of the Single Use Plastics Directive.**



After several successful workshops organised by Cepi, it became evident that there was a need to create **a platform to continue collaborating.**

aim, goal and approach



Our aim is to contribute to a climate neutral and sustainable society by **perfecting the circularity** of fibre-based packaging.



Our goal is to raise the overall recycling rate of fibre-based packaging to **90% by 2030**.

We focus on the types that perform low today, in particular household and on-the-go food packaging.



Our approach is **holistic** in identifying and promoting **innovative solutions towards climate neutrality**.



achievements

This is what we have achieved so far:

expertise

110

industry sponsors

16

elected steering group members

365

packaging engineers & circularity experts in workstreams



562

representatives engaged



action

5

active workstreams

4



intermediary targets

3

landmark reports



McKinsey & Company



+80

tests performed



3

deliverables



communication

in 2022

9

interviews



143

engaged journalists

4

releases



778

media mentions



5

videos



3910

followers



640

followers



1 goal

raising the overall recycling rate of fibre-based packaging to

90% by 2030



our goal and intermediate targets

On its journey to a

90%

recycling rate

by 2030

4evergreen has identified **4 targets to meet by 2025:**

- That the fibre-based **industry recognises and uses** 4evergreen's recyclability evaluation protocol and its circularity by design guidelines;
- That **separate collection streams are available for all fibre-based packaging types**, including those used in household, out-of-home and on-the-go consumption;
- That **all paper for recycling is sorted according to the paper and board categories** specified in the EN643 standard;
- That 100% of collected fibre-based packaging is recycled.

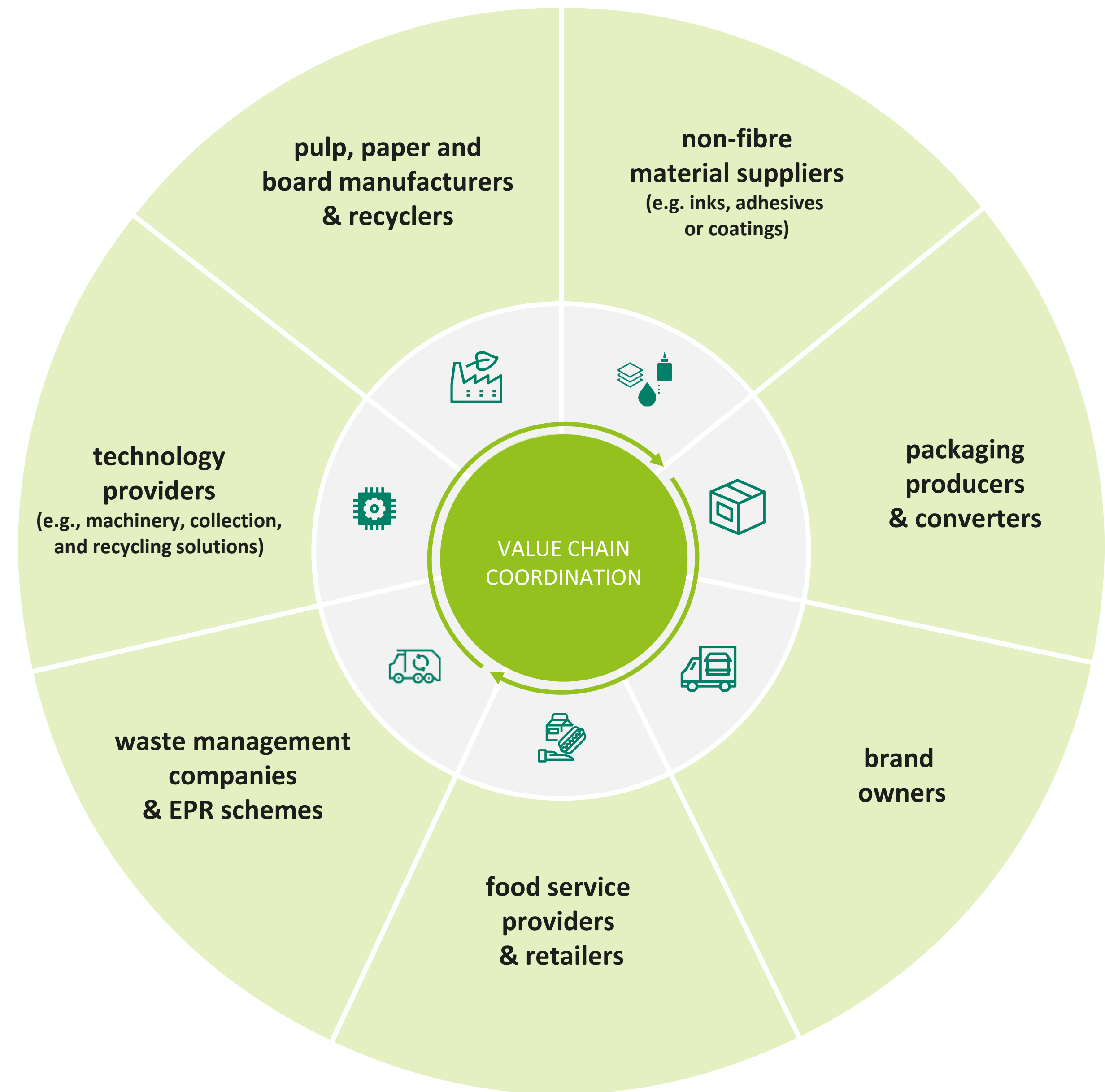
our members



- amazon
- amcor
- ASPAPEL
- PAPER BOTTLE COMPANY
- Koehler PAPER GROUP
- KURZ
- MM
- L'ORÉAL
- KCL
- BILLERUDKORSNÄS
- BOBST
- HEIDELBERG
- PREPDESIGN
- PEPSICO
- PHILIP MORRIS INTERNATIONAL
- Nestlé
- Metsä
- ACTEGA
- burgo
- AHLSTROM MUNKSJÖ
- celabor
- cardbox packaging
- RISE Research Institutes of Sweden
- mondi
- NEXTGEN CONSORTIUM
- PTS FIBRE based solutions
- aquapak
- ctp centre technique du papier
- Dr.Oetker
- DS Smith
- Apple
- Schur
- SIG
- PROPAKMA
- McDonald's
- RdM
- DOW
- ELOPAK
- DANONE ONE PLANET. ONE HEALTH
- Fostplus
- SunChemical
- SOLENIS
- INNOVHUB STAZIONI SPERIMENTALI PER L'INDUSTRIA
- Valmet
- covestro
- ECOL STUDIO
- IKEA
- Graphic Packaging INTERNATIONAL
- Seda INTERNATIONAL PACKAGING GROUP
- SCA
- SIEGWERK
- PULPEX THE FUTURE OF SUSTAINABLE PACKAGING
- FUJIFILM Value from Innovation
- Huhtamaki
- kemira
- CJ 제일제당
- INTERNATIONAL PAPER
- Suzano
- Tetra Pak
- TOMRA
- TBP Future solutions for tomorrow
- hubergroup print solutions
- H.B. Fuller
- PAPTIC
- SONOCO
- walki
- Tetra Pak
- WestRock
- EXTR:ACT DRIVING VALUE FROM MULTI-MATERIAL RECYCLING
- Expra Extended Producer Responsibility Alliance
- Henkel
- Kellogg's
- kuraray
- MARS
- VTT
- P&G
- SOLIDUS SOLUTIONS
- SECURITY MATTERS
- Unilever
- sappi
- CIITEO
- comieco Consorzio Nazionale Ricupero e Riciclo degli imballaggi a base Cellulosica
- hp
- AVERY DENNISON
- HOLMEN
- HEINZEL GROUP
- KOENIG & BAUER
- Smurfit Kappa
- storaenso
- UPM
- hhs Baumer Group
- Constantia Flexibles
- BLUE OCEAN CLOSURES
- hp
- IRCCULAR ANALYTICS
- FERRERO
- wepa
- NISSHA METALLIZING SOLUTIONS
- 4ever green
- BASF We create chemistry

value chain

Our members represent the entire fibre-based packaging value chain.



building an industry toolbox expert-led and fit-for-purpose



Holistic

4evergreen covers the entire life-cycle of fibre-based packaging and adopts a 360-degree holistic approach.

Our deliverables are the result of an extraordinary **collaborative effort** and **consensus-building process** of our experts.



Science-Based

Our work is based on **scientific facts** and **data** derived from **accurate testing**.

We are working with the best consulting firms and research institutes to draw from the best practices across the world.



Comprehensive

Our toolbox targets the whole packaging life cycle from design to collection & sorting to recycling.

Once completed, it will tackle almost all types of fibre-based packaging

how are we building it?

PERFECTING CIRCULARITY TOGETHER



SPREADING THE WORD



WS-5

Translating the work of the technical workstreams into digestible and educational messages for industry and policymakers.

Building consistent views and collaboration, enabling efficient and effective engagement with decision-makers and stakeholders.

Involving the customer and inform on how to dispose of their consumed fibre-based packaging product.



collection & sorting: two crucial steps to perfect the circularity of fibre-based packaging



Our Workstream 3 Goal

Identify best practices and draw up guidelines for the collection and sorting of all fibre-based packaging - including the types for household, out-of-home and on-the-go consumption - to raise its recycling rate.

Why do we need a Guidance on Improved Collection & Sorting

- **Collection and Sorting** are key to improving the recycling rate of fibre-based packaging.
- **Collection systems vary** across Europe and should allow **volume and quality** - We need **simplified messages** for consumers and **uniformity** at the national level first and at the European one in a second stage.
- We need high-quality standards for the **separation of waste** in the collection phase. In order to meet the quality requirements of recycling mills, **stream purity is a must.**

the guidance on the improved collection & sorting



GUIDANCE ON THE IMPROVED COLLECTION AND SORTING OF FIBRE-BASED PACKAGING FOR RECYCLING

August 2022



Workstream 3

Guidance on the Improved Collection and Sorting

4evergreen key recommendations for improved collection & sorting in Europe and how to move forward



Jonathan Edmunds
DS Smith



Michel Willems
Smurfit Kappa



Guidance Highlights

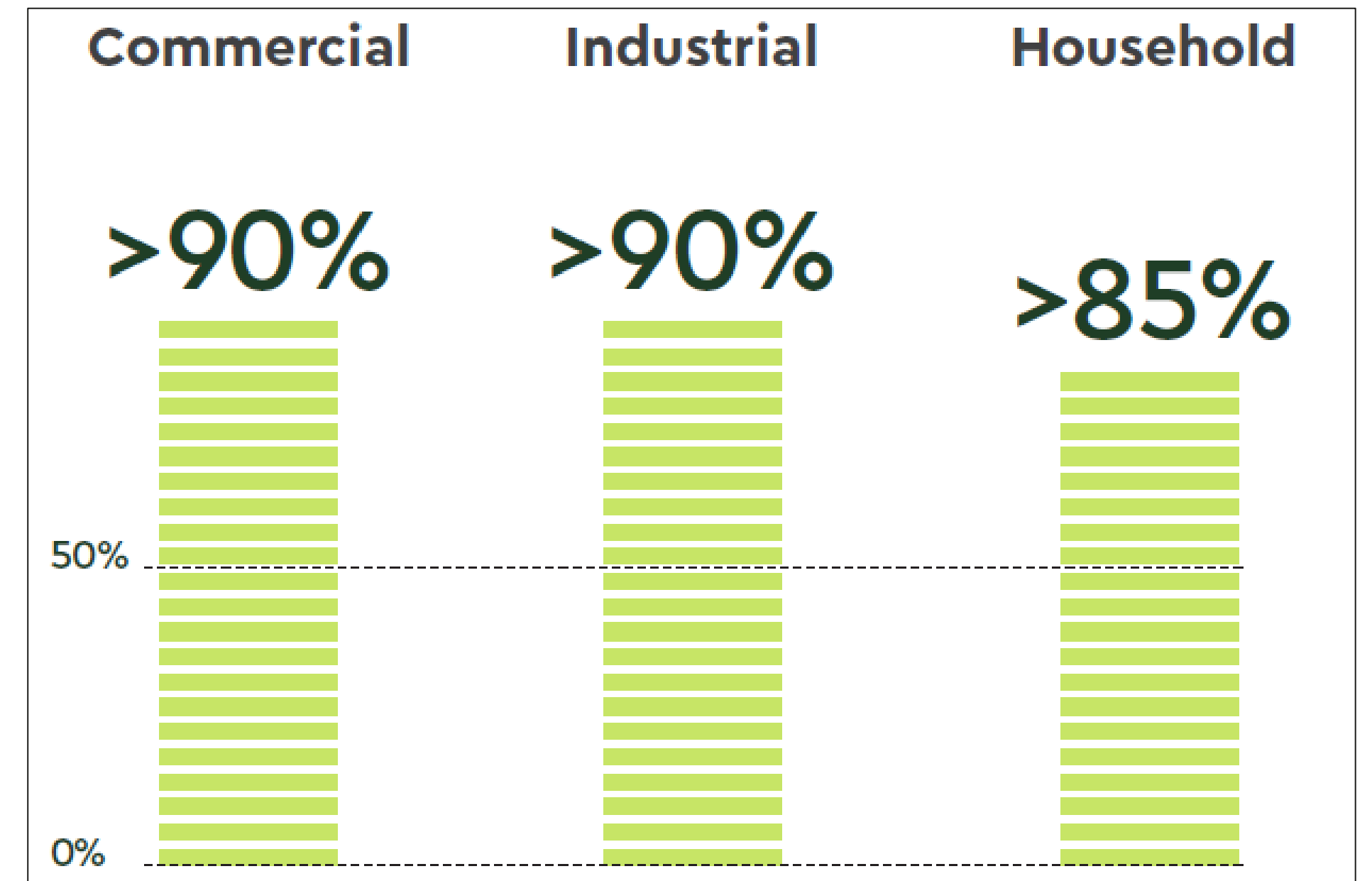


Introduction

“To guide the implementation of future collection, sorting and recycling infrastructure, in order to meet EU legal requirements and realise 4evergreen’s aspirational targets including a 90% recycling rate for fibre-based packaging”

Introduction

- Affecting the whole chain but specifically targeted at policy makers and EPR-schemes
- Source-by-source recycling rate sub-targets
- Focus is on material 'generated' at households
 - 'Putting the finger on the sore spot'
- Provides guidance on the different routes from 'source' to 'recycling'
- One system described in full
 - Alternative (successful) systems are also supported by 4evergreen



Starting points

- All fibre-based packaging is recyclable (as long it ends up at the right destination)
- Source-separation is a must
 - Provides a strong foundation for recycling at suitable paper and board mills
 - Either kerbside collection or drop-off points
- Co-mingled collection should be avoided where possible
 - Another no-go (for the moment): fibres collected from residual waste
- Public awareness is key (but we are all in this together)
- (Real) net recycling costs (for each type of packaging material) to be covered by EPR fees

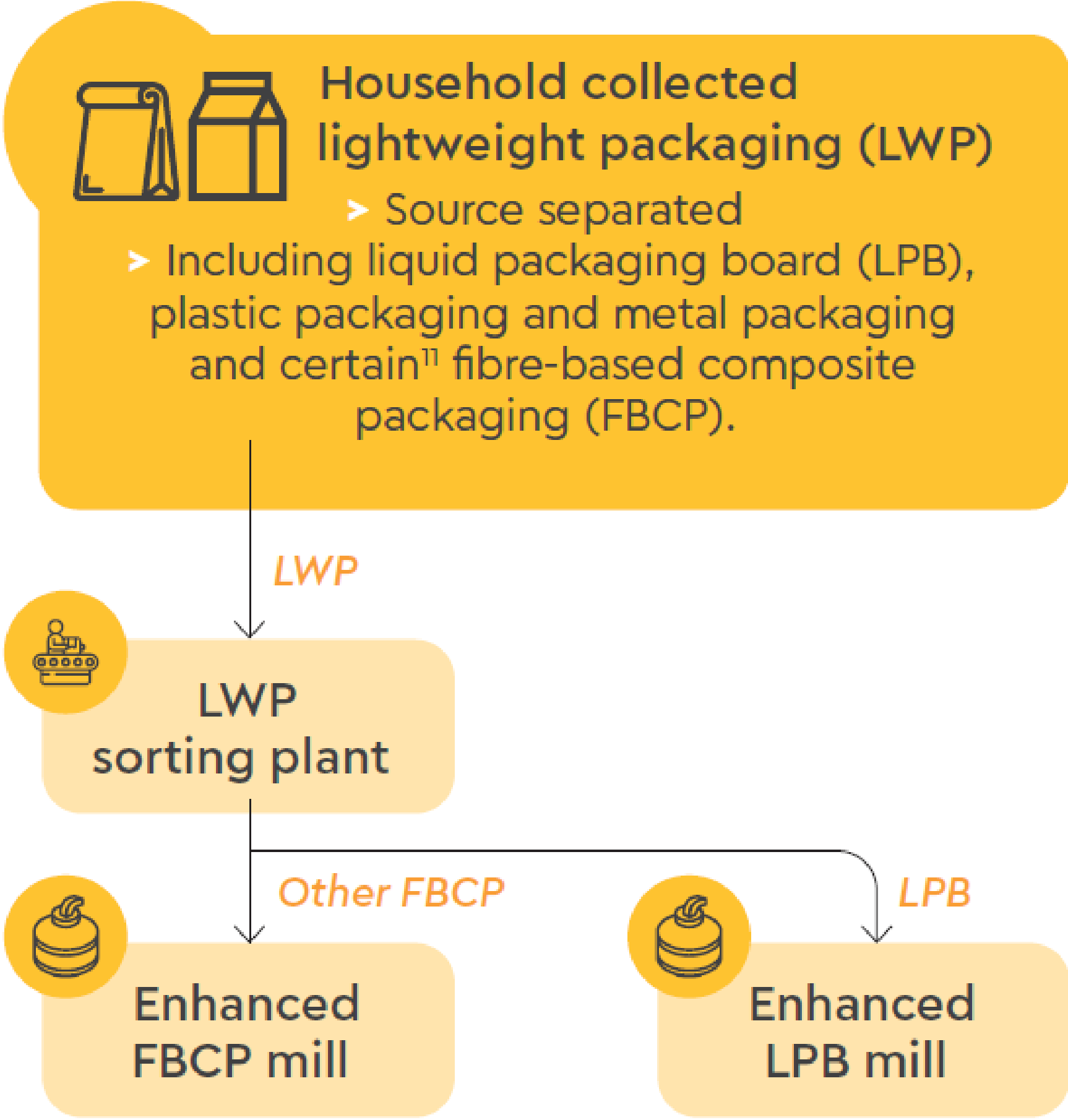
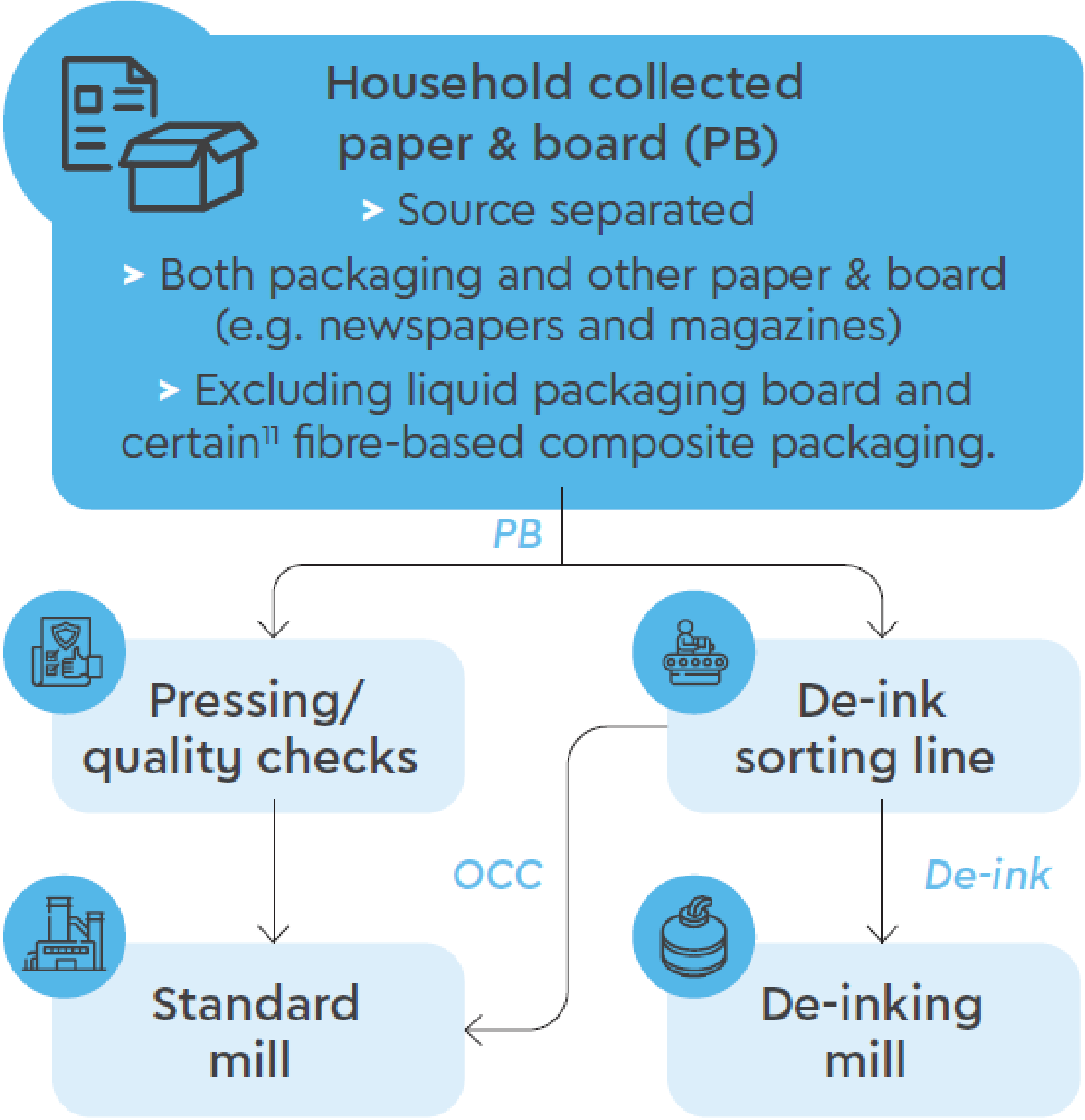


Recycling mills

- Final destination for fibre-based packaging
- Three different types: **Standard, de-inking** and **enhanced/specialised**
- Different raw material demand; different recipes
 - ‘Paper for Recycling’, particularly originating from households, is a blend of different fibre-based products
 - Mind: consumption \neq recycling
- Collection and (eventual) sorting should guide different ‘streams’ towards the right type of mill



Overview



the way
forward



next steps and consultation process

1

The first version of the Guideline provides **4evergreen's view** on how to improve collection and sorting systems across Europe.

No external comments were envisaged for this first stage.

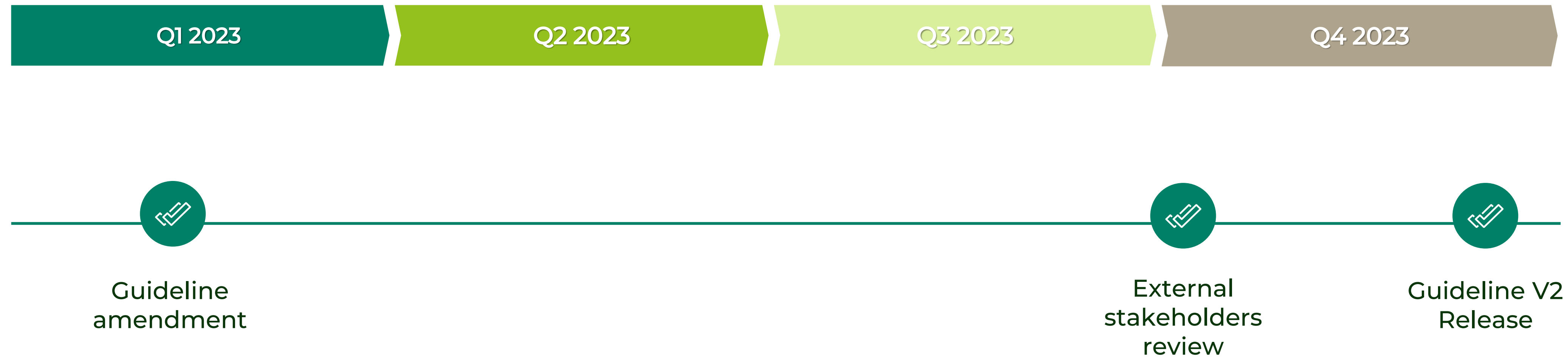
2

A new version of the Guideline will be released in 2023 and include technical findings from the other workstreams resulting in a **more tangible set of recommendations.**

3

The stakeholders' consultation process will be opened ahead of the new Guideline's release.

Timeline



- WS1 Recyclability Evaluation Protocol review
- Workstream/Working Group comments and review
- Drafting of V2 Guidance

The Way Forward

Version 1 (Current):

- Chapter 1: Introduction
- Chapter 2: Fibre-based packaging recycling rate targets
- Chapter 3: Framework & Boundaries
- Chapter 4: Household Collection
- Chapter 5: Recycling Solutions
- Chapter 6: Standard Mill Route
- Chapter 7: Enhanced Mill Route
- Chapter 8: Modelling Household Route
- Chapter 9: Practical Recommendations

Version 2 update (2023):

- Chapter 1: Introduction & Framework
- Chapter 2: Standard Mill Route
- Chapter 3: Specialised Mill Route (Minor Update)
- Chapter 4: Summary Chart
- Chapter 5: Collection in Practice

Version 3 update (2024):

- Chapter 6: HORECA & on-the-go
- Impact of residual foodstuff
- Specialised Mill Route (Full update)
- Deep-dive on sorting

NEW



Q&A



Maarten Delanghe

Account Manager Operations
Fostplus



**4ever
green**

member

June 2023

Securing the Paper cardboard-stream in Belgium

Presentation Fost Plus

About Fost Plus

Our success recipe



Uniform collection



Uniform sorting



**Contract
management**

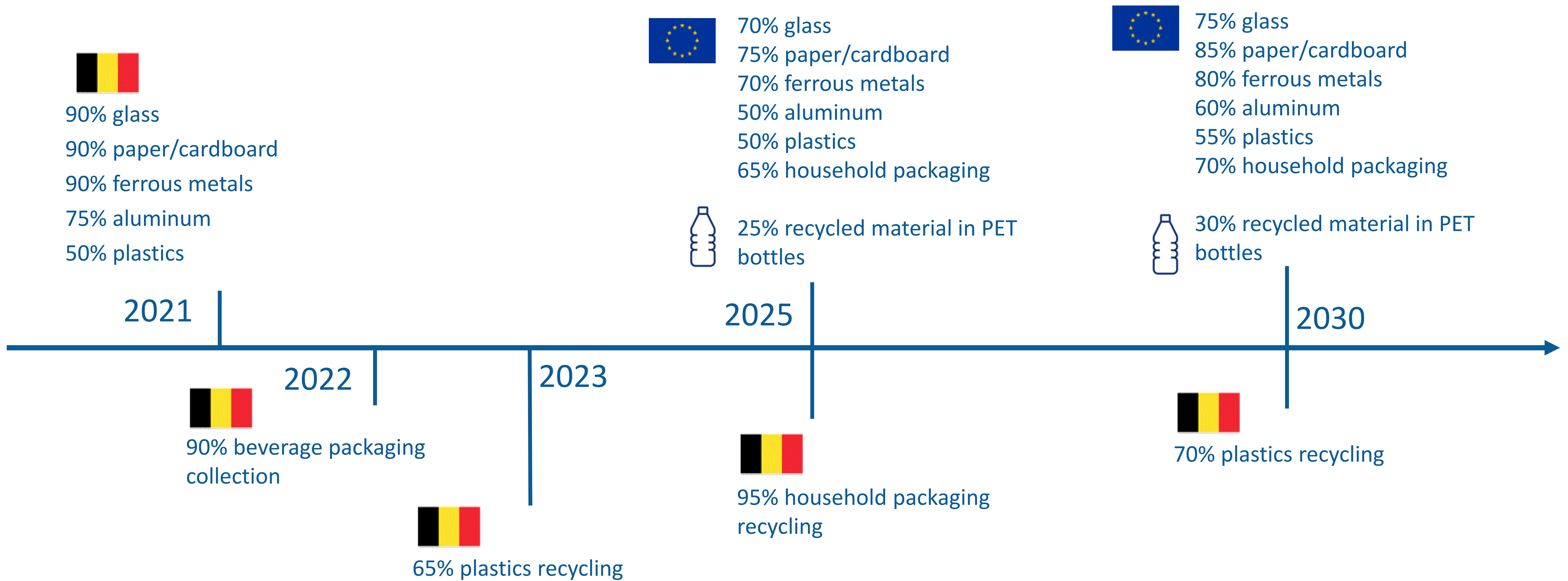


Data flow control



**Material flow
control**

The Belgian recycling objectives surpass the European goals

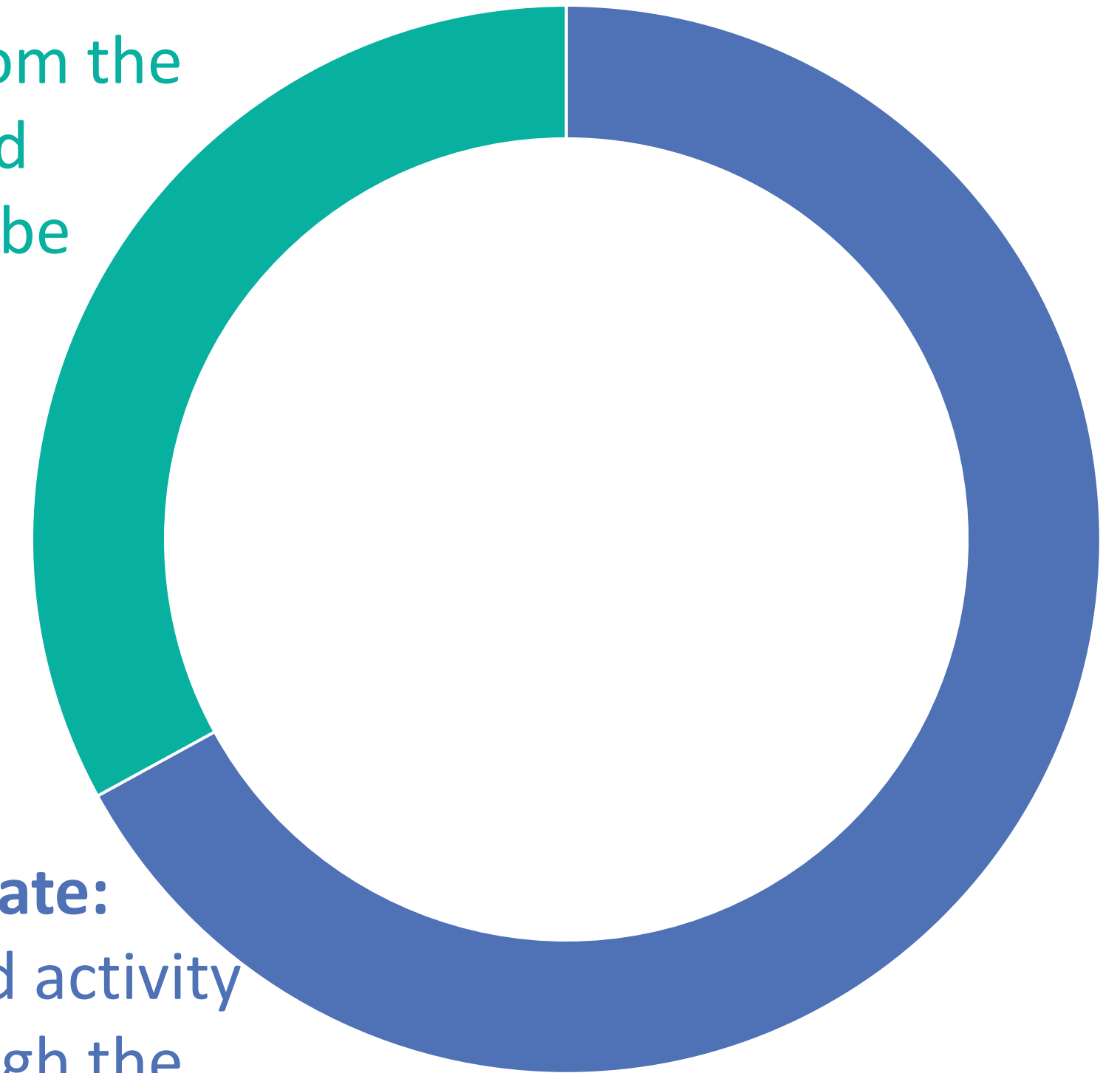


Green Dot: eco-modulation based on the circular deficit

- The principle: a strong financial incentive for companies to create packaging that is compatible with existing sorting and recycling scenarios in Belgium
- A unique EPR system in Europe, based on the actual costs of the recycling process
- Towards the lowest deficit in the circular economy: 15 € per person

Revenues from the sale of sorted materials to be recycled

Green Dot rate:
material and activity based through the recycling chain



Household paper-cardboard in Belgium

UBC's in Belgium

- Sorted in the lightweight fraction (1/16 streams)
- Base scenario for collection of the blue bag:
 - D2d 1 / 2 weeks
 - Completed with drop off points in recycling centers;
- Sorted in 15 high purity fractions (NIR-sorting)
- Resulting in a high qualitative stream with recycling rates of 70%
- Increasing focus on recycling of PolyAl!!



Household paper-cardboard in Belgium

- Paper & cardboard mixed collection – packaging and non-packaging
- Base scenario for collection:
 - d2d 1 / 4 weeks;
 - Completed with drop off points in recycling centers;
- Current system for fiber packaging: min 85% fibers
 - Pay the green dot fee for paper-cardboard;
 - And if they' re not contaminated:
 - Are allowed in the paper cardboard-stream and can carry the paper-cardboard recycling logo
- Resulting in a high qualitative stream with recycling rates >90%



Changes in the household paper-cardboard stream

- Significant changes in the paper-cardboard composition and collected volumes;
- Trend for replacing plastic packaging with fiber based (coated) packaging:
 - Examples:
 - Frozen products;
 - Fruit & vegetables;
 - Dairy products;
 - Fresh meat& fish;
 - Ready meals
 - Service packaging (on the go)
 - Impact on recyclability?



Proposal for a future approach in Belgium (under review)

- Declaration paper cardboard packaging 2027 if CEPI protocol part A-compliant
- Testing by Fost Plus:
 - As from 2024 – for information purposes
 - As from 2026 – for declaration criteria
 - Focus on challenging packaging in function of volumes
- Development of a decision tree for packaging, eg:
 - Contact with liquid, pasty or greasy food;
 - Conservation in humid environment;
 - Avoids dehydration of food;
 - Contains a metalized surface;
 - Contains a large printed surface;
 - ...

Fost Plus

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Follow us



Q&A



Roberto Di Molfetta

Vice Executive Director
Comieco



**4ever
green**
member



**Comieco: the Italian
experience in paper
packaging
collection, sorting
and recycling**

Roberto di Molfetta

Vice executive director



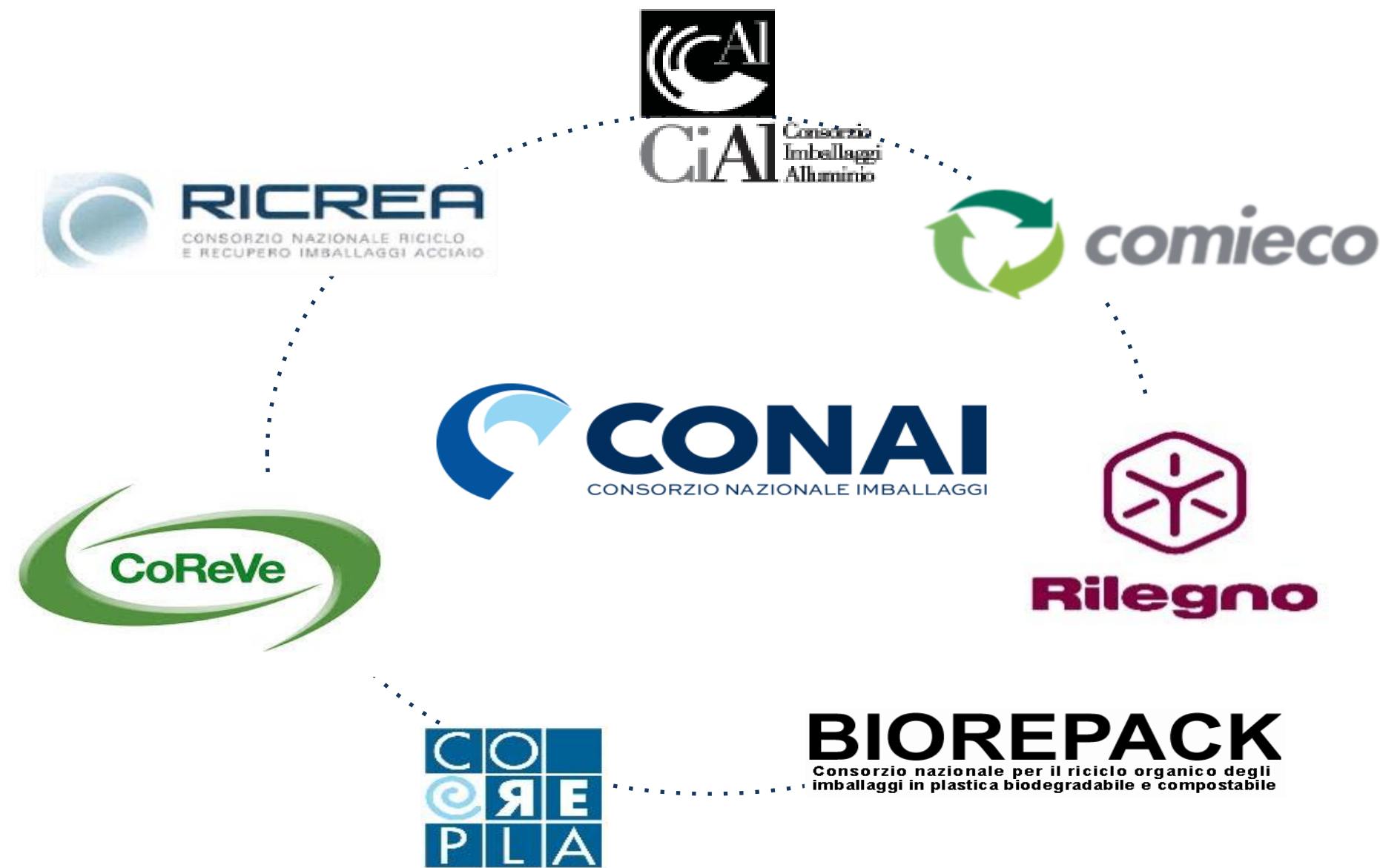
Comieco is one of the 7 PROs complying with PPWD and operating with CONAI, the EPR National Packaging Consortium

Conai system has reached the EU packaging recycling target and is one of the most cost effective organization in Europe.

In 25 years:

- **74 million** tons of packaging waste recovered not in disposals
- **150 million** tons of CO2 saved;
- 7,4 billion euro to municipalities;
- **4 billion** euro to recycling plants

In 2021, 10,5 million tons of packaging recycled **73,3%** of the Italian consumption. Paper packaging was the **42%**



About COMIECO

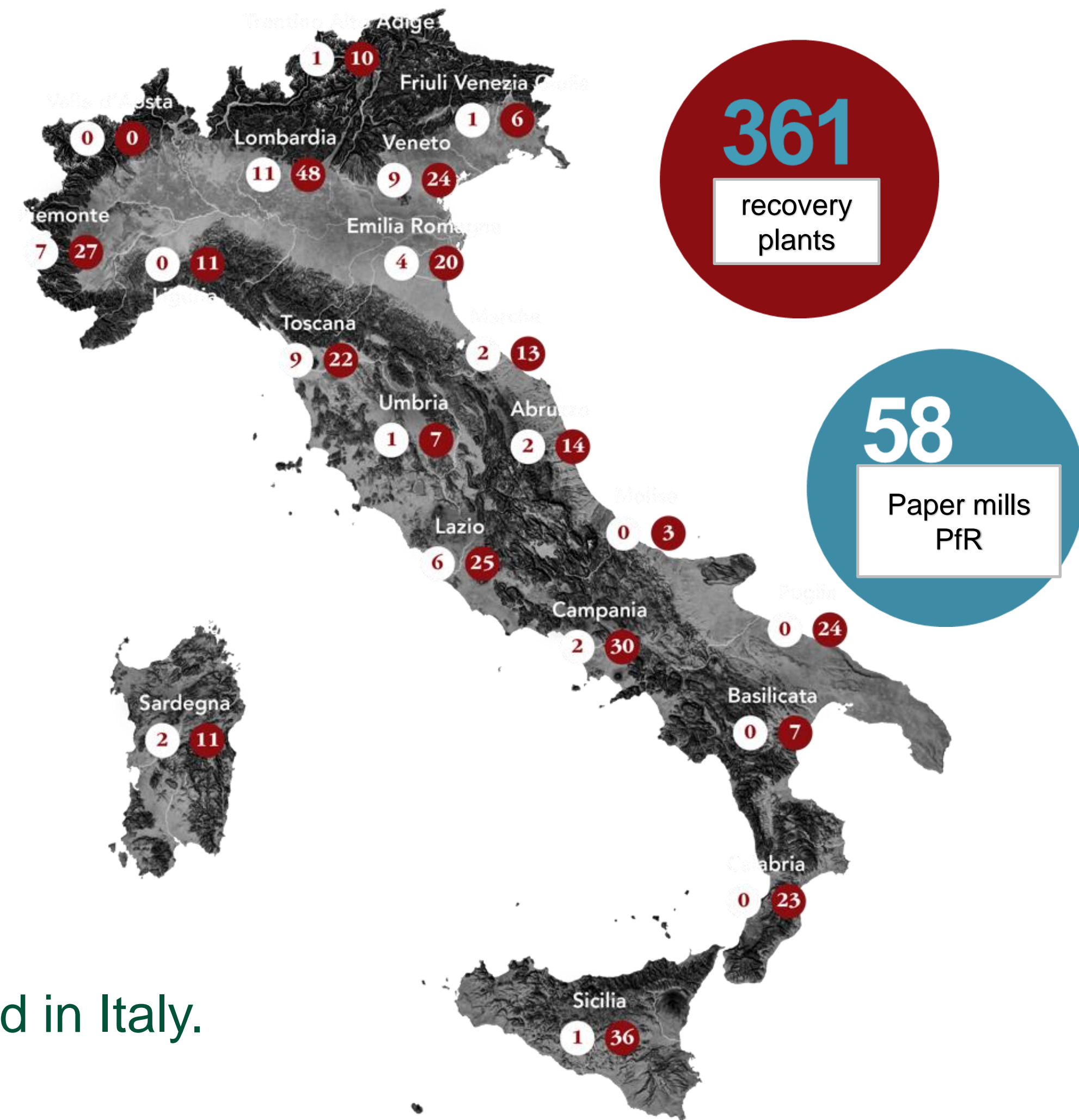
Comieco represents about **3,200 companies** operating in the paper and board packaging production supply chain:

- **150 producers** and importers of raw materials
- **2,887 processors** and importers of empty packaging
- **158 recoverers**

The paper and board resulting from municipal collection is provided to **361 waste processing plants**, which process and improve the material for subsequent transfer to paper mills.

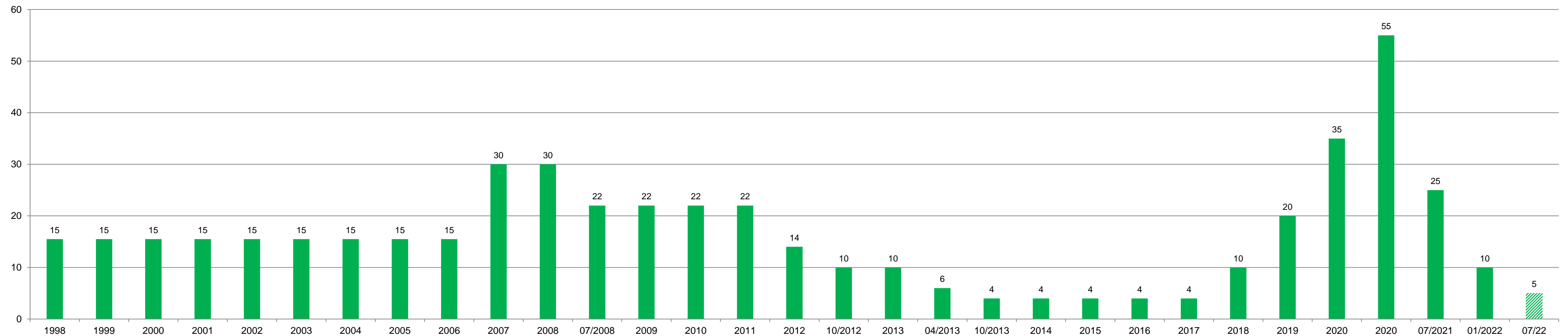
Recycling was ensured by **54** paper mills, plus **40** recovery companies by auctions.

More than **95% of the material** managed by Comieco is recycled in Italy.

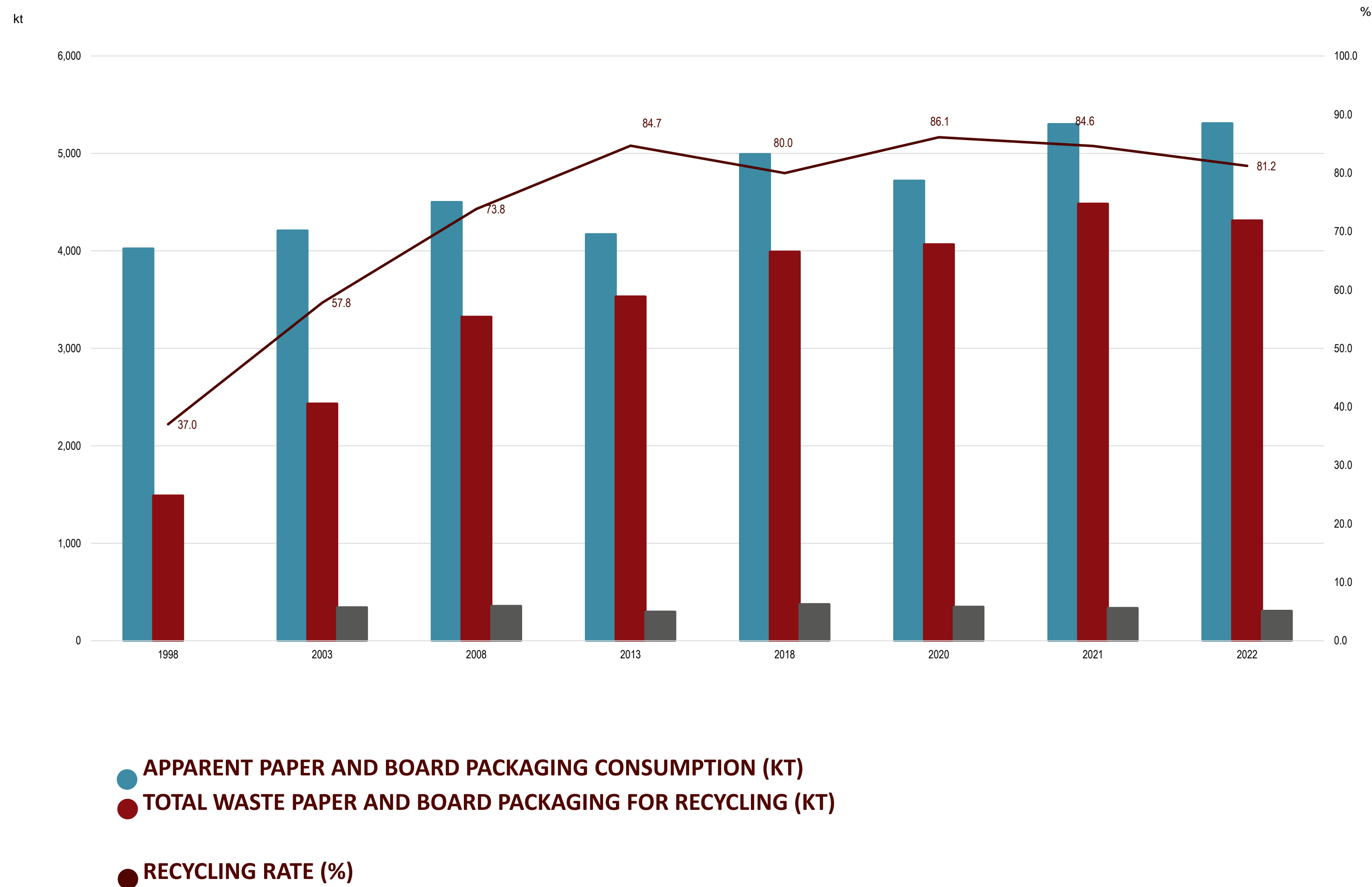


EPR fee: a cost-effective system

Upon the implementation of the system in 1998, the fee for paper packaging amounted to **15 EUR** per tonnes. It declined in time and stayed at **4 EUR** for many years, then increased to **20 EUR** in 2019 and to **55 EUR** in 2020, and finally fell to **5 EUR** in 2022. A modulated fee is applied to composite packaging



Paper and board packaging recycling: EU target achieved

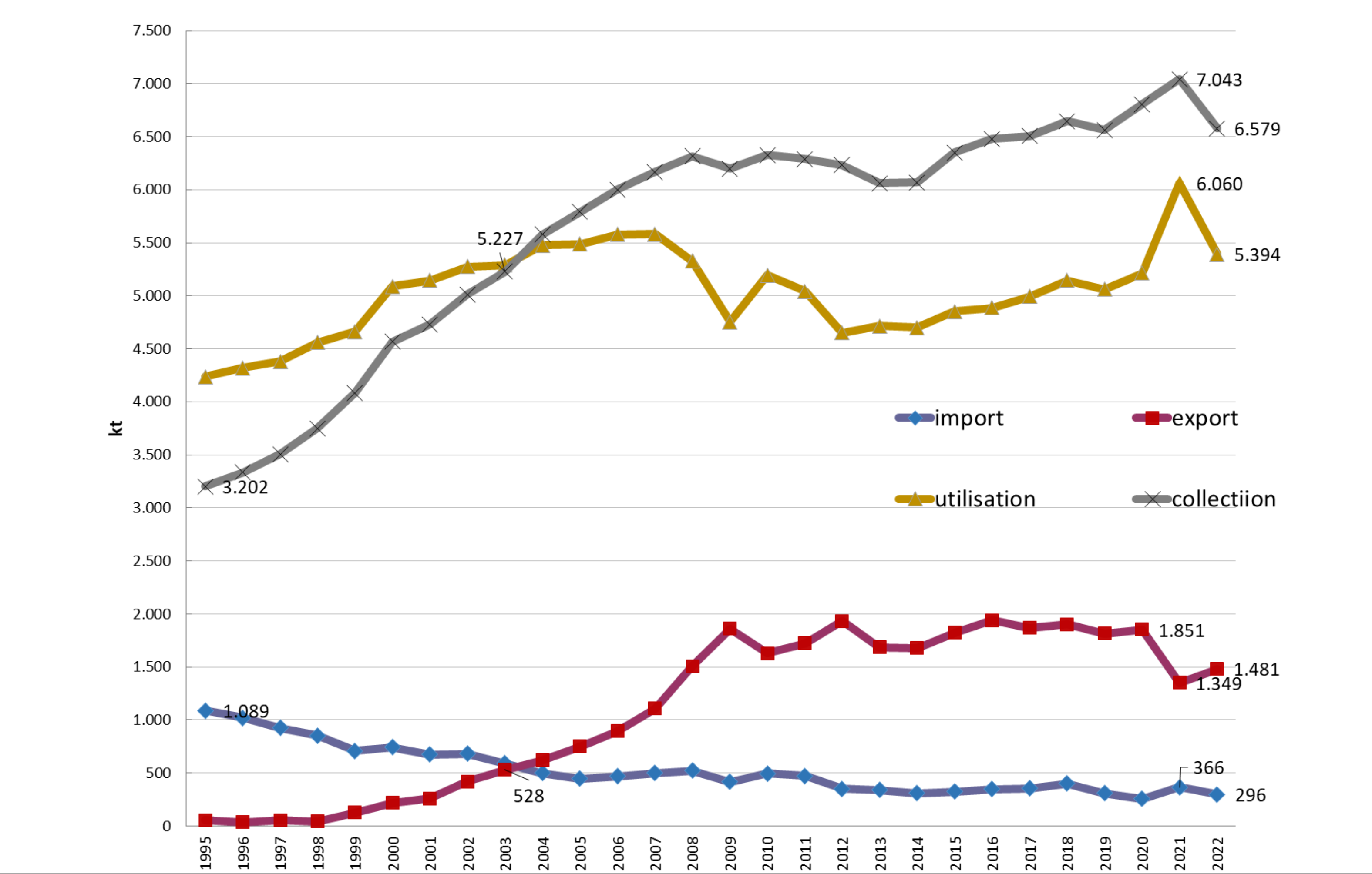


The different collection flows (municipal-commercial) and the increasing paper for recycling utilisation align Italy to EU targets of packaging recycling.

All different paper packaging categories (corrugated, cardboard, bag and sack, composite) contribute and benefit of the target achievement.

One of the challenges in the new PPWR scenario is to guarantee recycling at scale for all paper packaging in every way of consumption.

The collection has more than doubled in 25 years. Italy changes its role from an importer to an exporter of paper for recycling

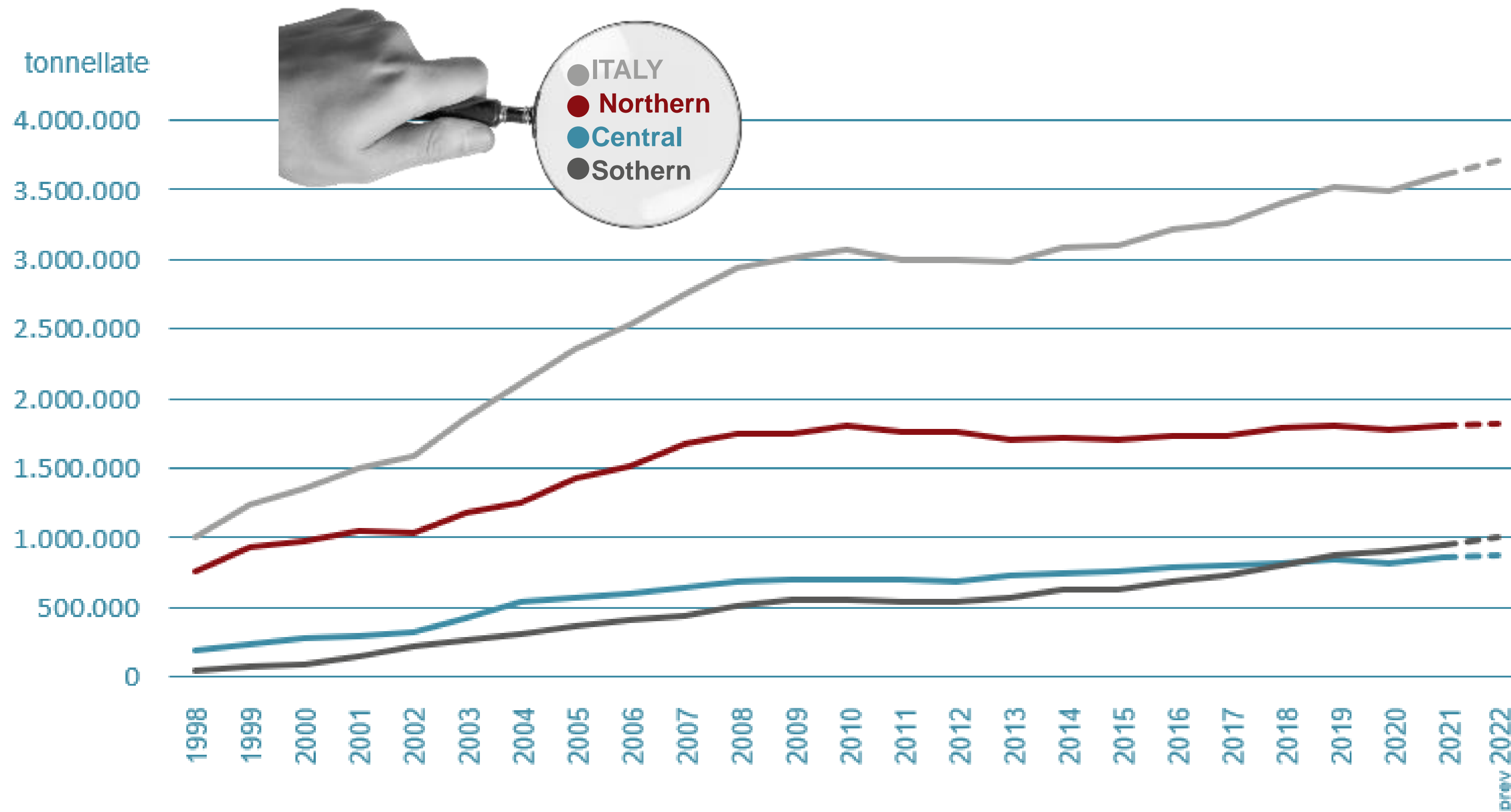


Collection of packaging waste shared responsibility

- **Local authorities** are committed to guarantee separate collection for materials and packaging waste and they are in charge of **establishing collection rules, and reaching mandatory collection target (65%)**.
- In a shared responsibility system for collection and recycling of packaging waste, a **national agreement between Conai, and local municipalities** establishes how Comieco receives the product of collection (paper and paper packaging waste) to guarantee the recycling.
- Comieco managed also **graphic paper** in the mixed paper collection, if municipalities agreed.
- The **involvement and cooperation** with local authorities and companies managing waste collection and sorting schemes is fundamental to reach ambitious recycling targets.



Municipal paper and board collection has grown from 1 to 3.7 million tons



In 2022, Comieco received by municipalities about **2** Million tonnes of paper and paper packaging (55% of total households collection) paying about **183** Million EUR

In 2023, 2,4 million tonnes are expected

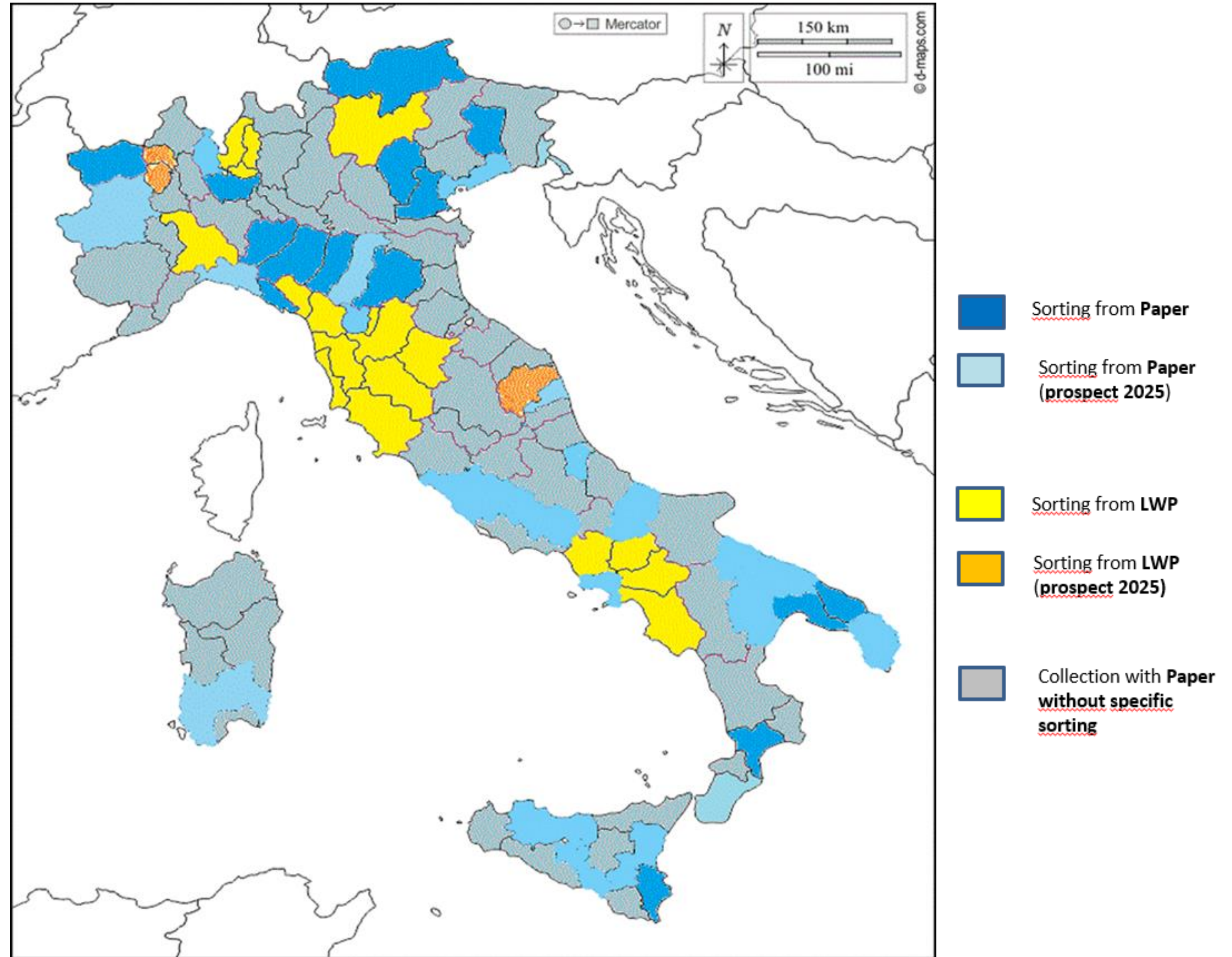
A total of **40** tonnes of collection and **2.3** billion EUR since 1998

Quality of collection and sorting, the main priority

- In 2022 municipal paper waste collection in Italy had an **average contaminants of 2,60%** of the weight, with a **wide range of variation** all over the nation (from almost 0% to almost 15%), depending on collection systems and on territorial factors.
- The average amount of **beverage cartons in waste paper is very low** (0,8% of the weight). Higher percentage has been reached, through specific Comieco communication campaigns, mainly in upstream areas of treatment plants, equipped with NIR-VIS or AI robotic detectors.
- Regardless of the contaminants in the collection, waste treatment plants deliver to paper mills **End of Waste, Paper for Recycling (PfR)** (contaminants lower than 1,5% in weight as Uni En 643), also thanks to mandatory rules (DM 188/2020).
- Treatment plants, according to demand, are actually able to sort the municipal collection to different categories descending from UNI 643:2014, (e.g. 1.02.00,1.04.01,1.11.00,5.03.00, etc) and to deliver, to downstream paper mills, products fitted for their needs.
- The quality of downstream products is certified by the plant manager, according to DM 188/2020, on the basis of ISO 9001 certified procedures. Comieco **makes over the 2.000 analysis** on the collection and paper for recycling managed.

Collection and sorting of BC and paper composite packaging in Italy

- In most municipalities beverage cartons and all paper packaging are collected in the **mixed paper stream**
- Comieco supports sorting plants to adopt **NIR and AI robot** to separate beverage cartons and, in the next future, of the other composite packaging.
- Beverage cartons are also collected in **lightweight packaging collection** where a sorting plant is available and the local authorities decide to adopt this kind of collection (in some regions plastic packaging is collected alone).
- Comieco promotes **selective collection** of BC in waste collection platform and by reverse vending machine.



Collection targets

Our main collection targets are:

- to reduce the quantity **collection gap** between northern Italy and the other regions and to reduce contaminants.
- to increase the recycling of **beverage cartons** in specialized paper mills (Cartiere Saci and Lucart + 2 plastic recycling companies) and - as soon as possible - of other fibre-based composite.
- to improve the separate collection of **food packaging** in the informal eating-out sector (McDonald's) and other **specific streams** not recovered by the market (e.g. sacks from the building sector).



Attention points

- In Italy the choice of adopting a **unique paper household collection stream for packaging and graphic paper and a selective collection for small retailers has improved municipal collection and minimized costs**, contributing to create one of the most efficient PRO system in the EU.
- The **Aticelca recyclability certification** (based on UNI 11743 lab test which is coherent with CEPI 2 method), anyway has developed an evaluation scheme that, being referred to a unique paper recycling process, has pushed converters towards innovation in order to reach higher evaluation rates (A and B rating), despite the fact that also packaging with lower paper content (60%-80%) could be certified as recyclable.
- **Sorting capacity and new sorting technologies are** the key to increase the quality of the paper for recycling and can guarantee a higher separation rate of beverage cartons and composite packaging (thanks also to the resources coming from the CAC modulation) to be recycled in specialized mills, where not collected with lightweight packaging.





Q&A



Linda Bockmühl

Project Manager Business
Development
Veolia Germany





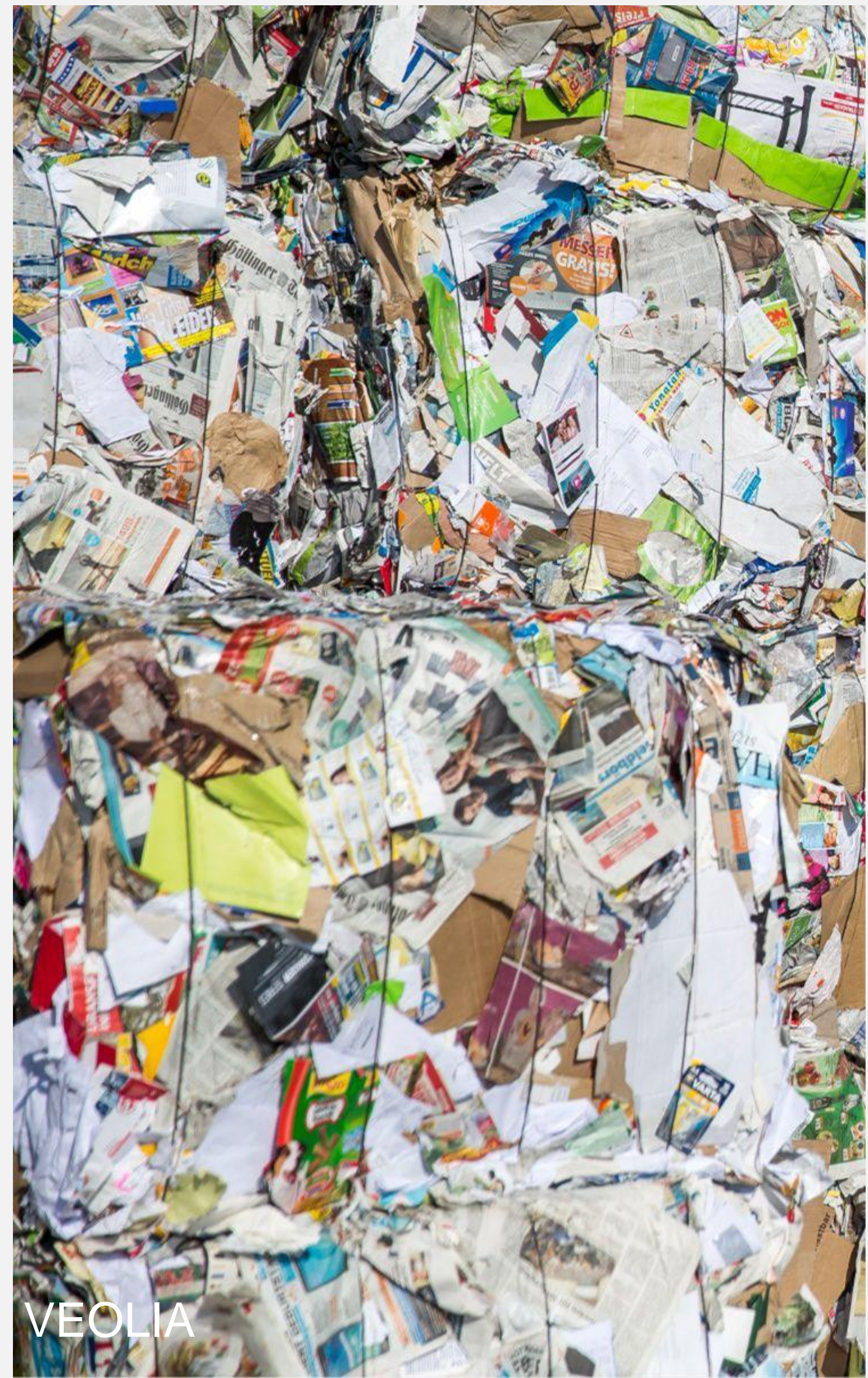
Recovered Paper in Germany from the perspective of Veolia Germany

presentation at 4evergreen online roundtable
June 22, 2023



Contents

1. Introduction Veolia Umweltservice
2. Recovered paper market in Germany
3. German paper packaging
4. Paper and Board from LWP
5. Outlook





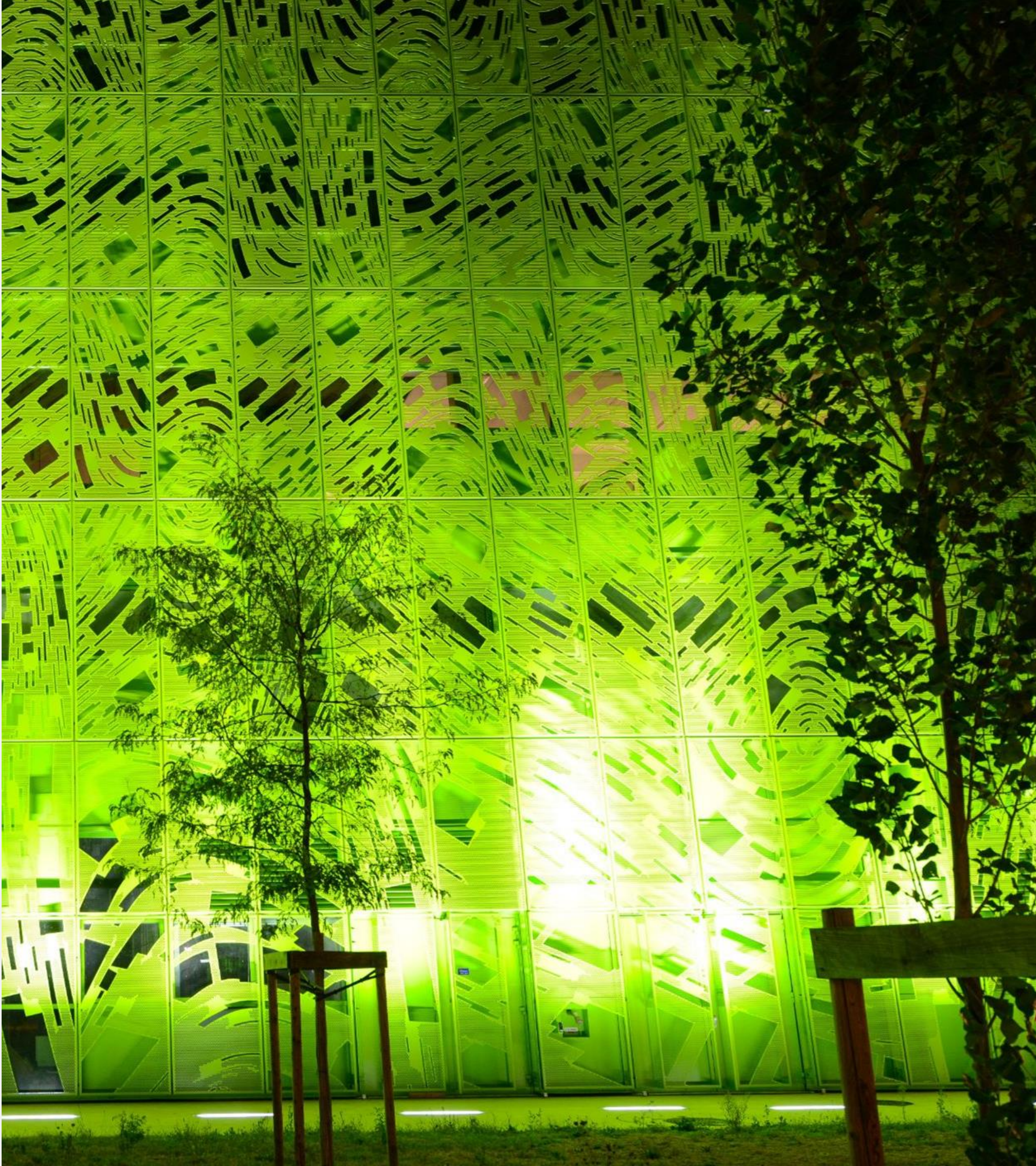
1. Introduction

Veolia Umweltservice
Circular economy is what we do

Veolia mission

Our mission: “RESOURCING THE WORLD”

- **Improving** access to resources
- **Preserving** resources
- **Replenishing** resources



Our Veolia network spans 5 continents with a focus on Europe

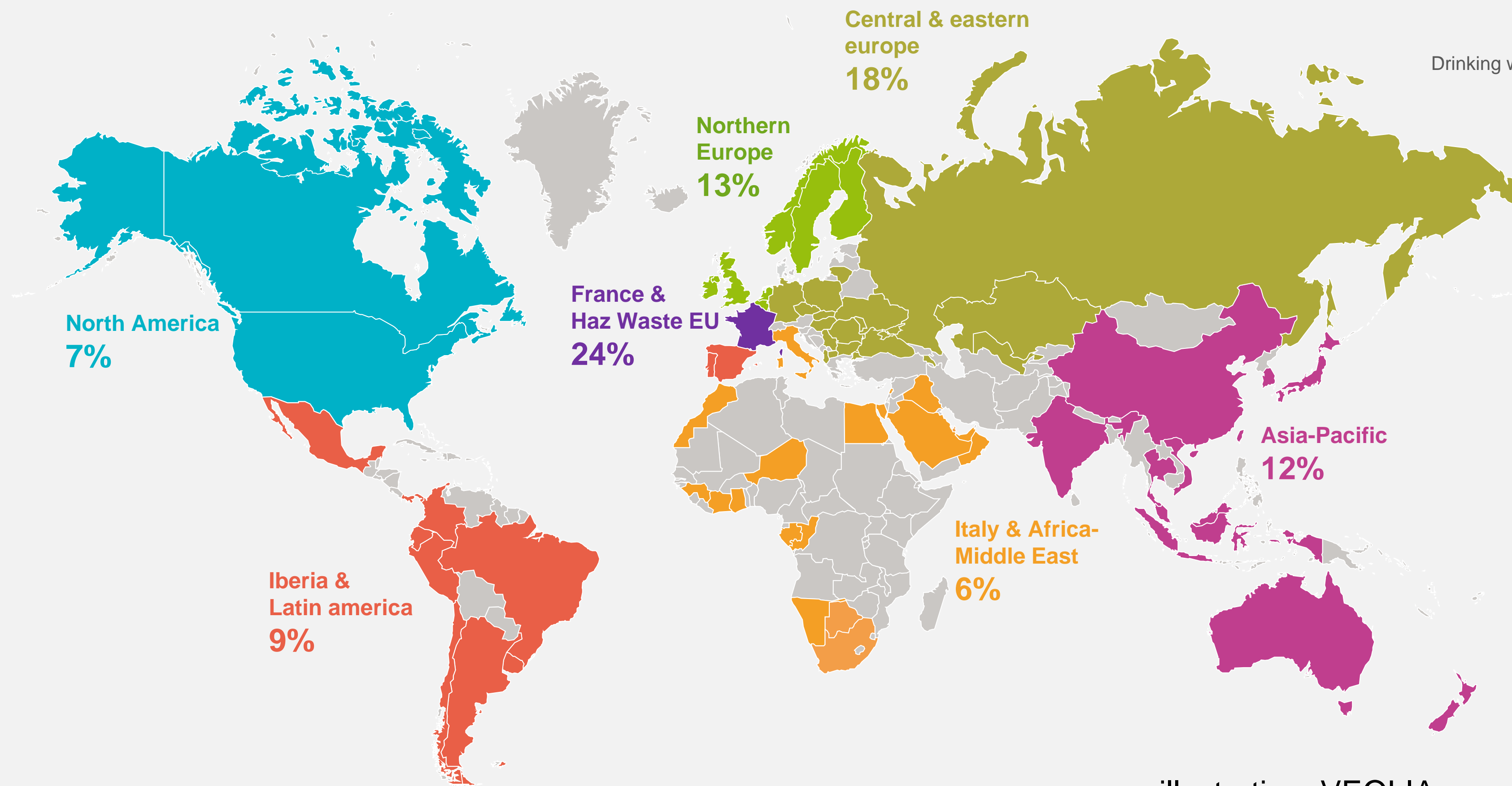


42.9 Bn€
Revenue

220 000
Employees

8
zones

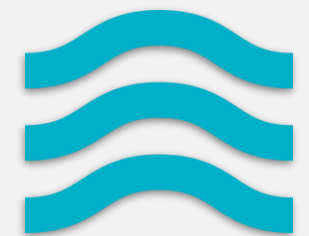
54
Countries



Water

Drinking water production, wastewater management

42%



Waste

Waste collection, sorting and recovery

37%



Energy

Heating and cooling services

21%

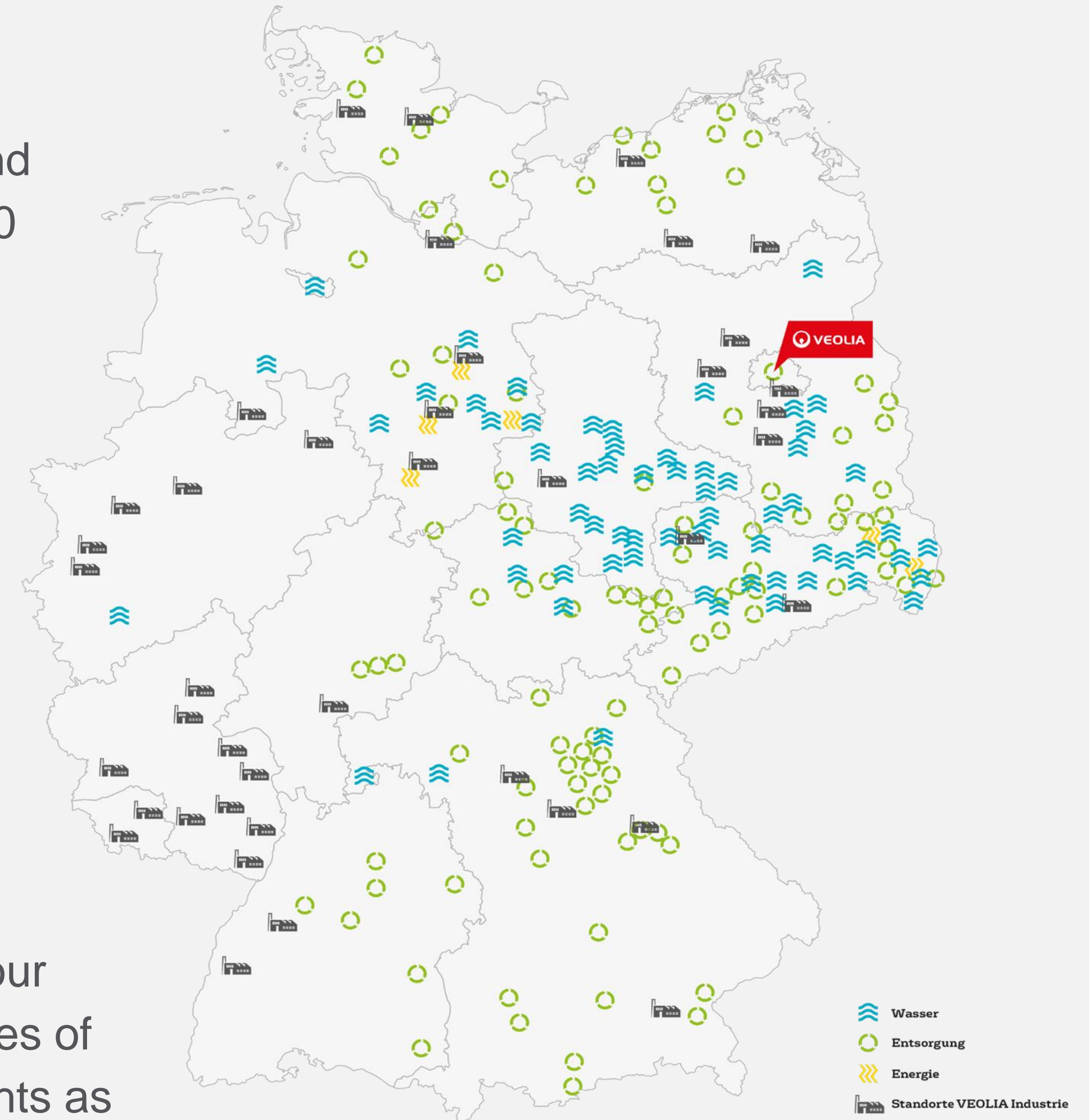


illustration: VEOLIA

Waste activities in Germany: Veolia Umweltservice

Circular economy is our driver

- **Regional strength and nationwide coverage** with around 200 Veolia sites, 70 treatment plants as well as over 4,500 partner operating sites
- Collection, transport, sorting, recycling, trading of **secondary raw materials**
- **Licencing** of packaging with Dual System Belland Vision
- Fulfilling **quality standards and processes** according to internal Veolia guidelines



Ecovadis Platinum Ranking - proofing our sustainability performance in the categories of environment, ethics, labor and human rights as well as sustainable procurement.

Veolia Umweltservice

Paper activities



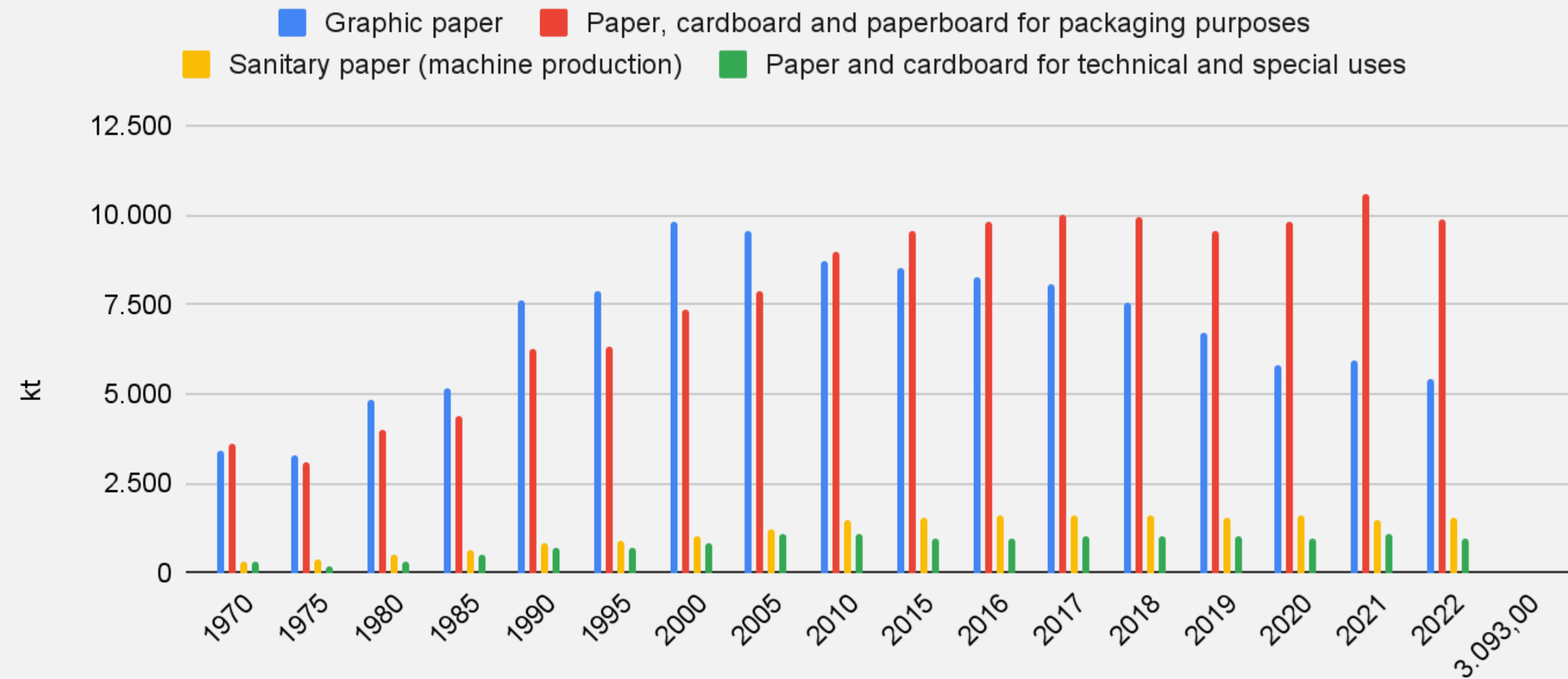
- Veolia operates seven **waste paper sorting facilities** in Germany.
- We collect, sort and market **over 1.5 million tons of recovered paper annually**, thereby being one of the **leading suppliers of raw materials for the paper industry**
- Paper is **sourced** from households, municipalities and from commerce and industry
- Our central trading unit Veolia Umweltservice Wertstoffmanagement GmbH acts as a link between the Veolia regions and the end-customer, thereby coordinates **the material flow to paper mills.**

2. Recovered paper market in Germany

Recovered paper market in Germany

Development overview

Paper consumption in Germany by main categories (consumption=production+import-export)
(source: DIE PAPIERINDUSTRIE 2023)



- In Germany the **importance of recovered paper (RCP)** as a raw material was recognised already years ago.
- The German **paper industry- No. 1** in Europe and No. 4 worldwide-, **needs RCP as raw material.**
- In total, **17 mio. tonnes of RCP were used** in 2022. (source: DIE PAPIERINDUSTRIE 2023)
- The paper industry in Germany has increasingly shifted its **production from graphic papers to packaging papers and boards** (see graph)

Recovered paper market in Germany

Development overview



Due to this shift to packaging production, **prior sorting**

(to EN 643 grades 1.02 - Mixed papers and board (sorted),
1.04 - OCC / Supermarket corrugated paper and board and 1.
11- Sorted graphic paper for deinking)

**has been more and more replaced by direct transport to
paper mills**

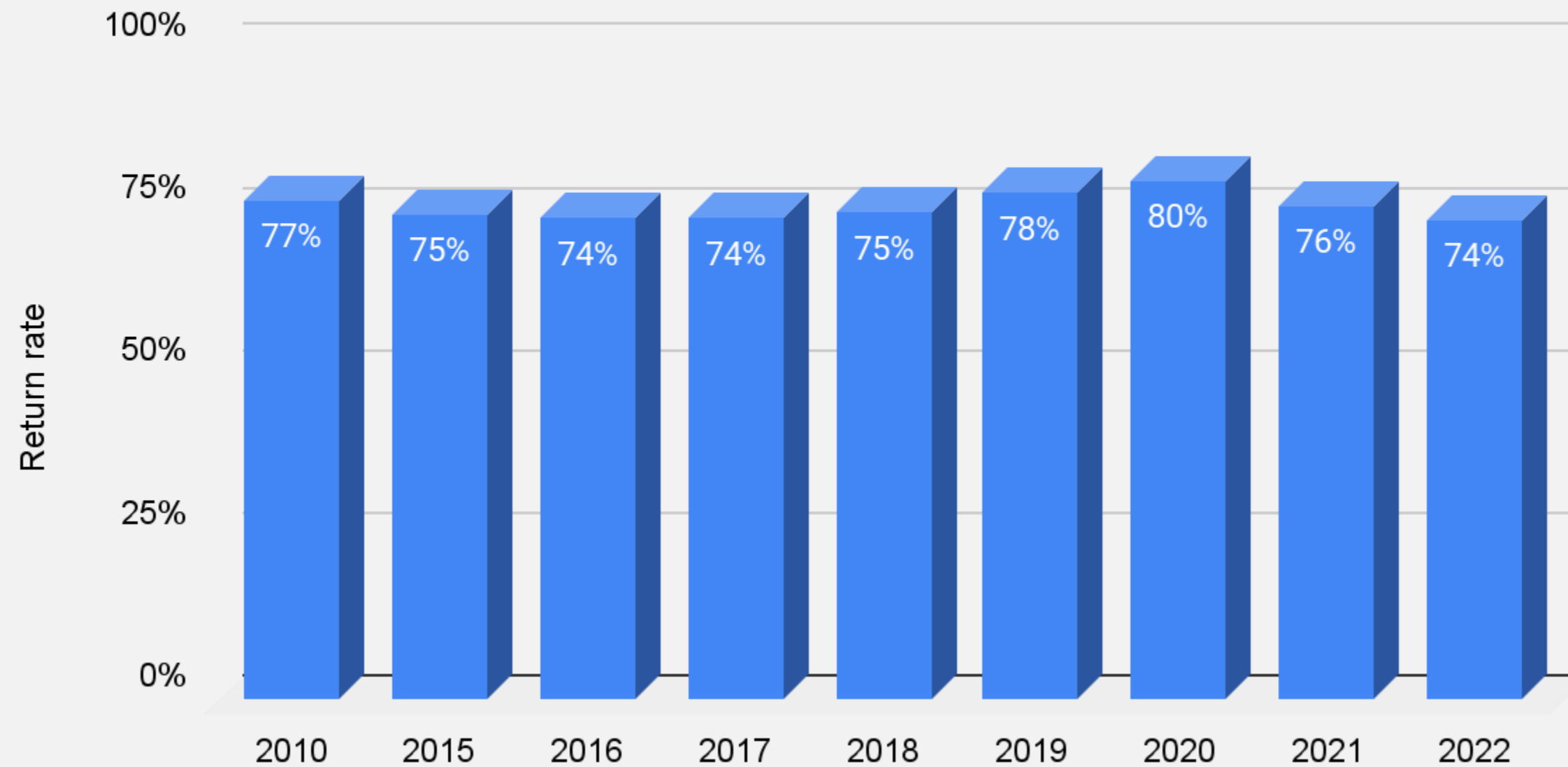
(municipal: 1.01 Mixed paper and board; C&I: mainly 1.04)



Recovered paper market in Germany

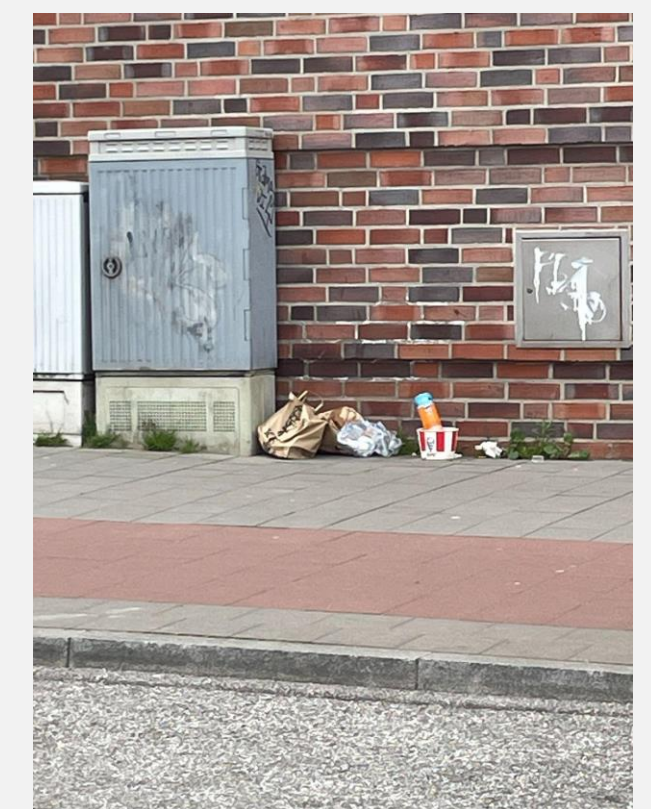
Development overview

Return rate (waste paper volume as % of paper and cardboard consumption) (Source: DIE PAPIERINDUSTRIE 2022/2023)



2022	
Paper:calculated consumption volume (production+import-export)	17.9 mio. t*
RCP collected volume	13.2 mio. t*
Gap	4.7 mio. t

*) data from DIE PAPIERINDUSTRIE 2023



Recovered paper in Germany

Which bin for used paper? Federal Environmental Agency:

Recovered paper



- **Newspapers/magazines/ brochures/books**
- Paper school supplies
- Papers, cartons and cardboards from offices and administration
- Gift wrapping paper and cardboard
- **Mono-packaging made of paper, cardboard and carton (“95/5 rule”)**
- Egg cartons
- Papers with adhesive applications, only if they are marked with the Blue Angel.app packaging)



Lightweight packaging



- **Paper packaging composites-** e.g. beverage cartons
- Packaging made of wax, kerosene, bitumen and oiled paper/boards
- Wet-strength and/or greaseproof impregnated packaging paper and cardboard such as **coffee-to-go cups, burger wrappers**
- Soiled, residue-emptied paper packaging - **Pizza cardboard with food adhesions or cardboard trays for oven dishes such as lasagna or fish**
- **Packaging papers with adhesive applications** that do not separate easily
- Packaging with plastic coatings or films (lacquer, glacé and chromo paper and cardboard packaging)

Residual waste bin



- **Thermal paper** - sales slips, tickets
- Carbonless paper
- **Wallpaper**
- Non-packaging made of **wax, kerosene, bitumen and oiled** paper or cardboard
- Non-packaging made of **wet-strength and/or greaseproof impregnated** and/or glued paper and cardboard - **Posters, baking paper, muffin tins, drinking straws; paper hygiene articles such as handkerchiefs**
- Varnish, glacé and chromo papers and boards produced with plastic varnishes or films (non-packaging)

Recovered paper in Germany

What belongs in the blue bin according to Google!

	Zeitungen	Magazine	Handzettel/ Flyer	Kataloge	Schulhefte/ -blöcke	Karton- & Papierverpackung	Wellpappe/ Schachteln	Geschenkpapier	Verpackungspapier	Eier-Kartons	Umschläge	Bücher	Verbundmaterial (>5%)	Flüssigkeitskarton	Tiefkühlverpackungen	Tapeten/ Baumaterial	Gewachstes & Metallisiertes Papier	Thermopapier (Kassenzettel)	Selbstdurchschreibepapier	Post-it, selbstklebend	Photopapiere	Hygienepapiere	Nassetiketten & Etikettenrückseiten	Hygienepapiere (Papierhandtücher)
Umweltbundesamt (D)	+	+	+		+	+	+	+	+	+		+
Bild.de	+	+				+	+		+		+					.						.		.
T-online.de	+	+		+		+	+		+		+	
Veolia.de	+	+	+	+	+	+	+	+	+	+	+	+
ALBA.info	+	+	+	+	+	+	+	+	+	+	+	+	
REMONDIS.de	+	+			+	+	+	+	+			+					
ZAK Kempten	+	+	+	+	+	+	+	+	+		+	+												
Stadt Ingolstadt	+	+	+	+	+	+	+	+	+															
Stadt Augsburg	+	+	+	+	+	+	+	+	+	+	+	+

Consumer does not receive clear instructions!

3. German paper packaging

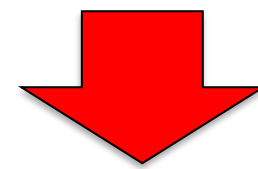
Packaging paper in Germany

EPR for packaging producers



Sales packaging

Packaging (including outer packaging and service packaging) that is offered as a sales unit and is **disposed of as waste by the end consumer** = private households or comparable sources (e.g. restaurants, hotels, hospitals, holiday resorts..)



Obligatory participation in the Dual Systems' take-back scheme for sales packaging (except for PET bottles & cans = deposit system)

=> **sales** packaging is licenced by one Dual System

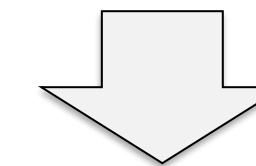
=> **3 waste streams:**

- . Glass
- . Paper
- . **Light waste packaging („LWP“)**



Transport packaging

Packaging which facilitates the transport of goods, protects the goods from damage during transport or which is used for reasons of safety during transport and accumulates at the distributor.



Take-back responsibility for distributors

illustration: VEOLIA

Packaging paper in Germany

Recovery quotas on packaging volumes according to law

Sales packaging		Transport packaging
		European legal recycling targets of the directive 94/62/EG: for paper and cardboard packaging waste generated
		Today: 60 % 2025: 75 % 2030: 85 %
Packaging material- licenced volumes	Quota as of 2022 (VerpackG)	
Paper	90%	
Beverage composite	80%	
Other composite	70%	

illustration: VEOLIA

Packaging paper in Germany

Material flow

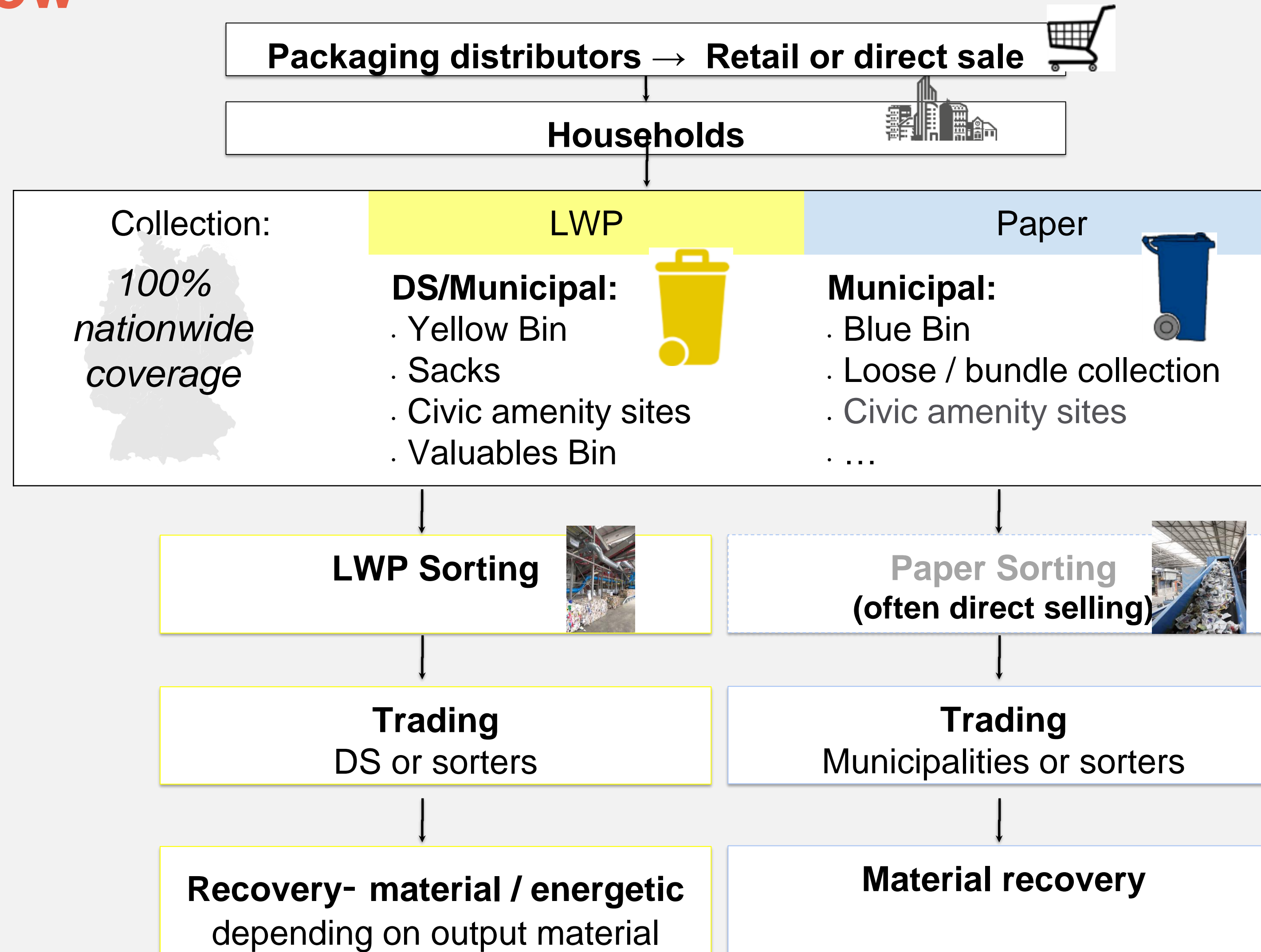
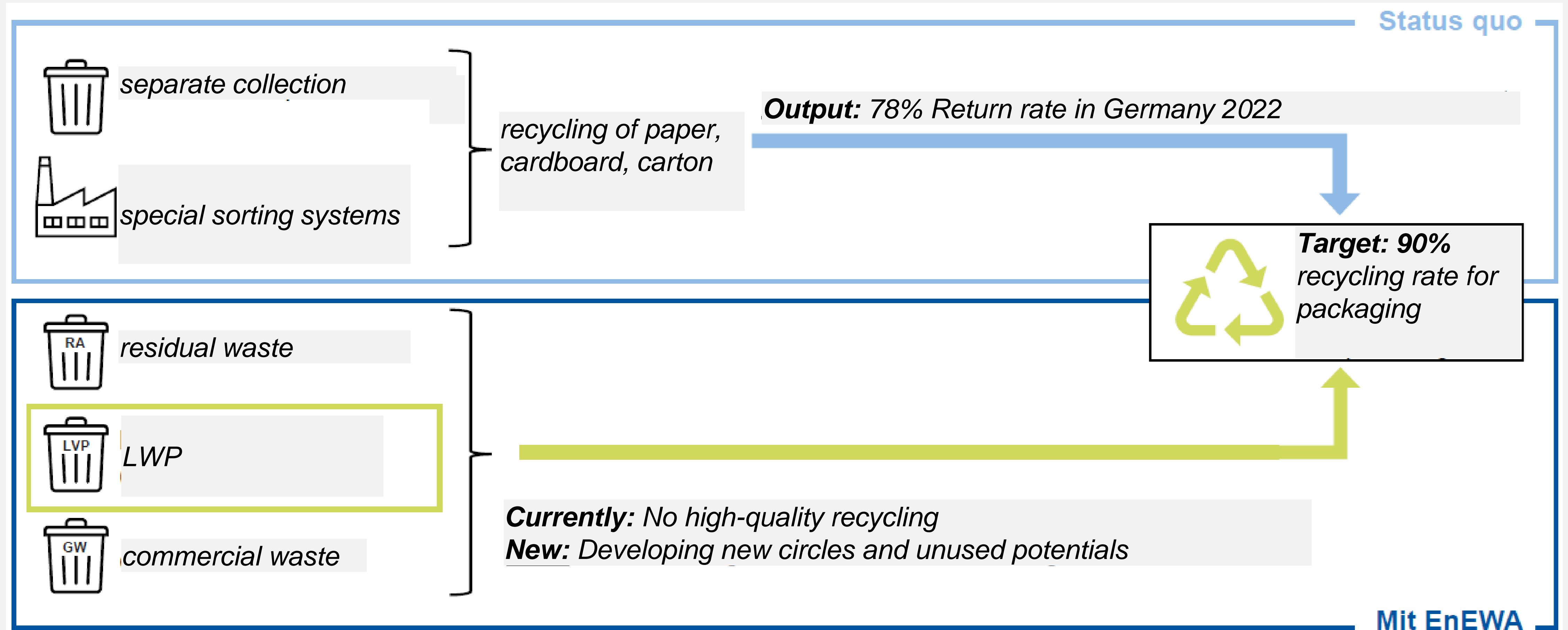


illustration: VEOLIA

Packaging paper in Germany

Material flow of paper and (paper) sales packaging



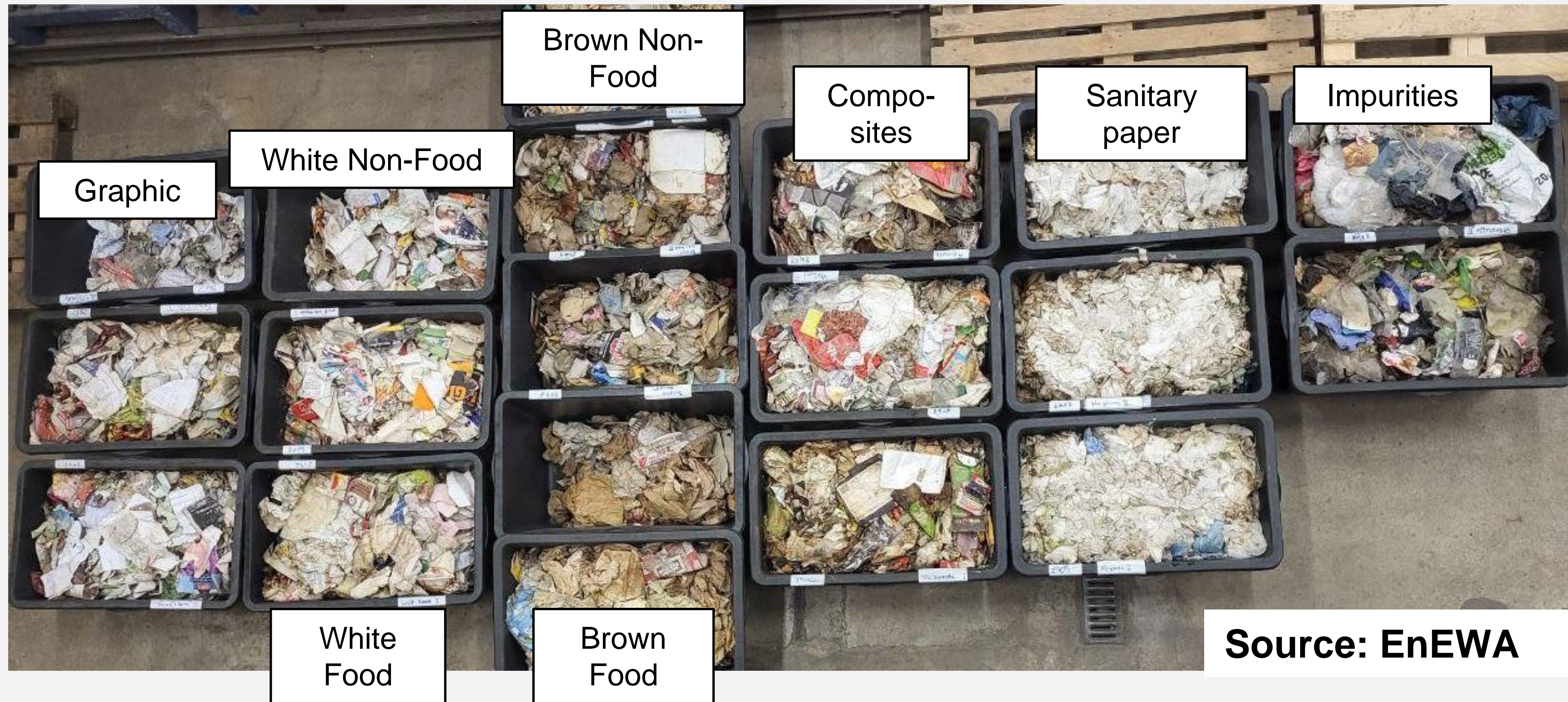
1: Umweltbundesamt (2022): Altpapier, Verfügbar: <https://www.umweltbundesamt.de/daten/ressourcen-abfall/verwertung-entsorgung-ausgewaehlte-abfallarten/altpapier#vom-papier-zum-altpapier>
2: Verpackungsgesetz (2017). Verfügbar: <https://www.gesetze-im-internet.de/verpackg/index.html#BJNR223410017BJNE004200125>

An aerial photograph of a dense, green forest with a winding asphalt road that curves through the trees. The road is light grey and contrasts with the vibrant green foliage. The perspective is from directly above, looking down on the landscape.

4. Paper and Board from LWP

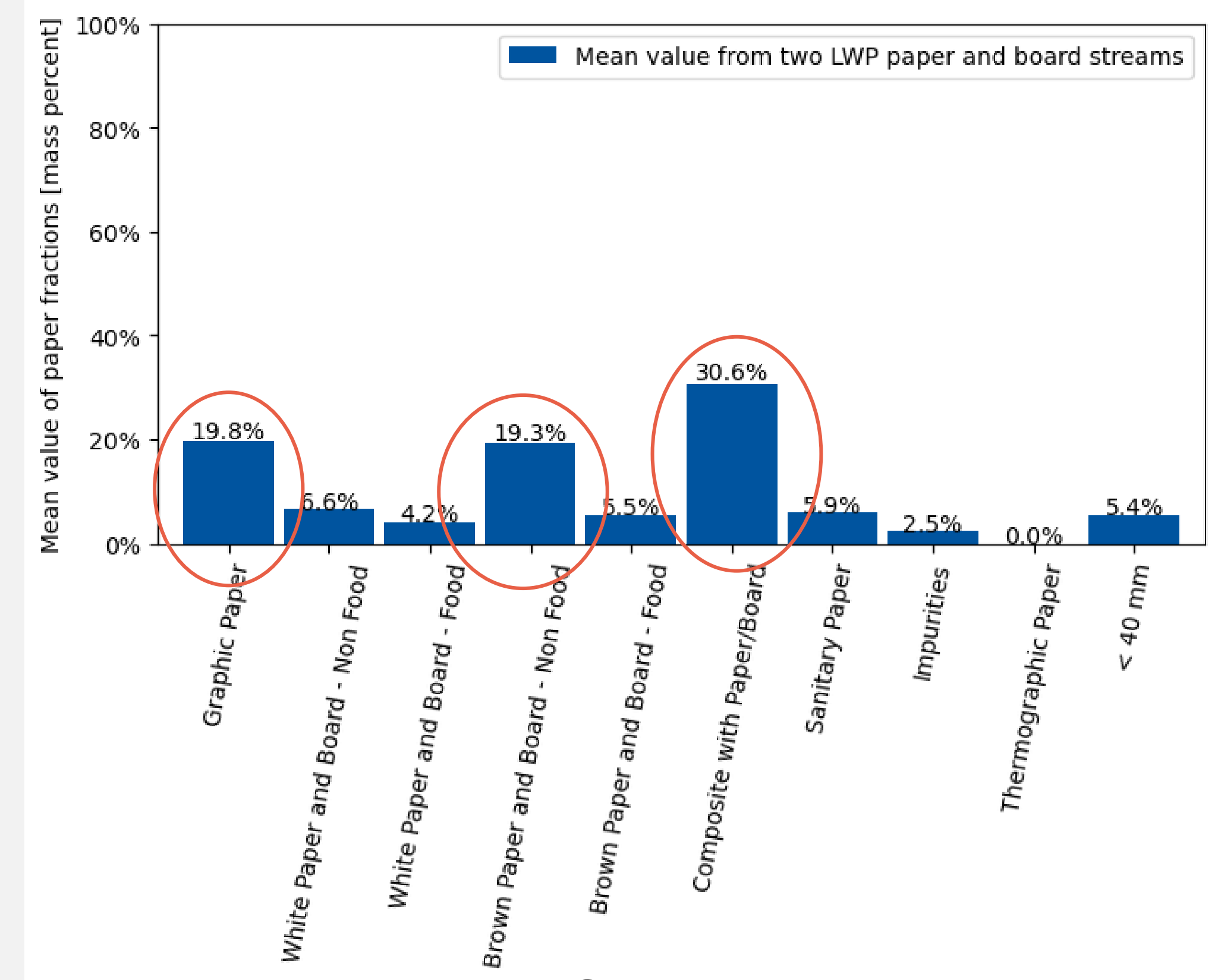
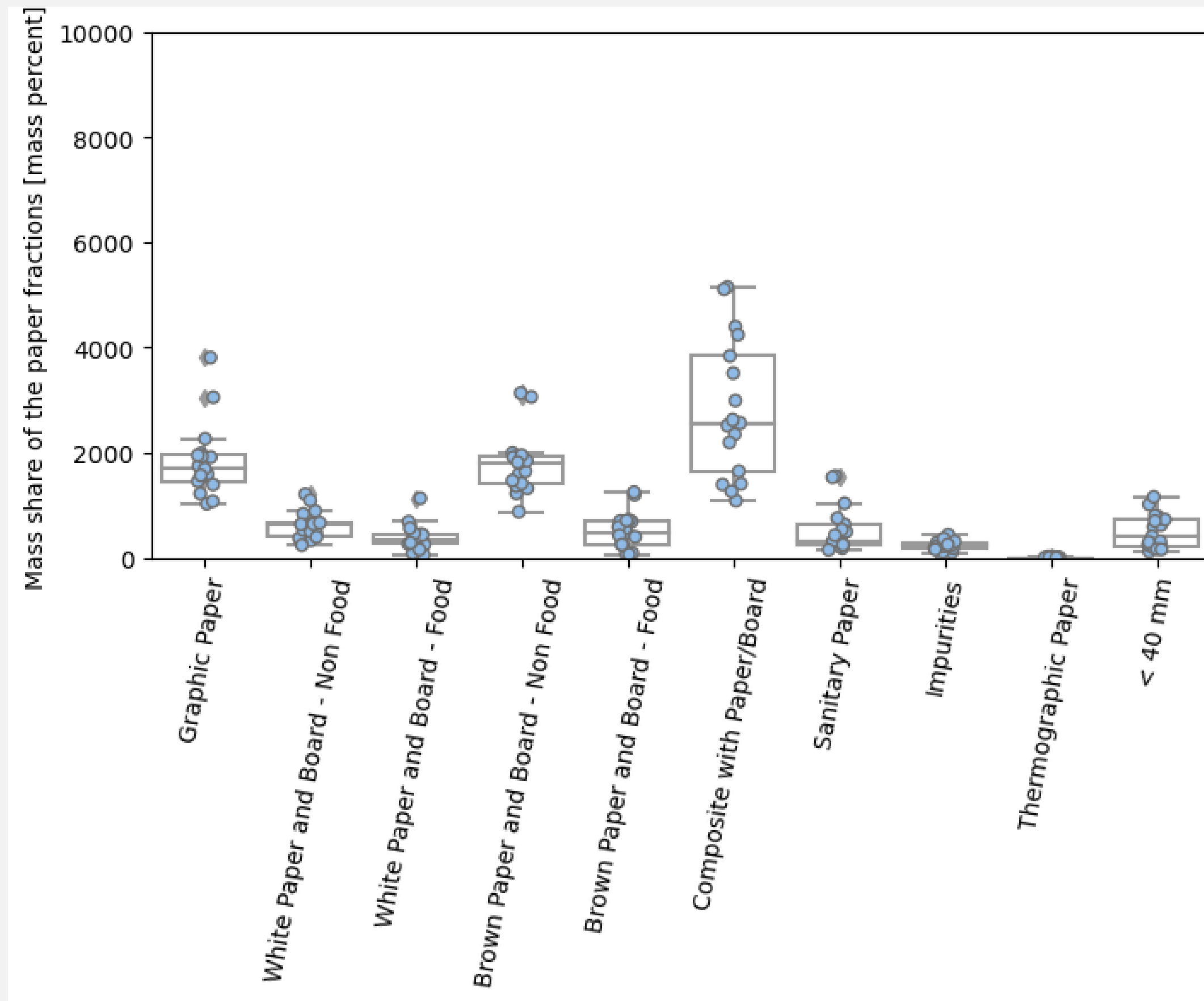
Paper and Board from LWP

Paper and Board from LWP Composition



Paper and Board from LWP

Paper and Board from LWP Composition after sorting of plastics and impurities



Source: EnEWA

Paper and Board from LWP

Challenge for sorting systems



Impurities: Wood, plant fiber; no differentiation from plant fiber/wood fiber to paper fiber possible.

Paper and Board from LWP

Challenge for sorting systems



Impurities: black plastic / dark styrofoam; textiles



5. Outlook

Recovered paper market in Germany

Outlook- challenges to be solved

Consumers

- Insufficient information / Misinformation
- No uniform/standardised or clear separation information
- Complexity of system
- Complexity of packaging
- 95/5 rule- not comprehensible
- No belief in recycling (LWP)
- Convenience, lack of motivation
- Anonymity (see city vs. countryside)

→ **CLEAR INFORMATION!**

→ **STANDARDISED LABELLING!**

Industry:

- Need of commitment from industry to use recycled fibre from packaging
- Legal aspects: Evaluation of the useability of recovered fibers based area of origin → XXXVI Recommendation of the Federal Institute for Risk Assessment: - conditions for the use of recovered fibers as paper raw materials for food contact: "Excluded are [...] papers, boards and cardboards from [...] multi-component collection"
- Design for Recycling needed to easen circularity



Trading:

- Difficulties in trading paper from LWP sorting- lack of outlets in Germany / Europe; special processes needed besides "standard mills" for dealing with composites and impurities
- Current grades do not take into account variety of materials and use cases
- Quota requirements from packaging law, penalties if failed

Collection:

- Regional differences in the disposal systems (e.g. bring systems lead to more losses)
- No separation in public spaces (on- the- go- Packaging)
- Collection rhythms
- Lack of enforcement of legal requirements (e.g. GewAbfV)

Sorting:

- Complexity of materials
- Wrong disposals lead to poor sorting qualities, e.g textiles, wood, plant fibre
- Some materials are not recognized properly, e.g. black plastics on black conveyor belt For Paper ("Blue bin"), often no sorting any more
- Enhanced screening needed to sort out harmful material (e.g. bisphenol); support in sorting new grades

→ **ENHANCED SORTING!**

Sources: EnEWA; VEOLIA



Thank you!



Q&A



Jean-Benoît Bel
Senior Project Manager
Association of Cities and Regions
for Sustainable Resource
Management (ACR +)

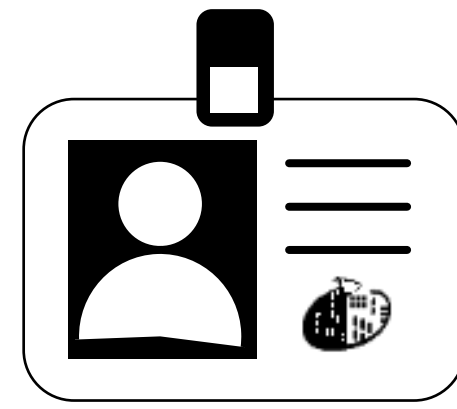




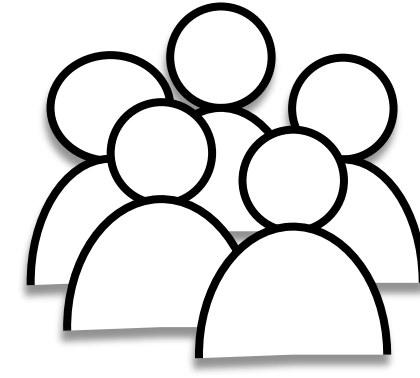
Collection and sorting of fibre-based packaging: best practices and current challenges for municipalities



ACR+



100+
members



+1,100
municipalities
represented



25
years of
experience

in 25
countries



THE ACR+ WASTE OBSERVATORY



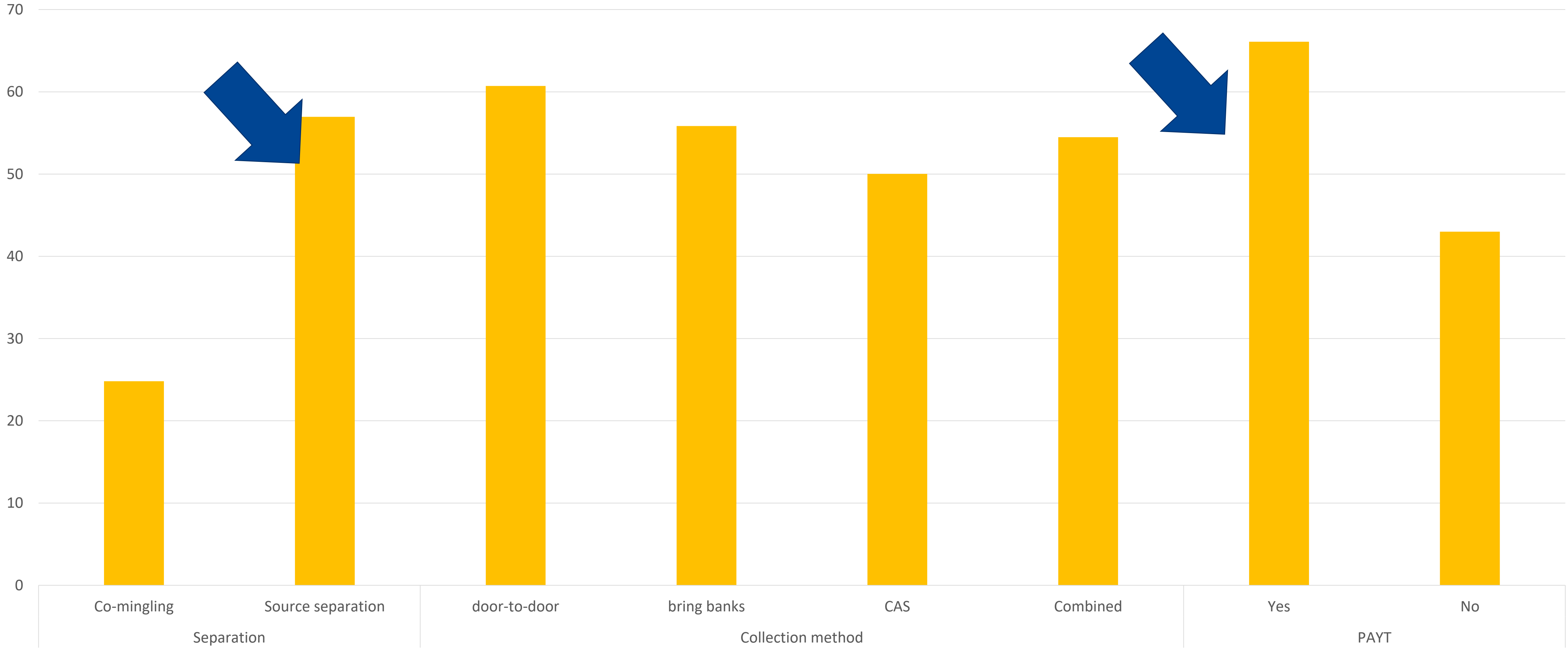
Observatory
ACR+

- Launched in 2010 to compare local waste data and identify good practices
- Initial working group of ACR+ Members to share data and compare performances
- Fed by:
 - EU Projects
 - Punctual studies
 - Requests from Members



BEST LOCAL PRACTICES ?

Average capture rate for paper and cardboard collection (%)



BEST LOCAL PRACTICES

Information:
Pro-active
Frequent
On how and why
In link with people's concerns
Targeting the right people

Collection mode and equipment adapted to the constraints:

- Space available in housing and on common/public spaces
- Proximity of collection points

Several solutions: obligation, PAYT, reduced frequencies for residual waste
Key instruments to reach very high performances

Information

Convenience

Motivation



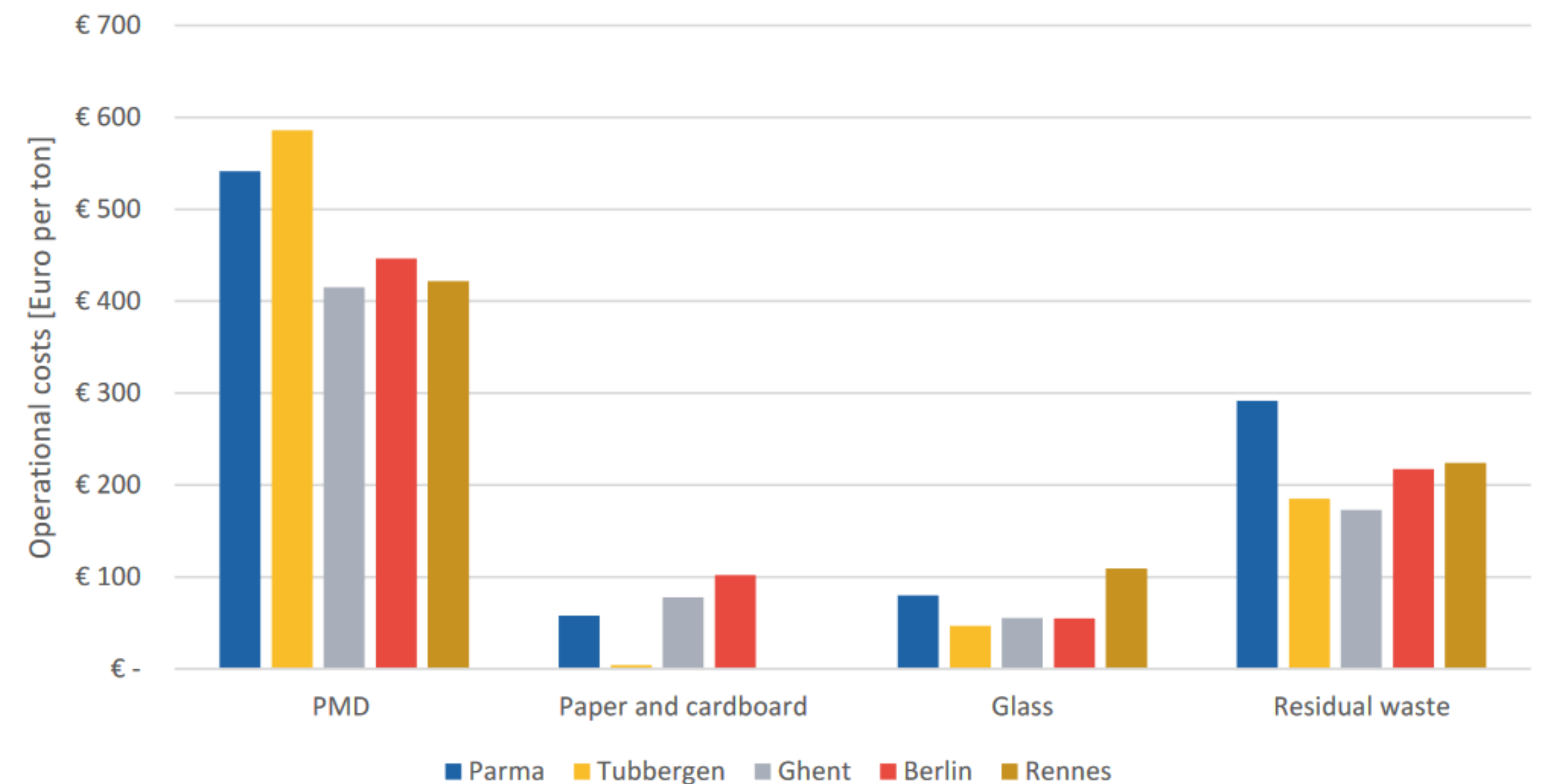
THE IMPORTANCE OF THE CONTEXT

General or more specific constraints:

- Type of housing: high-rise buildings, small apartments, shared containers...
- Dense urban centres: lack of space for collection equipment, narrow streets
- Types of population: transient populations, commuters, tourists, different types with different constraints, language barriers...
- Other: distrust in waste management, problems with street cleaning, a « sensitive service » for many inhabitants

BEST LOCAL PRACTICES

- Importance of quality for recycling
 - Source-separation limits contamination
 - Quality control during collection/sorting
- High performances can be reached with reasonable costs...
- ...but it requires the right framework

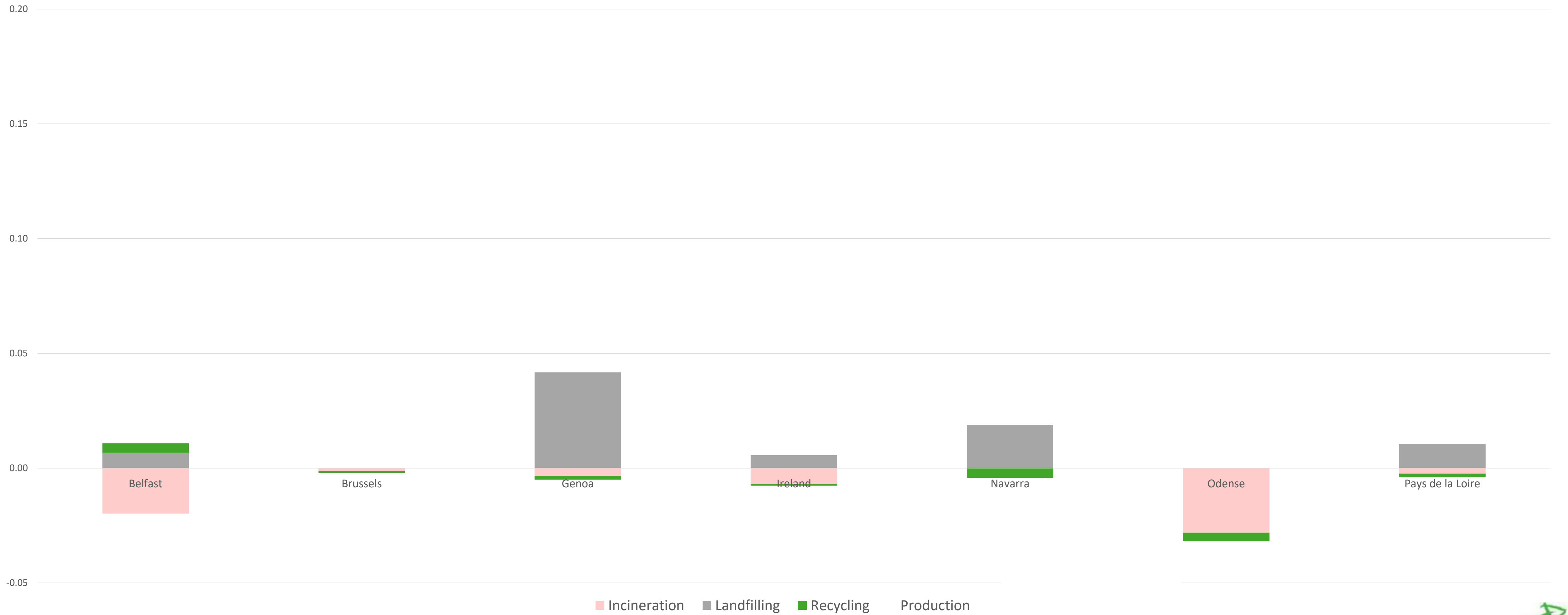


THE RIGHT FRAMEWORK

The right economic framework

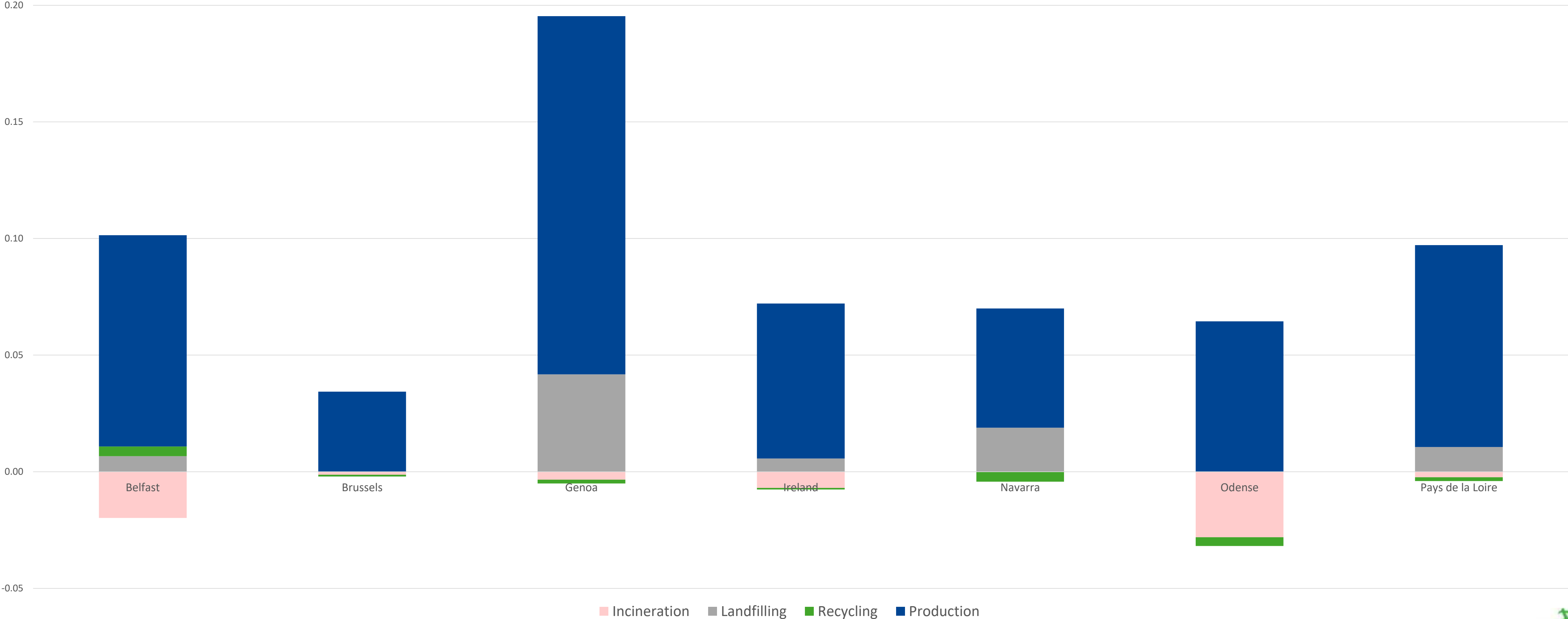
ANOTHER PERSPECTIVE

Carbon footprint for paper and cardboard (t CO2 eq/inh.)

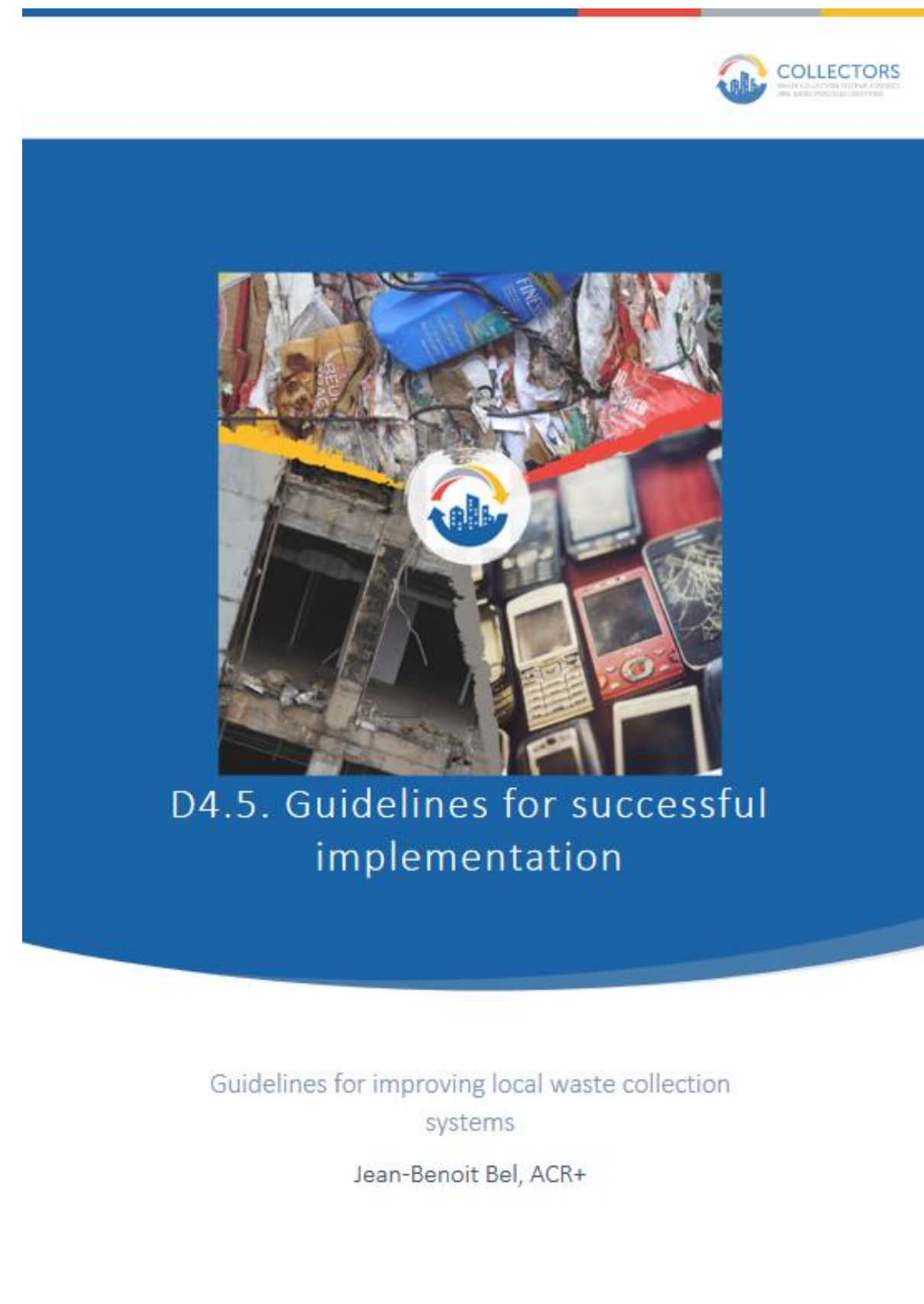


ANOTHER PERSPECTIVE

Carbon footprint for paper and cardboard (t CO2 eq/inh.)



SOME RESOURCES





Thanks for your attention !

Jean-Benoit Bel

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www.acrplus.org



Q&A



Vanya Veras

Secretary General
Municipal Waste Europe



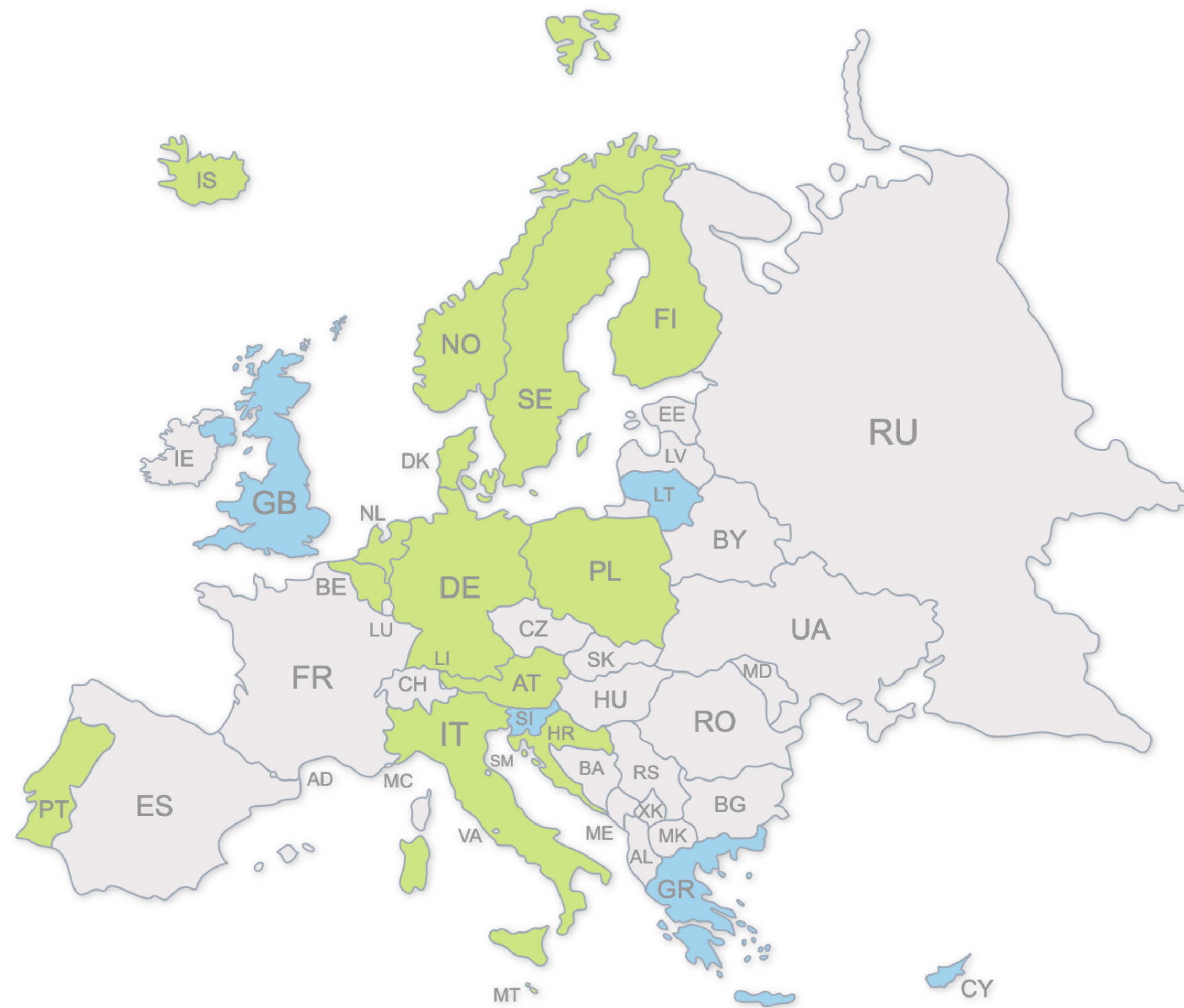
How to achieve Separate Collection and Reuse/Recycling Targets

22 June 2023

**Vanya Veras
Secretary General**

Municipal Waste Europe

- We represent the municipalities of 19 Countries in their waste management obligations
- Municipalities are the Bridge between the producer, the consumer and the recovered materials
- A key enabler of the transition from Linear to Circular Economy



LEGAL BASIS

- Obligation to collect materials separately in the Waste Framework Directive
- Comingling allowed within the definition if materials collected together do not impact their ability to be recycled
- EPR for packaging – modulated fees used to promote ecodesign
- The question of DRS – existing systems in MSs versus a mandate in a Regulation
- Art. 38 of the proposed Packaging and Packaging Waste Regulation proposes prevention – targets may be upcoming in the mini WFD revision
- Discussion in Parliament on setting reuse targets in the PPWR – EC proposal already strengthens reuse obligations
- Eco-design for high quality recycling

PACKAGING & PACKAGING WASTE REGULATION

MWE position:

- **EC proposes change of legal basis and legal instrument** - need of flexibility for existing, functioning EPR. EPR should be under the environment legal basis
- **Art. 3 - definition of 'compostable packaging'** should guarantee both the compostability and the digestibility under industrial conditions
- **Arts. 40-42 - One PRO per waste stream** to ensure transparency, efficiency and to eliminate free-riders – alternatively national level umbrella body to collect data and balance costs/fees. Modulated fees and packaging waste remaining in the residual mixed waste stream should be covered
- **Art. 43 - EPR and DRS** should be compatible and interconnected
- **Art. 44 - DRS** should only be made mandatory in MSs that repeatedly miss their recycling targets

PACKAGING & PACKAGING WASTE REGULATION

- **Labelling** of packaging & waste receptacles (art. 11& 12) as of 1 Jan 2028
 - The Nordic Pictogram system has been welcomed by municipalities and packers and fillers throughout the Nordic countries and many Baltic countries. Other MSs are examining the possibility of taking it up voluntarily and the Commission/JRC is conducting a study on its in all MSs.
 - To be effective, separate collection information labels should be applied at the same time to both waste collection bins and packaging. Alternatively confusion will ensue and targets will continue to be elusive.
 - It is always best to communicate a finished product/service to the consumer. A labelling system harmonised across the EU will further facilitate this communication and simplification of the separate collection messages.

PACKAGING & PACKAGING WASTE REGULATION

- **Compostable packaging:** Definition (art. 3, (41) and obligation (art. 8, pp1) for sticky labels attached to fruit and vegetables, very lightweight plastic carrier, tea bags & filter coffee pods to be compostable
 - Citizens will not remove sticky labels on fruit before sorting in the biowaste bin – in our opinion these should either be disallowed or be 100% certified compostable
 - Adding compostable items to this list would only increase the burden on biogas plants and reduce the nutrient content of compost

IMPLEMENTATION

- Separate Collection must be the **starting point** if a high quantity of high quality materials are to arrive at sorting and recycling plants
- There are numerous best practices demonstrated around Europe and combinations of these in different municipalities in accordance with their demographic and differing densities of population
- Separate Collection methodologies can be shared, communicated widely, demonstrated and proposed as best practice but there is no size fits all or a list of such examples that can be harmonised in legislation – municipal waste collection and management is complex because every member of the population is involved
- EPR: For a high performance separate collection system, municipalities and EPR organisation members (packaging producers) need to co-decide on collection systems and costs

CONTACT US!

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<https://www.linkedin.com/company/municipal-waste-europe/>



Q&A

we need everyone's contribution!



making a difference

Together, we have the power to implement. We are driving new developments across the sector and using 4evergreen as a platform to push for innovation.



accessing intelligence

Our members are thought leaders in their respective fields. They share industry intelligence, best practices, case studies, guidelines and collaborate in various expert groups.

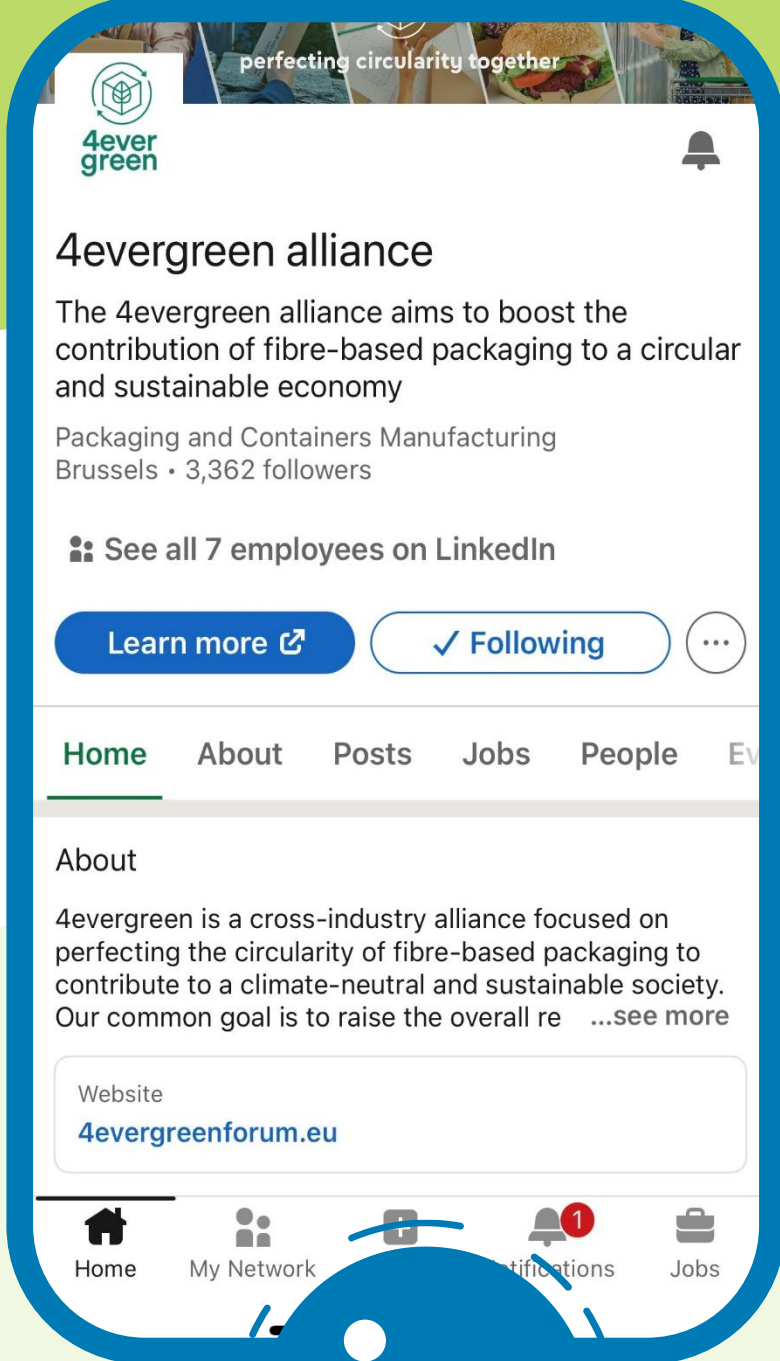


partnership

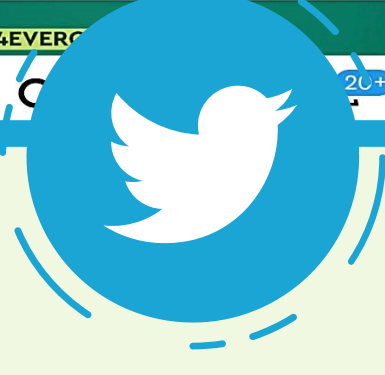
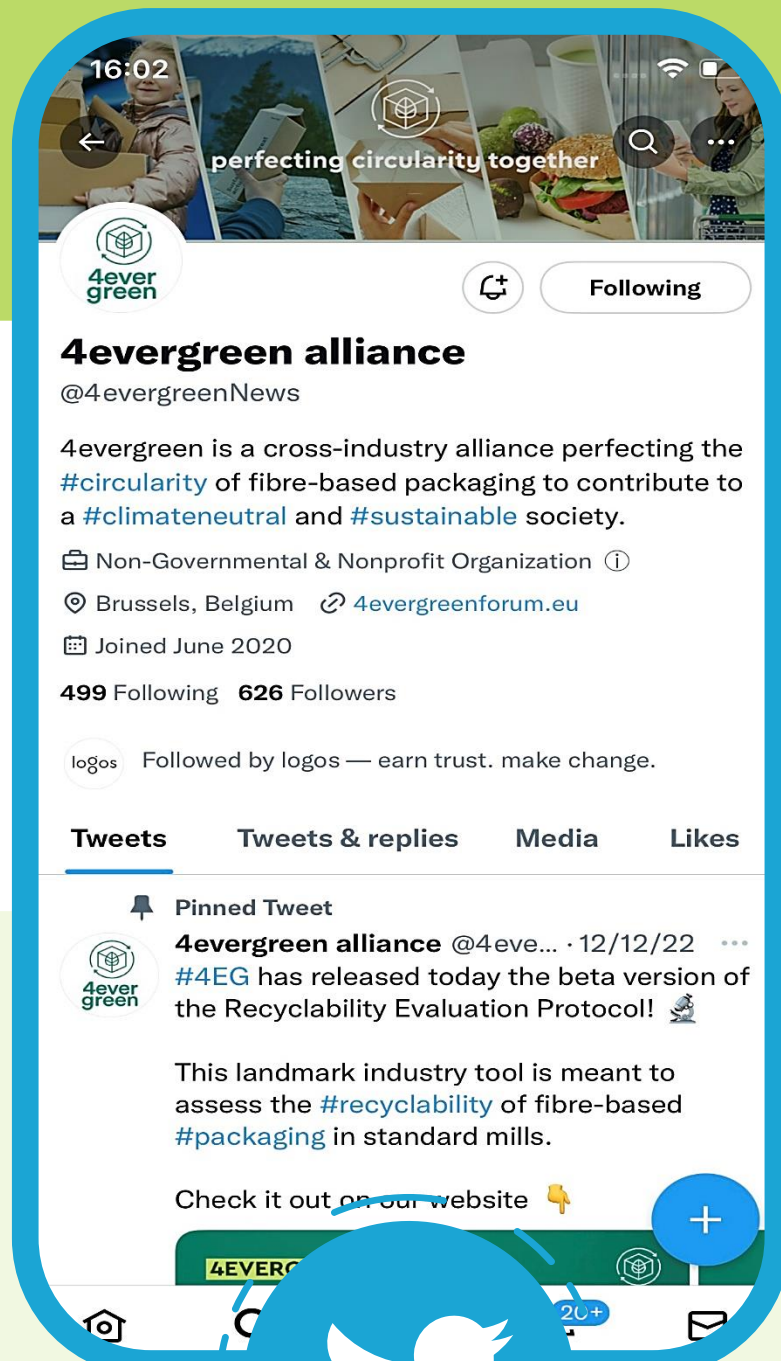
Our more than 100 market leaders have joined forces to perfect circularity. Together, we will get our voice heard.

Ask for more information or book an introductory meeting at 4evergreen@cepi.org

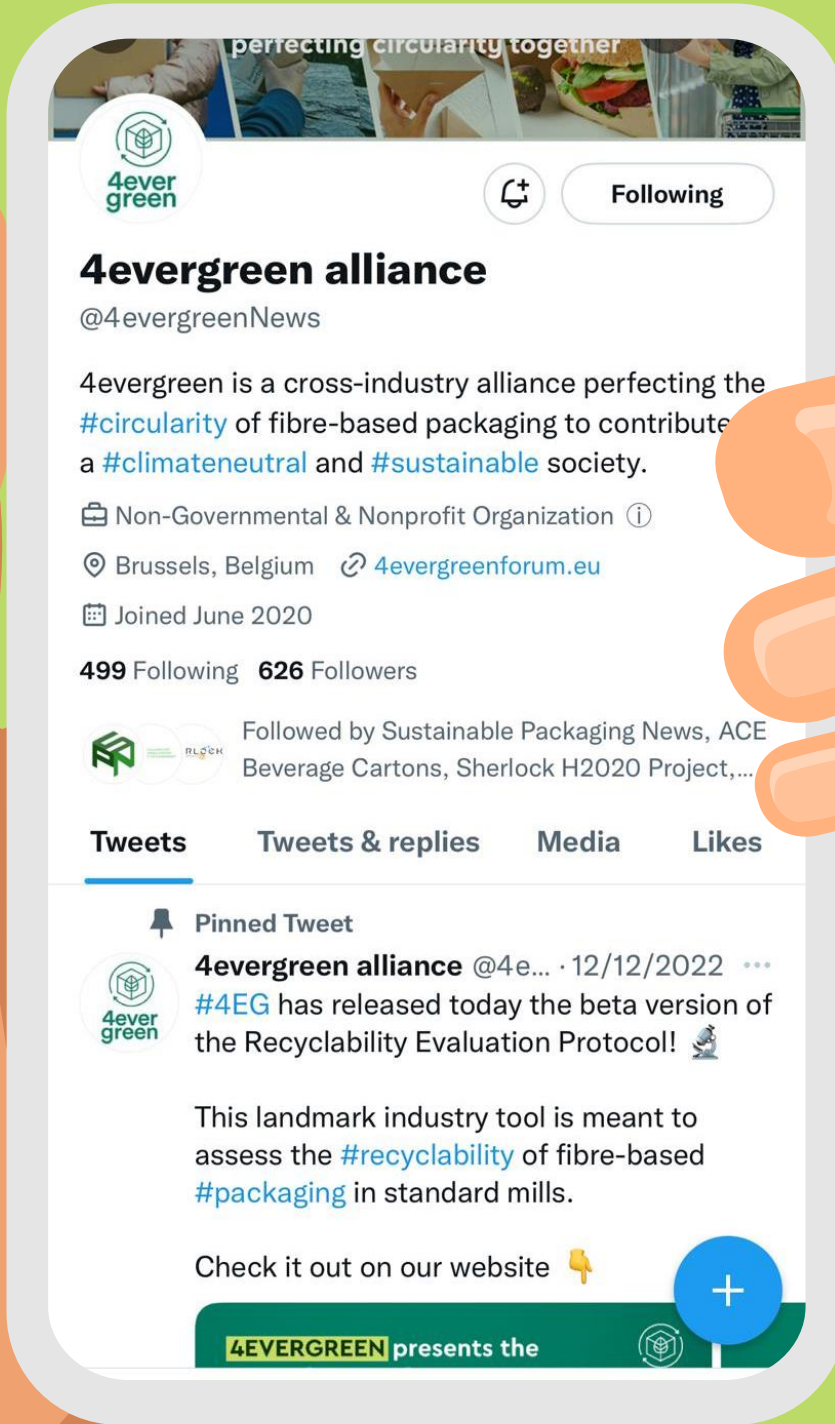
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