EUROPEAN

01 FIRST EDITION

REUSE

BAROMETER

IN OFF PLASTIC

PLANET REUSE

ZERO WASTE EUROPE

new ERA
European Reuse Alliance

ACKNOWLEDGEMENTS

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About InOff Plastic

InOff Plastic is a consulting firm supporting food & beverage, retail, cosmetics and hospitality firms to deplastify their activities. To do so, InOff Plastic supports its clients to adopt upstream solutions: using reusable and refillable packaging, single-use non-plastic packaging and selling in bulk. InOff Plastic operates globally, especially in Europe and South-East Asia.

Learn more at: inoffplastic.com

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About Zero Waste Europe

Zero Waste Europe (ZWE) is the European network of communities, local leaders, experts, and change agents working towards a better use of resources and the elimination of waste in our society. We advocate for sustainable systems; for the redesign of our relationship with resources; and for a global shift towards environmental justice, accelerating a just transition towards zero waste for the benefit of people and the planet.

Learn more at: zerowasteeurope.eu

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About New ERA

The New European Reuse Alliance (New ERA) is a non-profit association founded at the end of 2022 that represents organisations pioneers in their respective industries and geographies by providing and/ or promoting reusable packaging solutions alternative to linear models. The initiative started from the shared need of the founders to have a voice at European level to coordinate the efforts done by companies and civil society organisations in the field of reuse.

Learn more at: newreusealliance.eu

Contact us at: info@newreusealliance.eu

About Planet Reuse

Planet Reuse is the first European online platform and network bringing together professionals to connect, learn and collaborate on the topic of reuse and reusable packaging solutions. Its vision is to accelerate the transition from linear to circular packaging systems in European countries, thereby avoiding packaging becoming waste in the first place. The platform was launched in September 2022 and the community is composed of 1 200+ members from 640+ organisations.

Learn more at: planetreuse.eu

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EXECUTIVE SUMMARY

Reuse models offer extensive environmental and economic advantages. Though to do so, they usually require significant scale. Collaboration and harmonisation are key requirements to reach that scale. By developing and using shared infrastructures for digital processes and logistics, packaging formats and processes, brands can reduce costs and attract consumers.

The first edition of the European Reuse Barometer sets light on the following positive insights driving the reuse transition:

- **The European reuse industry is very vivid:** Numerous new reusable packaging solutions have been launched in the past years in all the sectors under study: takeaway, retail and e-commerce. Though, to ensure their development and scale, these solutions need to be supported by legislators, producers, consumers and investors.

- **The industry is growing:** Nearly all companies plan to hire new employees in the coming months.

- **Consumers already interacting with reusable packaging solutions are very engaged:** Most solutions show very high return rates (78% of solutions have return rates higher than 75%) even though most of them require an action from consumers: 87% of solutions surveyed use a "return on the go" model that requires consumers to bring back reusable packaging themselves to dedicated collection points. This shows that existing consumers are already very engaged in supporting these solutions.

- **Solutions are adapting their models to make the user experience most convenient:** The barometer shows that solutions are actively working to make reuse systems accessible to all, regardless of the age or digital appetence, making the user experience as convenient as possible by providing simplicity in format and autonomy in the return processes. Some solutions even argue that prioritising convenience and affordability is key to make reusable packaging solutions effectively compete with single-use alternatives.

However, to streamline and unify the current fragmented and uncoordinated reuse ecosystem and achieve a true market transformation, there is an urgent need to:

1. **Embark the rest of consumers on this journey:** Consumers are becoming more environmentally aware and educated about sustainability, especially in Europe, and reusable packaging is increasingly recognised by the public as a sustainable solution[I]. However, there is also a growing demand for convenience putting pressure on packaging development and requiring innovative new systems design: consumer research indicated that even though 85% of people want to purchase products in reusable packaging, only 16% actually engage with such systems[II]. As it remains risky for solutions, corporates and investors to invest in reuse without a large consumer base, it has been highlighted that governments should push consumers to adopt reusable packaging either through communication campaigns raising awareness on the positive impact of reusable packaging or through legislations restricting single-use packaging options.

2. **Set up ambitious and timely policy frameworks and policy incentives prioritising prevention, reuse and responsible resource use.** Such frameworks are crucial to incentivise the entire ecosystem to embark on a reuse journey, unlocking new business models, infrastructure investments and new funding mechanisms. More and more councils of cities and municipalities are currently working on zero waste strategies, procurement rules, or obligations to use reusable packaging within their space of influence, e.g. by setting prevention, reduction and reuse measures for city, cultural and sport events. However, to make these practices become systematic, legislations and economic incentives should force the public and private sector to further adopt reusable packaging.

3. **Collaborate to reduce the cost of the transition and achieve scale:** Shifting from single-use to reusable packaging models requires new processes, new digital interface, new take-back solutions e.g. within the retail or e-commerce sector. Reusable packaging stakeholders face the dual challenge of not only having to develop their own products (e.g. designing good, long-lasting and environmental-friendly packaging) but also to build a whole distribution and reverse logistics infrastructure at the same time. To reduce transition costs impeded by the shift from single-use to reusable packaging, reuse stakeholders – be it businesses, public organisations, cities, municipalities, NGOs among others – should align forces and work together to set up shared packaging pools and infrastructures to maximise efficiencies and economies of scale.

INTRODUCTION

A. MAIN PACKAGING STAKES AND OPPORTUNITIES

Europe has seen a steady decline in the share of reusable packaging over the last decades. For instance, sales of refillable bottles have dropped from 90 billion units in 2000 to 55 billion units in 2015[III] in Europe. Refillable bottles have been largely replaced by single-use packaging (mostly single-use plastic, cans and cartons).

The significant shift towards more single-use packaging is driven by a multitude of factors, predominantly steered by economic considerations: businesses and retailers tend to opt for single-use packaging due to its lower prices and perceived ease of setup compared to reuse models.

As a result, the widespread use of single-use packaging has led to a significant increase in resource and material consumption, accompanied by a rapid increase in waste volume and its related environmental impacts. While both production and consumption of packaging, particularly single-use, continue to increase, existing waste management systems struggle to cope with the mounting waste output. Attempts to tackle packaging waste have primarily focused on recycling but have failed, with much of it either exported from Europe, repurposed or recycled into products that have low market value or are of lower quality (i.e. "downcycling"). Landfilling and incineration persist as the predominant methods for managing such waste, while rates of plastic littering and environmental leakage remain unacceptably high.

As recycling is not the way out of the packaging waste crisis, the most effective solutions are to be found upstream in the value chain to complement current recycling efforts with prevention and reuse models. Not only is reuse prioritised over recycling within the EU-waste hierarchy, but studies also demonstrate that, under appropriate circumstances, reusable packaging significantly outperforms single-use packaging in terms of environmental impact.

Legislation pushing for reusable packaging is underway (refer to Appendix 1 for further information on the European's Packaging and Packaging Waste Regulation's key reuse measures and targets), however, it needs to be more robust and ambitious to support the transition away from single-use packaging. Instead, to address single-use packaging, attention has been directed towards the development of Extended Producer Responsibility (EPR) schemes with more recent emphasis on deposit and refund schemes. As a result, reusable packaging solutions struggle to develop and scale: the latest report of the Ellen MacArthur Foundation shows that from 2018 to 2023, the share of reusable packaging of its Global Commitment's signatories has stagnated below 2%[IV].

B. THE RISING TIDE OF SINGLE-USE PACKAGING PRODUCTION UP TO NOW

In the last decades, single-use packaging production has increased, driven by the growth of e-commerce and the popularity of eating on the go. Despite growing environmental concerns, the convenience and affordability of single-use packaging continue to overshadow sustainability considerations, maintaining its dominance in various industries. The predominance of single-use packaging, mainly composed of paper and cardboard, plastic, and glass, directly fuels the increasing demand for these materials.

As a result, plastic production has been growing exponentially since the 1950s[V]. In the paper industry, it is interesting to note that, even though there has been a reduced demand for paper from sectors such as graphic and sanitary paper, this has been offset by a record of annual growth of e-commerce and food & beverages packaging demand[VI]. As a result, paper and paperboard production has also been growing steadily since the last years[VII].
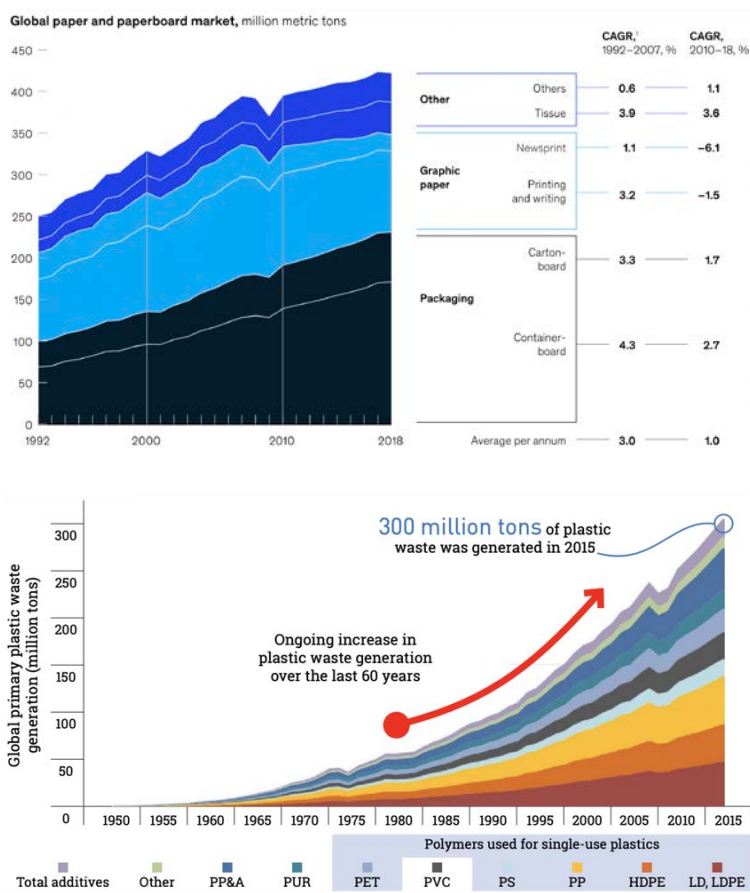
Figure 1 - Past years' rise of paperboard and plastic production[VIII][IX]

C. SINGLE-USE PACKAGING PRODUCTION IS EXPECTED TO KEEP GROWING IN THE FUTURE

Figure 2 highlights that packaging production is expected to continue increasing in the coming decade, across all material types, most of it being single-use.
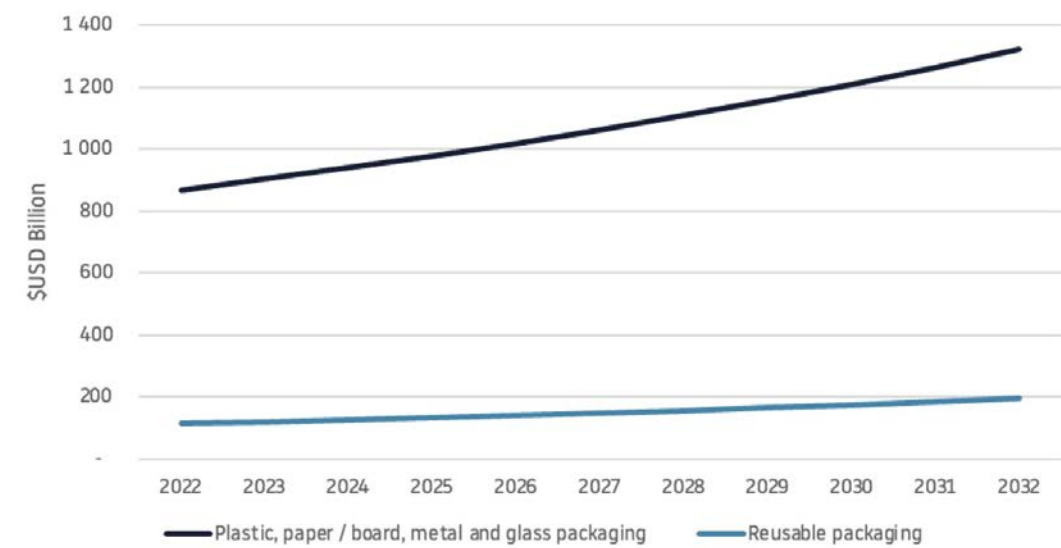
Figure 2 - Global projected market size of plastic, paper / board, metal and glass packaging and of reusable packaging[X]

For instance, figure 3 shows that glass packaging is expected to double from 2022 to 2032. Studies even show that global paper and cardboard consumption will nearly double between 2010 and 2050[XI].
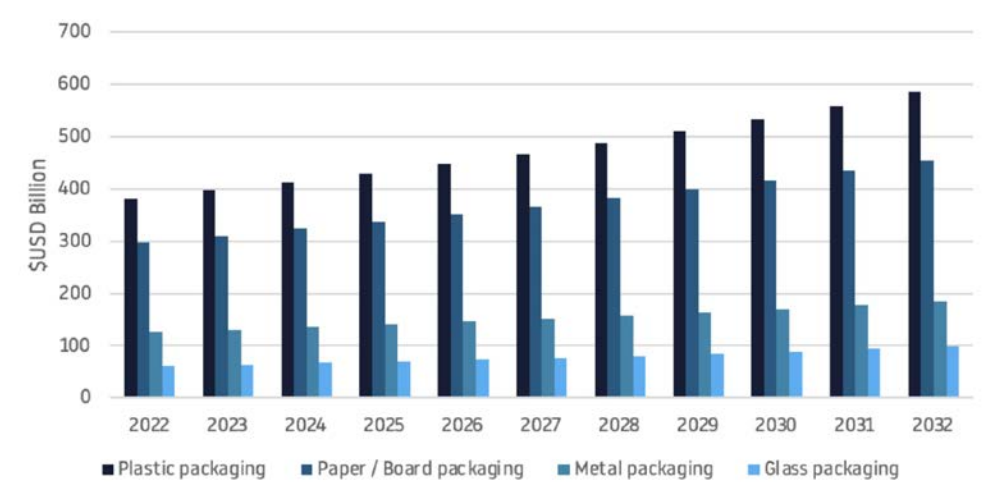
Figure 3 - Global projected market size of plastic, paper / board, metal and glass packaging[XII]
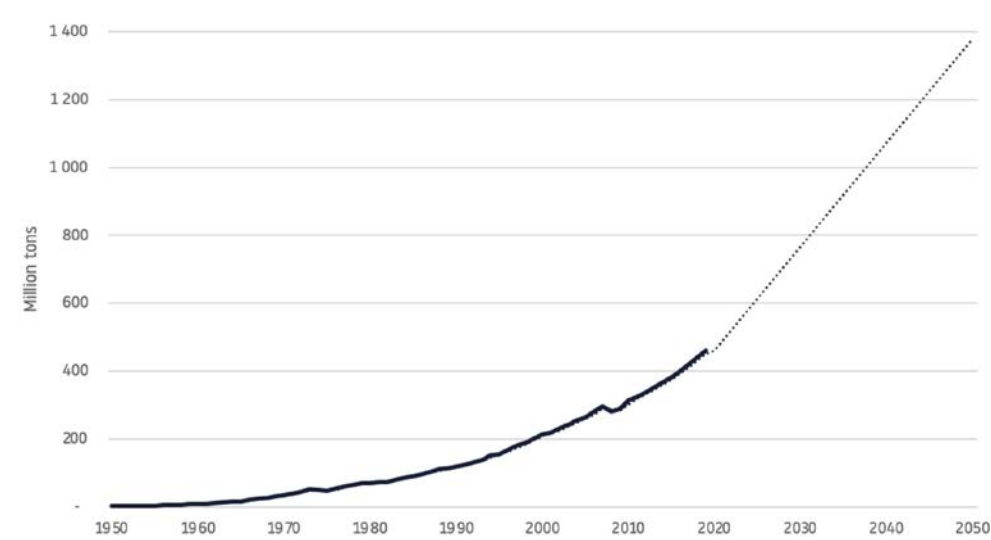
Figure 4 - Past and projected growth of plastic production globally[XIII]

Plastic production is constantly increasing and is expected to triple between 2019 and 2060[XIV]. Currently 6% of the world's oil is used to produce plastic, and this figure is expected to increase to 20% by 2050[XV]. Petrochemicals in general (e.g. manufacturing of plastic, fertilizers, clothing) should represent 50% of oil production by 2050 (currently around 30%). The growth in petrochemicals in general, and plastics in particular, would allow the oil industry to compensate for their loss of income coming from the reduction in oil demand for the automobile industry which now prefers electric motors to thermal engines[XVI].

D. INCREASING PACKAGING PRODUCTION: A GROWING CONCERN

End of life

This increasing single-use packaging production has led to a significant increase in the amount of packaging waste generated. Packaging waste is at its highest level in history: in 2021, each person in Europe produced around 189 kg of packaging waste[XVII]. In the past ten years, packaging waste increased by 20%, surpassing the rate of economic growth[XVIII]. These figures are supposed to keep rising: if no action is taken, the EU could experience a 19% rise in packaging waste by 2030. Concerning plastic packaging waste specifically, the expected increase is 46% by 2030[XIX]. According to the OECD, global plastic waste is set to almost triple by 2060[XX].

Figure 5 - Projected growth of packaging waste generated per capita in EU 27 countries[XXI]

Despite pledges from governments, companies, and industry associations, to improve the recyclability and recycling rates of single-use packaging, objectives remain unmet.

First, firms struggle to ensure that all the packaging they sell is recyclable. For instance, when it comes to recyclability, despite the pledge to achieve 100% recyclable, compostable, or reusable packaging by 2025, the Global Commitment signatories' overall recycling rate has only increased by 4%, from 60%[XXII] to 64%[XXIII].

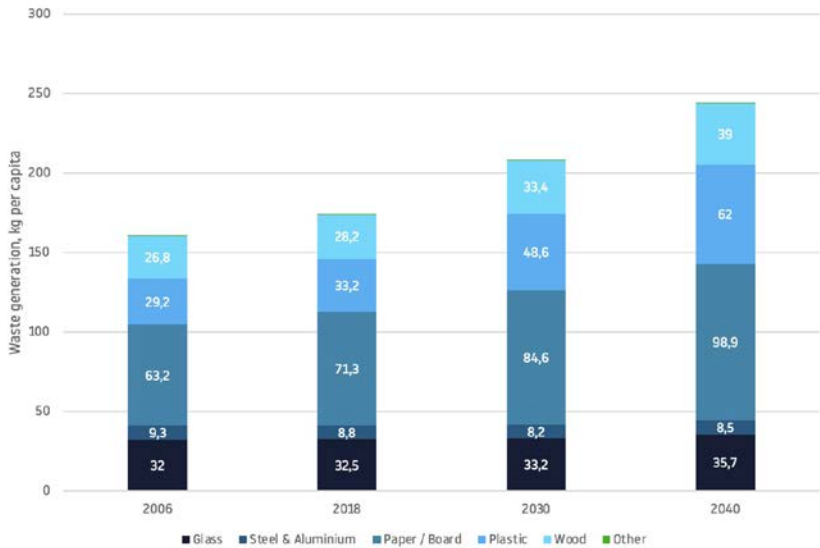Second, many factors impede the recycling process, such as the complexity of packaging materials, contamination issues, and economic challenges. For instance, materials like paper-based composites and plastics present difficulties for effective recycling due to their mixed composition[XXIV]. Additionally, recycled materials often have lower quality and may contain harmful contaminants, making them environmentally harmful to process and economically unfeasible to recycle[XXV].

Focus on plastic's recycling stakes:

According to Greenpeace, plastic waste recycling has largely failed and will always fail because plastic waste is:

1. extremely difficult to collect,
2. virtually impossible to sort for recycling,
3. environmentally harmful to reprocess,
4. often made of and contaminated by toxic materials,
5. not economical to recycle[XXVI].

Concretely, of the seven billion tonnes of plastic waste generated globally so far, less than 10% has been recycled[XXVII]. In Europe, 40% of plastic packaging is being recycled[XXVIII] and the remaining is either incinerated, sent to landfills or lost in the nature. When sent to landfills or thrown in the nature, plastic can take hundreds of years to decompose, causing pollution, soil and water contamination, and harm to wildlife. Concerning recycling, the European Environmental Bureau warns against open-loop recycling processes that downcycle materials into lower-quality products[XXIX]. At a global level, 80% of plastic packaging materials recycled are downcycled and only 20% are recycled in a closed-loop[XXX]. After being recycled once or several times in lower-quality products (e.g. a PET bottle recycled into textile fibres used to manufacture clothes), these downcycled materials will end up being incinerated as well, sent to landfills or lost in the nature (e.g. when clothes containing plastic fibres are discarded, it is difficult to separate plastic fibres for recycling, as a result, the clothes will be downcycled for instance as insulation material).

As a result, plastic pollution is found everywhere on earth and in the oceans. Every year, 12 million tonnes of plastic are dumped into the oceans, this is equivalent to throwing, every minute the contents of more than one garbage truck full of plastic into the ocean[XXXI]. This could rise to 29 million metric tons in 2040[XXXII]. As a result, 88% of the sea surface is polluted by plastic waste[XXXIII]. Only 8% of ocean plastic could be collected, the remaining 92% are microplastics that are impossible to collect (their size being between 5 millimetres and a few hundred nanometres, or 70 times smaller than the thickness of hair)[XXXIV]. Soils are 4 to 23 times more polluted with microplastics than oceans[XXXV].

Focus on paper and cardboard recycling stakes:

Recycling rates of paper and cardboard packaging in direct contact with food are hindered by the complexities of separating non-pulpable (or non-paper) materials, and only a fraction of paper fibres is recycled. In theory, paper and cardboard can be recycled around eight times, but on average, European paper fibres are only recycled 3.5 times. Recycling processes cannot cope with 3 to 10% non-pulpable (or non-paper) materials. Moreover, the export of paper waste, primarily to Asian countries, remains substantial, contributing to the global recycling dilemma. Chemicals, including those known to be persistent and harmful, are extensively used in paper packaging production, posing risks of contamination of food and human health[XXXVI].

Climate and resource depletion

Any packaging comes with its related environmental impacts. For example, packaging is one of the main users of virgin materials, as 40% of plastics, 50% of paper and 60% of glass in the EU is destined for its production. [XXXVII] Its production – predominantly single-use – directly fuels the rising demand of these materials. Opting for reusable packaging is a great way to optimise this impact: if a packaging is to be produced, it should at least be used for the longest time possible rather than being thrown away after its first use.

Focus on the impact of glass packaging production:

On one hand, single-use glass has the highest overall impact compared to any other packaging materials (i.e. PET, aluminium and beverage carton). This is due to its production phase, which is extremely energy intensive: manufacturing glass container is a high-temperature, energy-intensive process that requires temperatures as high as 1600°C. Being largely based on the combustion of fossil fuels, this process accounts for 75% of the total energy required to make glass container[XXXVIII]. On the other hand, glass is a material with a very high potential for reusability (e.g.: reusable glass bottles easily reach 25-30 rotation cycles) and recyclability. As a result, glass packaging performs:

- at its best being reused (40% of the emissions associated with glass production are reduced after a bottle has been reused two or three times),
- at its worst being single-use (environmentally speaking).

LCAs show that reusable glass bottles have a better environmental impact than single-use glass bottles after two cycles (if the distance covered in the return logistics is within 200km)[XXXIX]. Starting from twenty cycles, reusable glass bottles can consume 76% less energy, 33 % less water and emits 79% less greenhouse gases than single-use glass bottles[XL].

Focus on the impact of paper and board packaging production

Paper-based packaging production is intertwined with numerous environmental challenges across its lifecycle. This includes significant contributions to deforestation, water stress, biodiversity loss and climate change. Approximately 90% of paper pulp is derived from wood, resulting in the clear-felling of approximately 3 billion trees annually for paper-based packaging. Brazil has emerged as a key supplier to the EU, surpassing traditional producers like Sweden and Finland. Brazil has tripled its pulp production, now covering an area of 7.2 million hectares (twice the surface of Belgium). However, this rapid expansion of pulp production, largely through eucalyptus and pine plantations, has intensified water scarcity, forest fires, and biodiversity loss. Within Europe, Finnish forests are facing overlogging, leading to carbon emissions and threats to biodiversity: 76% of Finnish forest habitats are classified as threatened while Swedish forests' capacity to capture CO_2 has diminished. Moreover, the paper and pulp industry are the world's third largest consumer of water (the production of just one A4 sheet of paper requires around 10 litres of water) and ranks among the largest consumers of energy globally, with inadequate progress towards climate goals[XLI].

Focus on the impact of plastic production

Plastic is one of the planet's most carbon-intensive industries and a significant contributor to greenhouse gas (GHG) emissions (emissions occur during plastic's production and decomposition). In 2019, plastics generated 1,8 billion metric tons of GHG emissions (3,8% of global emissions)[XLII]. If the plastics industry were a country, it would be the fifth largest emitter of GHG emissions globally[XLIII]. Moreover, the plastic industry is planned to continue having a massive impact on the climate: "By 2050, the [cumulative] GHG emissions from plastic could reach over 56 gigatons – 10-13 %of the entire remaining carbon budget"[XLIV].

Economic

Numerous businesses and retailers have opted for single-use packaging due to its lower prices and perceived ease of setup and operation compared to reusable models, which demand greater initial investment, labour, space, and management for take-back. The cost advantage of single-use packaging is increased by the externalization of expenses to society and the environment. It has been more cost-efficient for companies to pay EPR schemes' fees than to pay for a reuse model. By financing EPR schemes, companies only partially cover collection and treatment costs, while producers utilizing reusable packaging must absorb the entire expense of take-back and refill processes[XLV].

Focus on the true cost of single-use plastic packaging

The growth of plastic usage is driven by low production costs. However, there is an alarming gap between the size of the global plastic market and the damage that this industry generates: the cost of plastic's negative externalities is estimated to be 10 times higher than its production cost[XLVI]. In 2019, plastic production externalities have cost around US$370 billion (the global plastic market was estimated at US$ 600 billion in 2021[XLVII]). However, over its entire lifespan, the plastic produced in 2019 will have negative externalities estimated around US$ 3700 billion: this is more than India's GDP[XLVIII]! In particular, the cost of plastic on human health is estimated at least at US$100 billion per year and the cost of its GHG emissions at an additional US$100 billion per year[XLIX].

Focus on the cost advantage of reusable glass bottles

Moreover, in the face of rising material prices - plus 23% in two years - some companies have seen 80% increases in the price of glass packaging when adding the increasing energy costs, labour shortages and material scarcity. By 2024, reusable glass packaging could be cheaper than single-use glass packaging[L].

Considering the rise of material prices and the increasing corporate accountability for environmental externalities, it could be relevant for companies to analyse if the single-use packaging they use still makes economic sense compared to reusable packaging.

E. WHAT FUTURE IS TO BE ENVISIONED FOR PACKAGING?

The only way to solve the current environmental crisis (climate, pollution, energy and resource depletion) is by tackling our production and consumption behaviours at their roots alongside endorsing waste prevention and reuse measures[LI]. This is also emphasised by the report "Breaking the Plastic Wave": "a reduction of plastic production — through elimination, the expansion of consumer reuse options, or new delivery models — is the most attractive solution from an environmental, economic, and social perspectives. It offers the biggest reduction in plastic pollution, often represents net savings, and provides the highest mitigation opportunity in GHG emissions"[LII].

The urgency of working on upstream measures and incentives that complement recycling and reduce single-use packaging waste at the source can no longer be ignored.

OBJECTIVE

OUR THEORY OF CHANGE

WHY? The European Reuse Barometer's main objective is to accelerate the development, scaling and widespread adoption of reusable packaging throughout Europe.

WHO? To do so, it aims to support all stakeholders in their reuse transition – be it reusable packaging solutions aiming to grow and scale, producers willing to make the shift to reusable packaging, investors looking to support this industry, and policymakers shaping supportive regulations.

HOW? The barometer collects and assesses the economic, environmental, and social impacts of reusable packaging solutions in Europe. By being conducted annually, it reflects the current stage of development of the reusable packaging industry while tracking its growth and informing its evolution across Europe. It also sheds light on the industry's best practices and enabling conditions for successful reusable packaging solutions, while highlighting the key challenges faced by the industry.

WHAT? By bringing these insights to the forefront, the barometer addresses the reusable packaging industry's current data gap, providing stakeholders with the resources to make enlighten decisions in bringing the European reusable packaging industry forward.

This inaugural edition of the barometer initiates a comprehensive data collection effort, taking the first deep dive into the state of the reusable packaging industry across Europe. It underlines the critical need for ongoing and enhanced data collection across the industry.

RESEARCH IMPETUS

The impetus for this research stemmed from a preliminary investigation into the challenges and constraints associated with developing and scaling reusable packaging in Europe. This preliminary work revealed several cross-cutting findings:

- There is a lack of comprehensive data on the current maturity of the reusable packaging landscape in Europe, including its key stakeholders, the industry dynamics, and its main impacts across various sectors and countries throughout Europe.

- Each sector lacks sufficient operational data and insights to fully understand the environmental impacts and potential negative trade-offs linked to reusable packaging, including average rotations, return rates, and retention time.

- Similarly, there is a shortage of operational data and insights on the social implications and potential drawbacks associated with reusable packaging. This includes the employment dynamics among other socio-economic considerations.

- Lastly, there is a notable absence of data concerning the funding needs within different sectors, across various company sizes and on a country-by-country basis.

The absence of comprehensive data presents challenges to various stakeholder groups – particularly to producers, solutions operating reusable packaging, European policymakers, investors, consumers –, as it results in a lack of visibility and understanding regarding key aspects of reusable packaging. This lack of information hampers stakeholders' ability to make informed decisions and develop effective action plans to address the complexities and requirements of reusable packaging initiatives. Challenges were identified across different stakeholder groups:

FOR COMPANIES SELLING GOODS IN SINGLE-USE PACKAGING

- Resistance to change persists due to concerns over initial investment costs, operational expenses, and uncertainties in pricing dynamics.
- Additionally, the lack of clarity regarding the perceived benefits of adopting reusable packaging solutions contributes to the reluctance to transition away from traditional single-use packaging.
- For solutions operating reusable packaging:
- Profitability issues stem from factors such as high operating costs, lack of demand, and challenges in pricing strategies compared to single-use packaging.
- Competitive challenges arise primarily due to single-use packaging, which are often cheaper and more readily available in the market, posing a significant barrier to the widespread adoption of reusable packaging.

FOR EUROPEAN POLICYMAKERS

- Limited understanding of socio-economic needs and setbacks, including factors like employment opportunities, rural development, and supply chain dynamics, presents challenges in policy formulation and support.
- Concerns about negative sustainability and social trade-offs necessitate a nuanced approach to policymaking, considering diverse stakeholder perspectives and potential impacts.
- A clearer understanding of the landscape of reusable packaging, including insights into company sizes, industries involved, and consumer expectations, is essential for informed decision-making and effective policy implementation.

FOR INVESTORS

- Limited insights into industry growth potential, including emerging market trends, regulatory developments, and investment opportunities, hinder informed decision-making and resource allocation.
- Understanding the potential returns on investment, market demand for reusable packaging solutions, and the positive impact of reusable packaging is crucial for investors to navigate the evolving landscape of sustainable packaging investments effectively.

FOR CONSUMERS

- Limited understanding of why and how to interact with reusable packaging effectively persists, necessitating educational initiatives or user-friendly designs to enhance consumer adoption and engagement, especially when single-use remains the main option available on the shelves.

METHODOLOGY

A. SCOPE OF THE FIRST REUSE BAROMETER

Since 2018, InOff Plastic has been curating a database of solutions operating in the reusable packaging industry. 381 reusable packaging solutions have been mapped in Europe.

The first edition of the European Reuse Barometer solely focuses on reusable packaging solutions operating in Europe, either at national, regional and/or multi-country level, in four main sectors: takeaway, e-commerce, transport and retail, in line the PPWR currently underway at European level.[LIII]

It was decided to exclude:

- refill models (refill on the go, refill from home) from this first edition of the barometer because less data is available as the packaging is owned by the consumer,

- producers of reusable packaging due to their likely limited data availability concerning actual reusable practices.

B. DATA COLLECTION PROCESS

An online survey was distributed to the 381 solutions that met the scope of the first Reuse Barometer. 94 solutions answered the survey. However, four solutions were excluded for this first version of the barometer:

- one operated outside the geographical scope,
- one concerned refill and not reuse,
- one produced reusable packaging but did not participate in a reuse model itself,
- one had not yet started operating reusable packaging activities, hence had limited results to share.

90 SOLUTIONS WERE CONSIDERED FOR THE FIRST VERSION OF THE REUSE BAROMETER.

Ad-hoc email and phone conversations have been engaged with solutions to support the data collection process with more insights.

InOff Plastic led the research utilising a mixed approach incorporating both quantitative and qualitative indicators. The survey questions were informed by an extensive review of academic and legislative literature related to reusable packaging. This preliminary assessment helped identify key areas of interest and shortcomings in existing data surrounding the advancement of reusable packaging in Europe. The survey questions enabled to track the following indicator set:

Quantitative indicators

Economic:

- Average return rate and retention time.
- Existence of financial incentives.
- Share of profitable solutions.
- Share of solutions having raised funding.
- Total amount of funding raised.
- Total amount of funding planned to be raised by 2025.

Social:

- Number of people employed.
- Number of employees to be recruited by 2025.

Environmental:

- Volumes of single-use packaging avoided.
- Results of Life-Cycle-Assessments (LCAs) conducted.

Qualitative indicators

- Sectors in which the solutions operate.
- Creation year.
- Company size.
- Country(ies) of operation.
- Packaging type.
- Packaging material used.
- Type of return model (return on the go, return from home).
- Type of collection systems.
- Best practices, challenges and operational recommendations shared by solutions.

The survey was distributed with the help of European partners, e.g. foundations, NGOs, industry associations and/or networks working on reusable packaging at least at national level. These partners provided support in:

- Mapping reusable packaging solutions in the Reuse Barometer's country(ies) of action;
- Reaching out to their networks (e.g. sharing the survey, facilitating the connection to reusable packaging solutions);
- Sharing knowledge on local opportunities fostering the growth of reusable packaging models and well as local challenges impeding the scaling of reusable packaging.
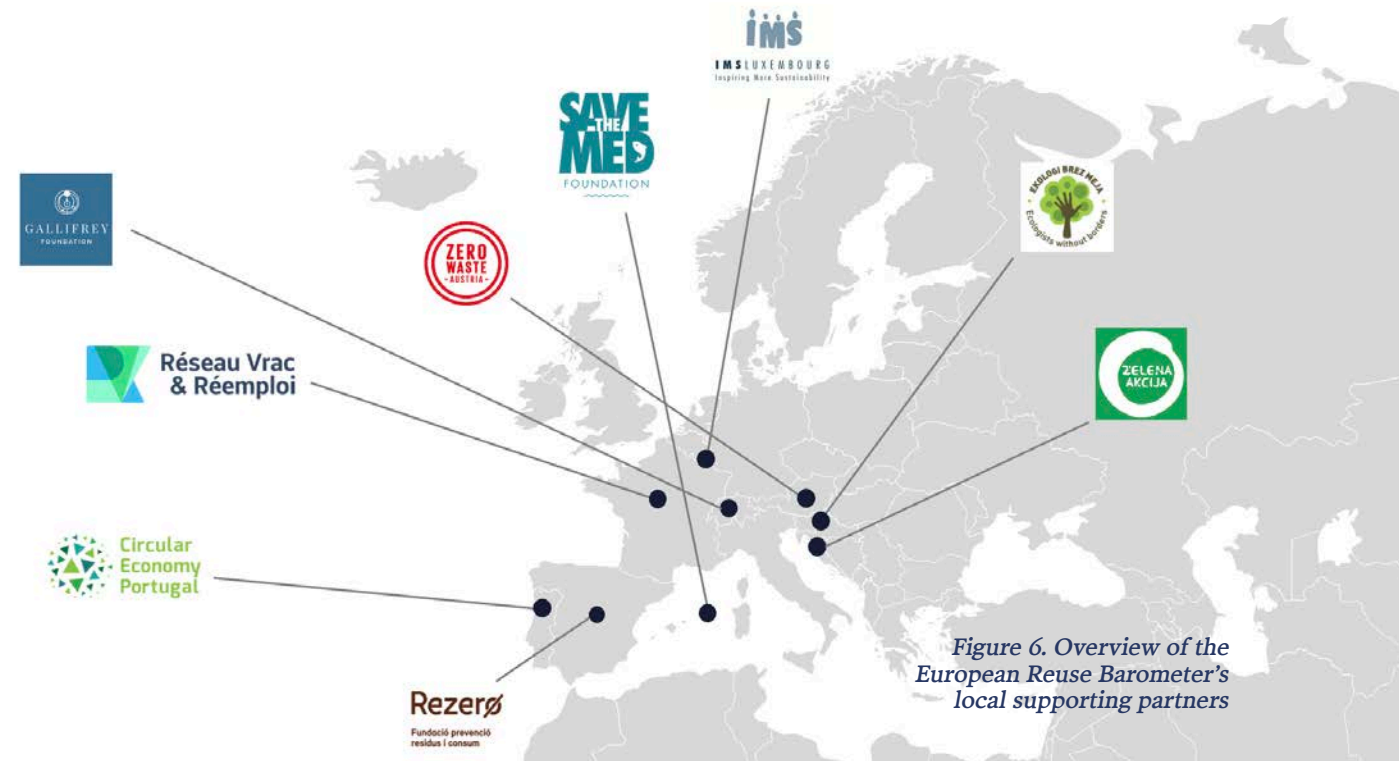

Figure 6. Overview of the European Reuse Barometer's local supporting partners

Note on Figure 6: InOff Plastic has benefited from the support of many more European partners which were not able, in the given timeframe of the first barometer, to obtain the necessary internal approvals for us to communicate their names in the barometer.

SAMPLE COMPOSITION

The key findings of this first assessment are driven from the insights provided by the 90 solutions.

Various criteria were used to categorise the respondents of the survey and assess the composition of the first edition of the European Reuse Barometer:

A. Sector in which it operates,
B. Creation year,
C. Company size,
D. Country(ies) of operation,
E. Packaging types.

A. SECTORS
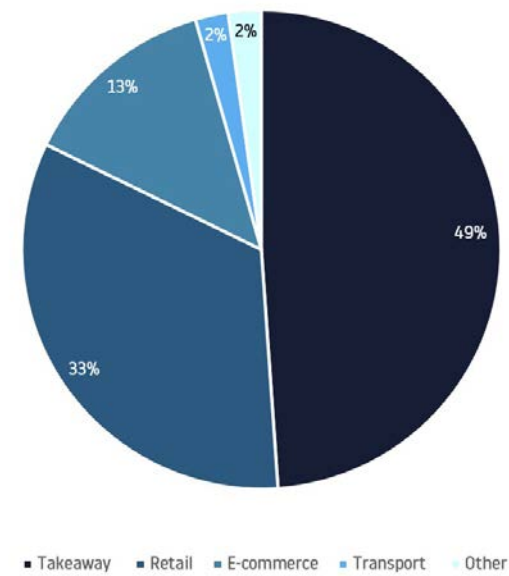
Figure 7 - Distribution of solutions based on sector

The 90 respondents are spread across three main sectors, as represented in Figure 7. Nearly half of the respondents are from the takeaway sector (49%) followed by the retail sector (33%). The e-commerce sector comes in third position with an additional 13% of respondents.

Only 2% of the solutions operate in the transport sector, the data from these solutions was not representative of their sector. Another 2% of solutions did not fall in either of the sectors. While the general conclusions of the report incorporate insights gained from these solutions, they were not reflected in the «Key findings» section of the first European Reuse Barometer.

Bumerang's reusable plastic food container is used to replace the single-use plastic and paper packaging that are provided by bars and restaurants when ordering takeaway food.

ReCircle's food containers and cups come in various sizes, replacing single-use packaging in the takeaway sector.

TAKEAWAY

RETAIL

Swiv is already working with 500 bottle references to replace single-use bottles. Each bottle can be reused up to 50 times!

E-COMMERCE

Hipli's reusable envelope is used to replace the single-use plastic and paper packaging that are provided by e-commerce vendors to deliver products purchased online.

Pandobac's reusable boxes are used to replace single-use packaging used to deliver restaurants (e.g. polystyrene boxes used to transport fish products).

B2B TRANSPORT
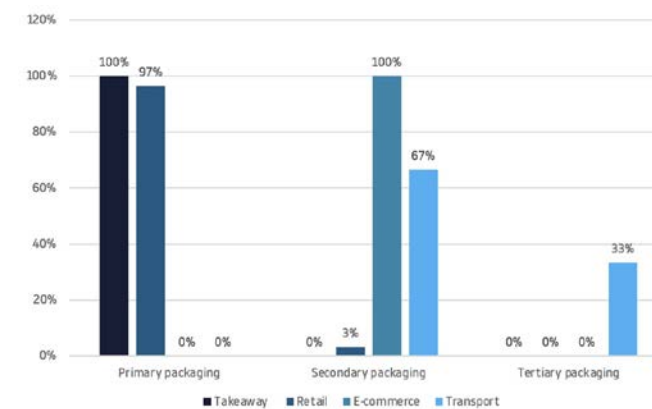
Figure 8 - Distribution of solutions based on type of packaging and sector

B. GEOGRAPHICAL SCOPE

Most of the survey respondents of this first edition of the barometer operate in Western Europe, as shown in Figure 9. At this stage, the barometer's geographical scope strongly reflects InOff Plastic's connections with reusable packaging solutions in France and Western Europe more largely. As the Reuse Barometer gains a greater scope and wider response rate, the next versions will better reflect the current panorama of reusable packaging solutions across Europe.
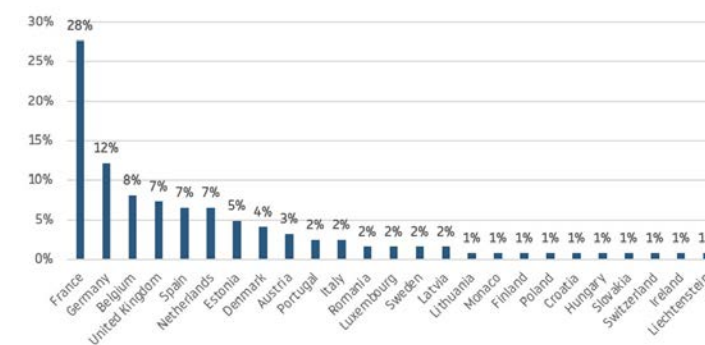
Figure 9 - Distribution of solutions based on the country(ies) they operate in

Depending on their maturity and ambitions, solutions operate in a geographical scope that can range from city level to numerous European countries, as demonstrated in Figure 9. Three quarters of the solutions surveyed operate nationally and one fourth have scaled their models already beyond the national level.

Figure 10 - Geographical scope solutions operate in, per sector

When deep diving into the sectors specificities, the barometer shows that the majority of takeaway solutions operate on national or multinational levels (66%). In comparison retail solutions remain mostly on regional and national levels (77%). Retail solutions dealing with food products face significant setbacks when seeking to extend their reusable packaging initiatives acro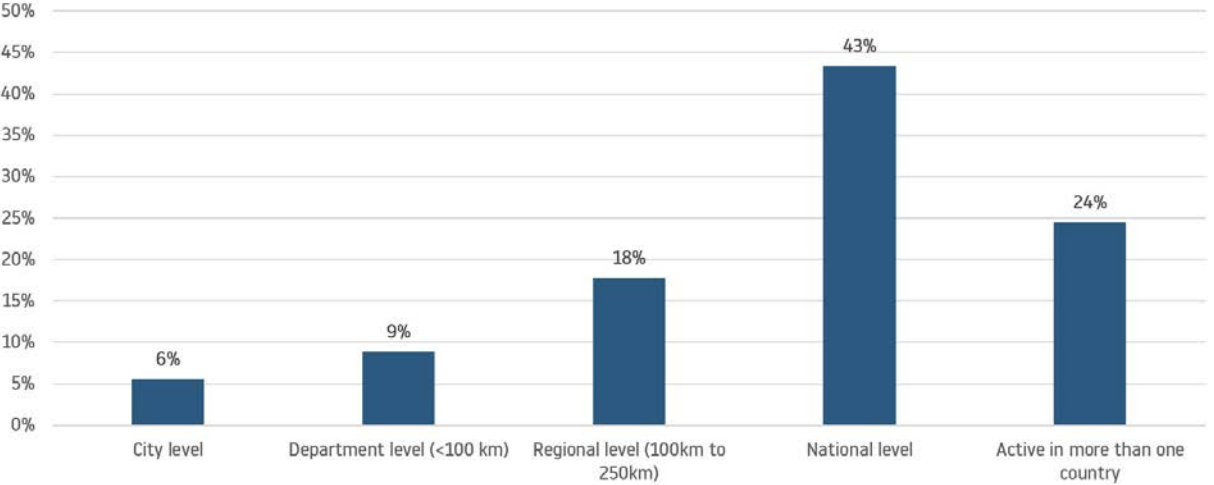ss national borders, primarily due to stringent health and food regulations. Unlike the takeaway sector, where reusable packaging is typically delivered empty and filled on-site, packaging cups used in the retail sector is already filled with food upon initial shipment. Consequently, retail solutions must uphold a higher standard of health and sanitation from the moment of delivery, necessitating meticulous adherence to regulatory standards and protocols. On the e-commerce front, the survey respondents equally operate on national level and across several countries.

Cosmetics : Sea Me GmbH

Sea Me GmbH (Zerooo) is able to offer zerooo in both Germany and Austria, capitalising on synergies in language, deposit return mechanisms and most importantly retail partners operating in two markets. It considers it crucial to ensure that the system achieves optimal scalability within a specific market, both ecologically and economically, for all parties involved, before exporting it for local adaptation.

ACTIVE IN 2 EUROPEAN COUNTRIES

Takeaway cups : CupUp System d.o.o

CupUp System d.o.o., was born in 2016 in Pazin, Croatia, providing reusable cups for hot and cold beverages. It now also operates in Slovenia.

Retail-bottles : Fritz Cola

In 2021, Fritz-Kola predominantly supplied its beverage across Germany, but due to the location of its bottling plants, the company was able to export into the Netherlands and Poland. Since then, it continued to develop across Europe, reaching more than a thousand bars and restaurants in Spain and are witnessing the growth of its products in France, United Kingdom, Italy, Austria, Netherlands, and Belgium.

ACTIVE ACROSS EUROPE

Takeaway Food : Vytal

Vytal has partnered with more than 6,500 restaurants across Europe, including in Germany, Austria, France, Netherlands, Belgium, United Kingdom, Switzerland, Denmark, Ireland, Norway, Sweden, Portugal, Luxembourg, Hungary, Poland – and outside Europe, including Mexico and Dominican Republic.

Zoom on Vytal's expansion strategy: Vytal's expansion strategy proves the scalability potential of reusable packaging in the takeaway sector across Europe. In major markets like France and the UK, Vytal has established fully owned subsidiaries, while smaller neighbouring markets such as the Netherlands and Belgium are served directly from its German headquarters. For other European countries, it collaborates with franchisees, often local entrepreneurs in the reuse sector. This approach allows Vytal to quickly scale its standard and technology across borders, offering a seamless user experience worldwide. Local franchisees gain access to Vytal's tech platform and app features, while benefiting from international partnerships, brand recognition, and shared experiences among fellow franchisees.
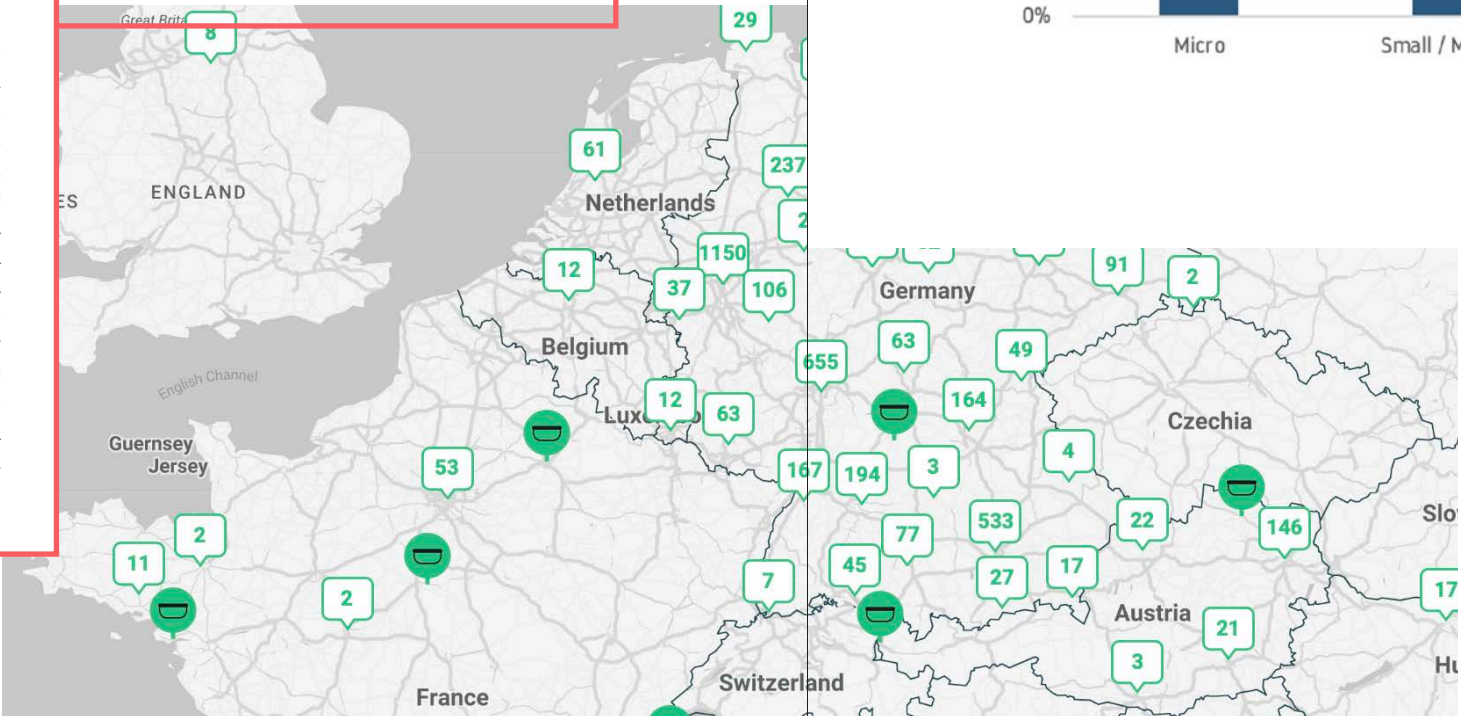
C. COMPANY SIZE, CREATION YEAR, TURNOVER

As shown in Figure 11, more than half (56%) of the respondents are micro companies with less than 10 employees, 40% are small to medium size companies, counting between 10 and 250 employees. Only 4% of large companies (> 250 employees) have filled in the survey.
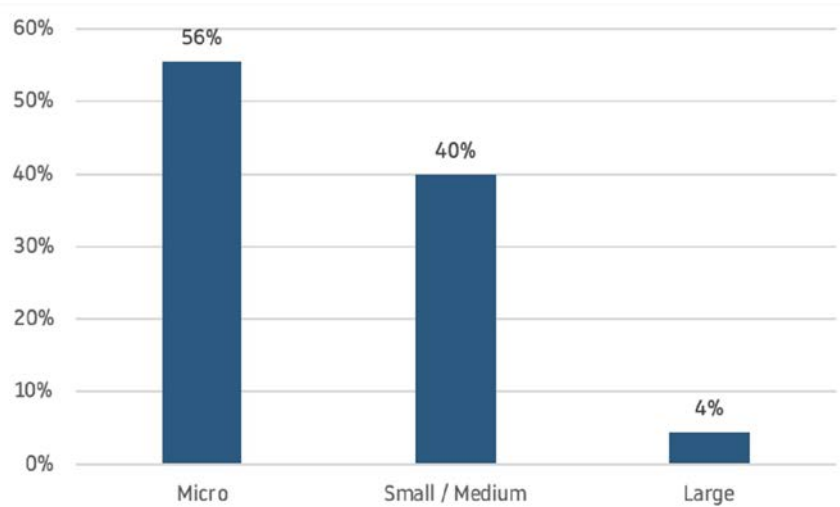
Figure 11 - Size of solutions surveyed

The majority of the survey respondents have seen light in the recent years. Indeed, 78% of respondents have been created since 2019 (Figure 12) and 38% are still in the launching phase of their reuse activity, sharing a turnover of less that 25,000€ (Figure 13).
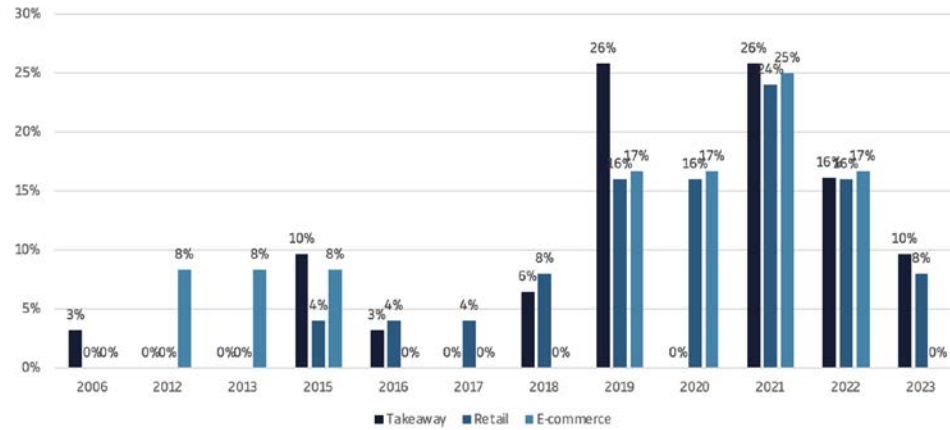
Figure 12 - Distribution of solutions based on the creation year and sector

Moreover, it is interesting to note that the oldest solution included in the barometer is on the market since 2006. Reusable packaging solutions in the e-commerce and takeaway sectors are more recent.
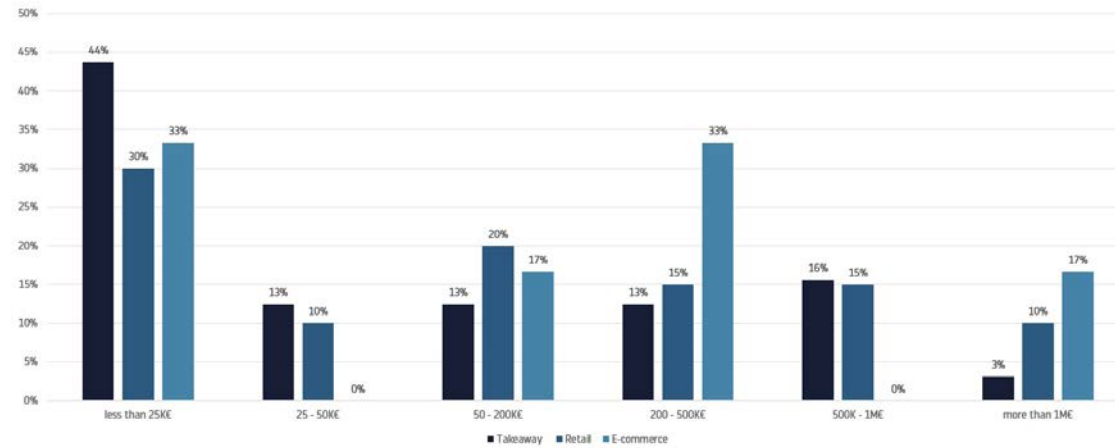
Figure 13 - Distribution of solutions based on 2022 turnover and sector

CLUBZERØ, UK

At the time of the survey, the company employed 6 people. CLUBZERØ ambitions to nearly double its workforce by 2025.

MICRO COMPANY

SooFût, France

At the time of the survey the company employed 19 people. By 2025, SooFût is hoping to expand to 25 people.

SMALL TO MEDIUM COMPANY

Le Fourgon, France

At the time of the survey, the company employed 150 employees. The Fourgon's growth is rapid, as the company is planning to recruit 100 more employees by 2025. Today, the company employs 300 people.

NB: The higher workforce at Le Fourgon can be attributed to its 'return from home' model requiring additional delivery personnel. As mentioned on its website, delivery drivers are the strength of the company, therefore Le Fourgon ensures that all of them are on permanent contracts.

LARGE COMPANY

KEY FINDINGS

01

REUSE OPERATIONS EFFICIENCY PER SECTOR

This section aims to provide insights into sector-specific operations and metrics. Each sector covers:

A. Packaging type and material
B. Return models
C. Collection systems
D. Environmental impact

A. TAKEAWAY SECTOR

44 reusable packaging ventures have been surveyed in the takeaway sector.

1. Packaging type and material

Most solutions in the takeaway sector deal specifically with food containers, accounting for 68% of the sector as shown in Figure 14. Nearly 23% of solutions deal exclusively with cups, the remaining 9% deal with reusable food containers and cups.
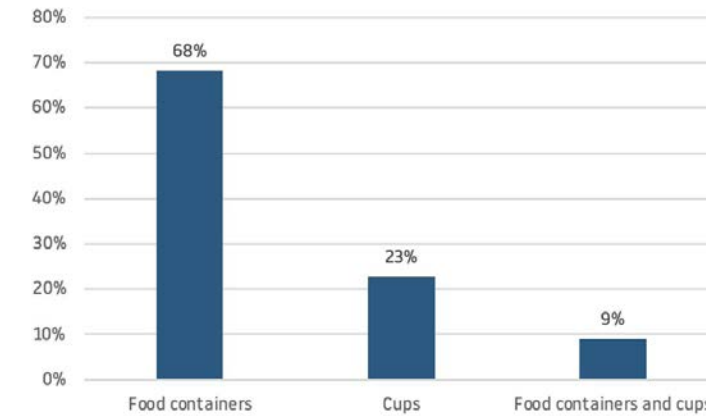
Figure 14. Solutions distribution based on the type of packaging in the takeaway sector

Ecoceno's reusable food containers

Ecoceno's reusable cups

As demonstrated in Figure 15, plastic is the most used option for both food containers and cups. Glass is the second most prominent choice, mainly for food containers.

Figure 15 - Material overview in the takeaway sector
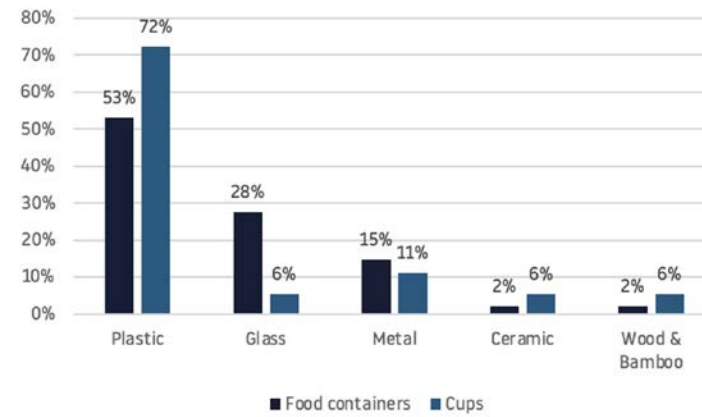
PLASTIC

Les Boîtes Nomades' reusable pizza box

Kamupak's reusable food containers and cups

New Loop's reusable cup

La Consigne Havraise's reusable food container

GLASS

Les Boîtes Nomades' reusable food container
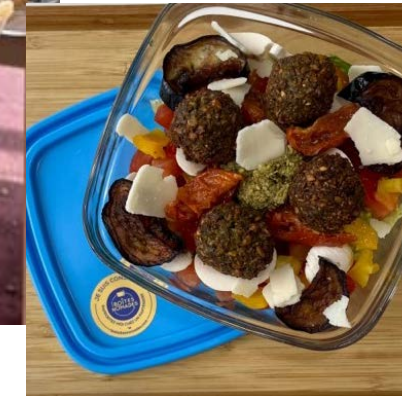
2. Return models

The dominant return model in the takeaway packaging is the 'return on the go' model, both for food containers and cups. The solutions operating with a 'return from home' model in the takeaway sector are caterers that collect packaging on the same day.

Figure 16 - Return models in the takeaway sector
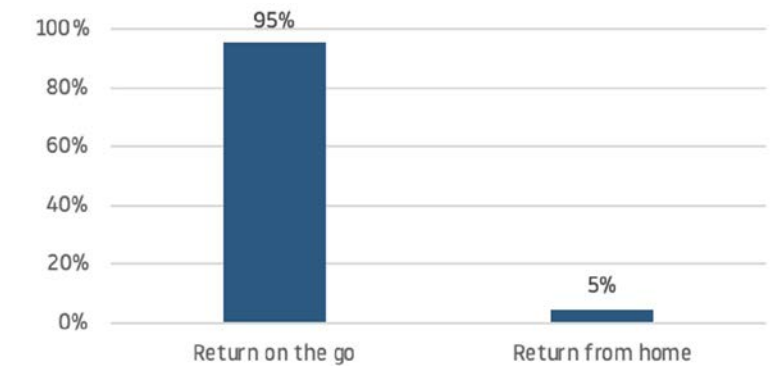
RETURN ON THE GO
Kleen Hub (Cups)

Users pay for their drink in a reusable cup which is owned by the cafes. Once done, users first scan the reusable cup's QR code or RFID and then tap their payment method (physical credit/debit card or virtual card such as Apple Pay or G-Pay) on Kleen Hub's Tap & Reuse device to link the cup to the payment method. The system does not take a deposit and just charges them if the cup is not returned within a specified timeframe. By scanning a QR code located on the cup, users can view the return locations and how much time is left to return the cup.
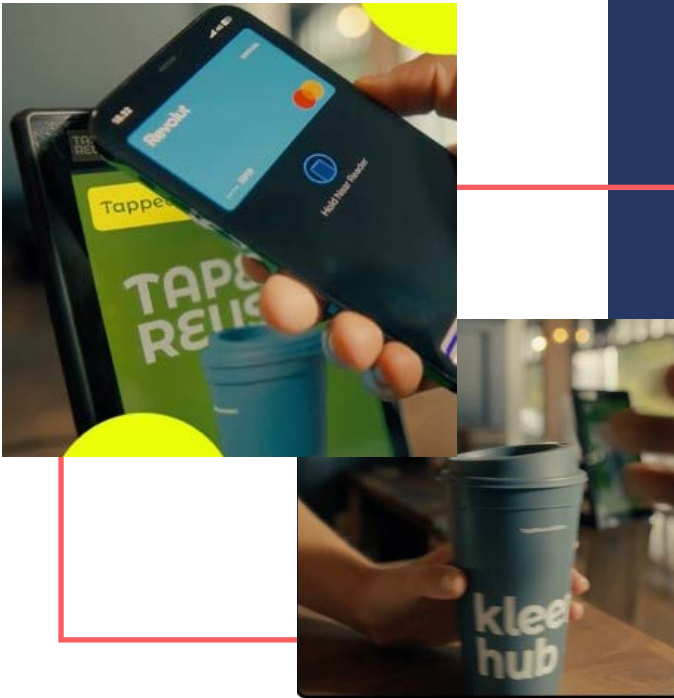
RETURN FROM HOME
Fenotte (Food)

Fenotte is an engaged cooperative caterer, providing its prepared food in reusable glass packaging. Once used, the packaging is collected after the event on the same day as the venue.

3. Collection system

70% of solutions offer consumers the option to return their reusable packaging manually at the counter in partnering restaurants of the solutions' network. This collecting model is dominant, both for food containers and cups. The second and third most prevalent systems for collecting reusable containers from consumers are non-automated collection bins and automated Reverse Vending Machines (RVMs).

Outside countries that have an extensive RVM network (e.g. Germany, Belgium, the Netherlands), the current limited availability of RVMs across European countries is likely to contribute to the continued reliance on manual collection methods in many European countries.
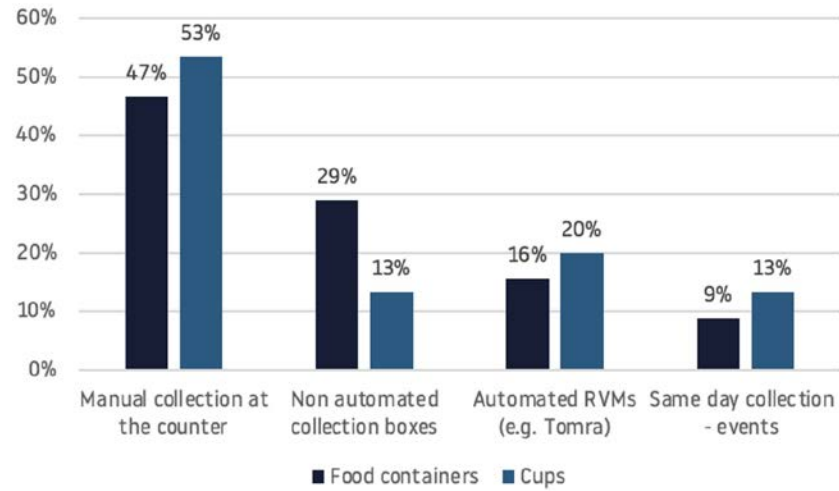
Figure 17 - Collection systems in the takeaway sector per container type

Note on Figure 17: 41% of solutions offer various collection systems. For example, some solutions like Vytal offer its consumers three different collection methods.

Deep Dive into Vytal's collection systems

Vytal's system is particularly intriguing due to its diverse array of collection systems – ranging from manual collection through personnel at partnering restaurants, non-automated collection bins, collection points at partnering restaurants equipped with mini scanners for self-return (semi-automated) and finally fully automated return stations. When asked about its muti-optional collection systems, they explained that "the very high return rate of Vytal containers [99%] is not influenced by different return options.' [Vytal] learned that [its] B2B customers appreciate [the solution's] flexibility to really customise the return process to their needs. [Vytal's] B2B customers' choice for a certain return hardware and way of handling container returns is therefore mostly driven by the local context and customer preferences".

This insight highlights the importance of leaving the decision of the collection system to the partnering establishment by offering the reusable packaging, given their direct interaction with consumers.

Collection bin for food containers

Automated return station

Manually returned containers at a partnering restaurant's counter

NON AUTOMATED

AUTOMATED

MANUAL

NON AUTOMATED

CLUBZERØ's drop points. By using the term "drop point", the solution wants to make a clear distinction from single-use, while promoting a more hygiene-focused environment.

AUTOMATED

Einfach Mehrweg by Sykell, uses the vast network of German RVMs.

BUMERANG

Zoom on Bumerang's growing demand for RVMs

Bumerang, a Spanish company specialising in reusable food containers, has initiated the development of smart return machines that are compatible with RFID-tagged products. While these machines are currently in the prototype phase, the company is preparing for commercialisation.

This underscores the growing demand for more RVMs for food containers in countries like Spain that do not yet have an extensive RVM network.

Sykell

Zoom on Sykell's success factor:

Company overview

Sykell is at the forefront of driving the transition towards a circular economy in the packaging industry. Under its brand Einfach Mehrweg, it operates the largest network of reusable packaging for takeaway food sold in retail stores, petrol stations and restaurants, compatible with existing RVMs throughout Germany. Additionally, Sykell has developed CIRCULAR ERP, a comprehensive platform enabling companies in the circular packaging sector to manage its operations throughout the entire supply chain.

Return Collection Process for Consumers

Consumers can easily opt for Einfach Mehrweg packaging at supermarkets alongside traditional single-use options. The process is simple - no app installation or additional steps are required. Consumers pay a small deposit at checkout, similar to the process for reusable bottles. There is no time limit for returning the containers; consumers can conveniently drop them into any of the numerous RVMs located in supermarkets nationwide. Consumer interviews emphasised that customers are very comfortable with using RVMs for returning containers, as it fits into their normal habit of returning reusable bottles.

Crucial Role of RVMs in Scaling Reusable Packaging

The extensive network of RVMs in Germany plays a pivotal role in scaling the use of reusable packaging. Germans are familiar with using these machines to return bottles and reclaim their deposits. Adapting these machines to accept various packaging types is a natural progression. Moreover, studies indicate that consumers prefer returning potentially dirty containers to a machine rather than to a person, enhancing convenience and comfort.

Challenges in the Reusable Takeaway Sector

Challenges persist in achieving widespread adoption of reusable packaging. Availability and communication of the environmental benefits remain significant hurdles, with vendors often hesitating to effectively promote reusable options. The responsibility falls on vendors to introduce more costly reusable packaging, often lacking incentives to do so. Empowering vendors and offering a convenient return experience through RVMs are critical steps for enhancing customer acceptance.

Sykell's integration of RVMs into its reusable packaging ecosystem underscores its commitment to ensure convenience of its reusable packaging. By leveraging existing infrastructure and addressing consumer preferences, Sykell has successfully navigated some of the most commonly faced challenges in the reusable takeaway sector.

These case studies touch upon the increasing number of solutions across Europe working on developing a shared infrastructure (collection, reverse logistics, washing), given that this is one of the key elements needed to run a system at scale. The second edition of the barometer will further deep dive into such solutions, assessing their success factors and main encountered challenges.

4. Environmental impact

Only 3 (out of 44) solutions mentioned have run a dedicated LCA in the takeaway sector, including ReCircle and CLUBZERØ.

ReCircle conducted an LCA comparing its Swiss BOX to single-use takeaway containers. The reCIRCLE BOX must be used between 13-15 times depending on the type of washing to have less impact than the average disposable box. Overall, the reCIRCLE BOX stands out for its remarkable reusability, enduring up to 200 uses. With a notably low carbon footprint of just 19g CO_2eq, it significantly reduces emissions compared to single-use takeaway containers (82g CO_2eq).

CLUBZERØ also conducted an LCA comparing the environmental impacts of CupClub against alternative disposable single-use coffee cups and a returnable ceramic cup. Through its 1.3+ million orders, CupClub enabled to save:

- 2.6 million single-use plastic packaging items ending up in landfill,
- 39 tonnes of CO_2 entering the atmosphere
- 22kg of waste (18kg of paper + 4kg of plastic) being discarded
- 260m³ of water being used to manufacture new single-use packaging items

For more information, the LCA **is available online.** A new report will be available soon and published on the same link.

5. Case study

B. RETAIL SECTOR

30 reusable packaging solutions have been surveyed in the retail sector

1. Packaging type and material

Reusable bottle is the most common reusable packaging in the retail sector (43%), 17% of solutions work with cosmetic packaging, 13% on food containers and another 13% offer a combination of packaging for food products and beverages. The remaining solutions deal with packaging for household goods and with kegs.
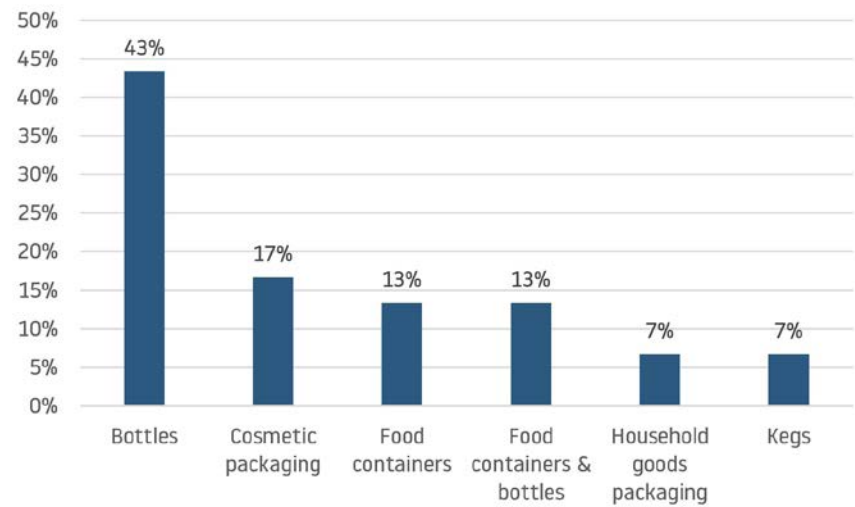
Figure 18 - Distribution of solutions based on packaging type in the retail sector

BEVERAGES: Bout' à Bout'

Bout' à Bout' supports producers and retailers in making the shift to reusable glass bottles

FOOD & BEVERAGES: La Tournée

La Tournée provides a wide variety of food and beverage products in reusable packaging.

FOOD PRODUCTS: circolution

circolution is a provider of reusable packaging solutions for food products in retail stores

COSMETICS: Ibbeo

Ibbeo sells cosmetic products in reusable packaging.
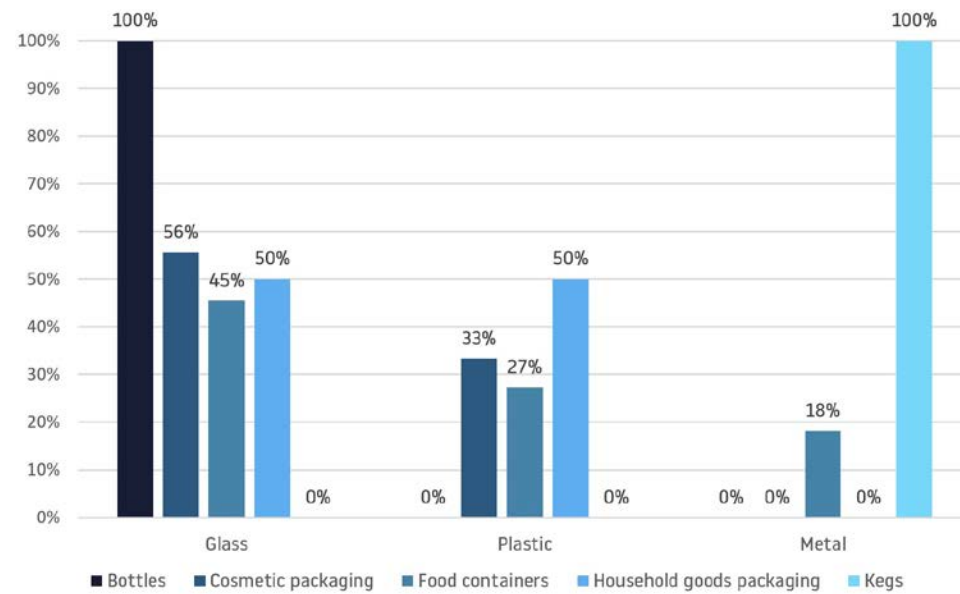
Figure 19 - Material overview in the retail sector

In the retail sector, glass emerges as the primary material choice for reusable packaging solutions as shown on Figure 19, with approximately 76% of solutions opting for this material. This prevalence of glass packaging is largely attributed to the widespread adoption of reusable glass bottles. Despite the advantages of glass, such as recyclability and reusability, its weight and fragility present challenges in transportation and handling.

For reusable food and cosmetic packaging, Figure 19 also shows a slight dominance of glass material, closely followed by plastic. Metal is used for kegs and for some food containers

2. Return Model

Across the respondents operating in the retail sector, 73% operate a 'return on the go' model and 20% operate a 'return from home' model – the food products having a slight dominance of 'return from home' models while the bottles and cosmetics products a slight dominance of 'return on the go' models.

Only two solutions offer both a 'return on the go' model and a 'return from home' model. Although they both operate at a national level, one of the solutions only offers its 'return from home' model in two major cities,

opting for automated lockers and in-store collection for the rest of the country. On the other hand, the other solution operates a 'return from home' nationally by externalising the transportation to partnering stores.
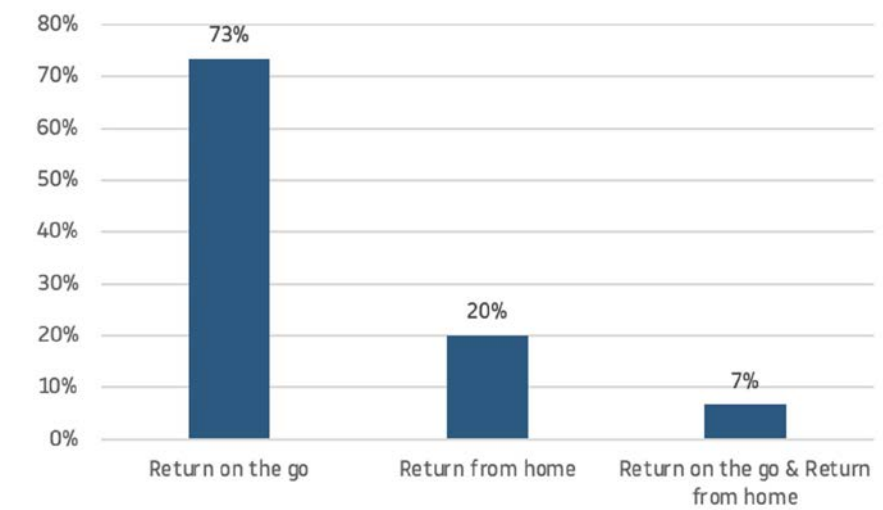
Figure 20 - Return model in the retail sector

Circolution (Food), Germany

circolution designs, develops, and manufactures reusable containers, which are then rented out to producers. These producers fill, label and sell their products to retail outlets as per their usual business. Consumers buy and consume these products and bring back the empty reusable containers to the store once empty, through dedicated automated RVMs. circolution then takes care of the reverse logistics by collecting the returned reusable containers from retail stores, inspecting, and washing them before putting them back in the loop.

RETURN ON THE GO

Ibbéo Cosmétiques (cosmetics), France

Ibbéo Cosmétiques set up the **COVECO reuse project**, to enable consumers to buy Ibbéo Cosmétiques products in reusable packaging in retail stores. Once done, users would bring the empty containers back to the partnering stores and Ibbéo Cosmétiques would manage the reverse logistics by picking up these empty containers from the stores, cleaning them in its internal facility and refilling them.

J'Aime Mes Bouteilles (bottles), France

J'aime Mes Bouteilles has partnered with multiple retailers to provide a variety of collection points for consumers to return their bottles. Consumers select their beverages in reusable bottles featuring the reuse logo. After enjoying their drinks, consumers rinse the containers and store them safely. When they are ready, consumers return the bottles to designated collection points, where they are reimbursed for the deposit fee.

Le Fourgon (Bottles), France

Le Fourgon delivers consumers to their homes free of charge, taking advantage of collecting their empty returnable bottles along the way. The users are immediately credited with the amount of the deposit on their Le Fourgon account.

Le Fourgon then distributes the bottles to its various washing partners, who in turn deliver them back to Le Fourgon's local producers to be filled and reused!
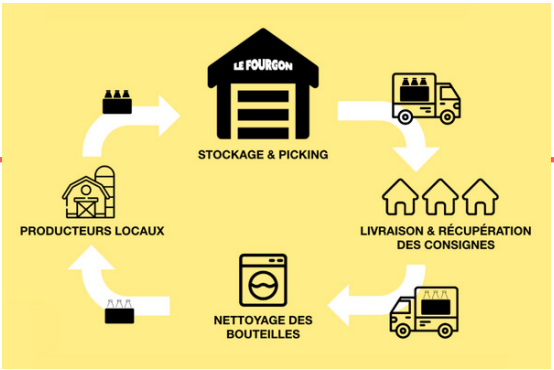
RETURN FROM HOME

3. Collection System

Respondents employing a 'return on the go' model resort to a variety of collection systems, the predominant method being the manual collection at the counter, followed by non-automated collection boxes and RVMs.
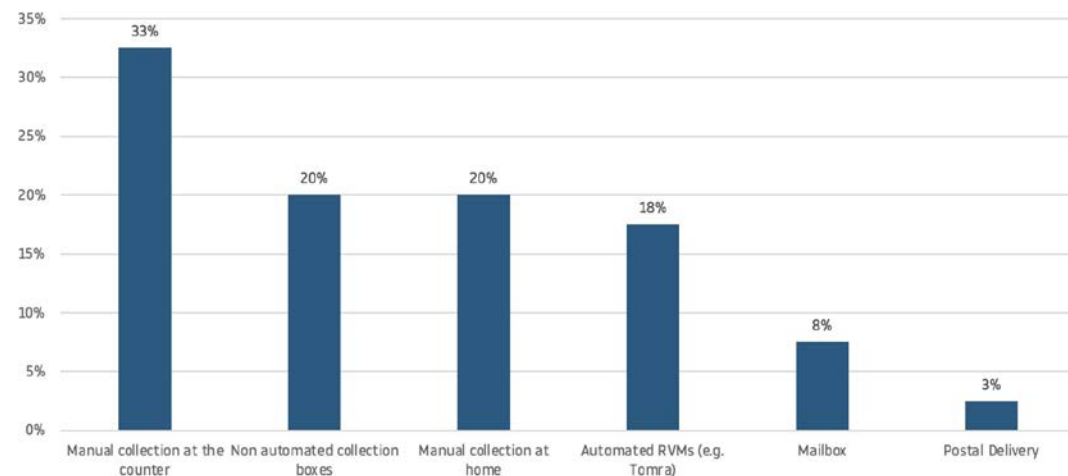
Figure 21 - Collection systems in the retail sector per packaging type

NON AUTOMATED

Societé Mahé's non-automated collection boxes in partnering retail stores

Bout' à Bout's non-automated collection boxes in partnering retail stores

MANUAL COLLECTION

Le Fourgon's manual pick up of reusable bottles at consumers' doorstep

AUTOMATED

circolution's automated RVM for food containers in German retail stores

Swiv's automated RVM for bottles present in partnering retail stores

This predominant reliance on manual and non-automated collection methods in the retail sector can be explained, like in the takeaway sector, by the current limited availability of RVMs in some European countries.

Zoom into Germany's widespread network of RVMs

Some solutions have made sure to design reusable packaging that could fit into the widespread network of RVMs in place.

Alessandro Marchiaro, co-founder at circolution, emphasised, "This is a reverse logistical standard that we can't ignore [...] in the long run, we believe it will be a winning approach, as this aligns more closely with existing shopping behaviours. This definitely helps adoption and creates less friction for the retailers as well. Shared infrastructure along with packaging standardization can lead to high return rates, while multi-stakeholder collaboration can accelerate the momentum to deliver the scale required." Moreover, circolution highlighted that while Germany benefits from a well-established RVM network and high consumer awareness, success isn't solely reliant on infrastructure. "RVMs are not enough to ensure a high level of adoption. [...] At the basis, there is convenience and affordability of the solution; that's how you compete with single-use." By prioritising convenience and affordability, reusable packaging solutions can effectively compete with single-use alternatives, driving sustainability in the retail sector.

Zoom: Views on automated collection systems' pros and cons

Swiv, a French solution in the retail sector providing RVMs for reusable bottles, also underscored the benefits of automated collection systems. According to the company, such systems ensure quality control through rigorous packaging checks for weight, shape, and barcode, thereby reducing the collection of unsuitable bottles. Moreover, these systems offer consumers greater autonomy during the return process, promoting convenience and consumer satisfaction, simplify collection and storage capacity thereby enhancing operational efficiency for logistics operators, and enable real-time data collection for monitoring machine activity. The company, however, does acknowledge potential drawbacks, including higher initial costs and space constraints within retail environments, particularly in smaller convenience stores.

Zoom: Using RVM activity data to optimise logistics

Swiv emphasised the importance of utilising data to refine operational processes and optimise logistics. For instance, monitoring RVM activity data can offer specific insights into return rate issues, without compromising sensitive consumer data as questions can be asked to consumers directly on the RVMs screens or through consumers' loyalty cards.

Finally, it is interesting to note that three solutions in the retail sector capitalize on mailboxes as the main collection system, with two-thirds of them being cosmetic brands.

Zoom: Shared insights from the cosmetic solutions

Tilk!, a cosmetic brand, shared that 'consumers often bear the expenses when returning packaging. This cost factor, along with various logistical challenges, can impact the scalability of reusable packaging initiatives in cosmetics across different countries.' However, despite these challenges, the brand chose not to forsake its commitment to sustainability.

To minimise these return delivery costs, another cosmetic solution only accepts returns with a maximum of five used reusable containers.

4. Environmental impact

No sufficient LCAs have been led by the solutions surveyed in the retail sector to share valuable results.

5. Case study : Dizzie's vision to scale reusable grocery packaging

In this **study**, Dizzie highlights the key drivers to establish a successful reuse model in the retail sector:

Scale

The sheer volume of single-use packaging makes competing on price challenging. Driving consumer demand for reuse and lowering barriers to adoption for retailers and brands is vital for creating scale economies. Dizzie believes that scale requires specialisation to fulfil - one business alone cannot have the scale/capital/expertise to do it all.

Specialisation

For reuse to work at scale, a viable commercial model needs to be established that allows specialists to perform specific roles in the cycle. According to Dizzie, specialisation creates a focus on driving down costs by maximising efficiencies - one business cannot have the scale/capital/expertise to do it all competing against established and highly efficient specialists in a £200 billion single-use dominated industry. The fragmentation of the reuse ecosystem means less margin for each individual entity involved, so is dependent on volume and supply chain optimisation. To encourage participation and drive volumes, the ecosystem needs to be as open as possible (while not undermining key economic and operational pillars such as standardisation) to allow businesses to operate profitably and in a frictionless manner.
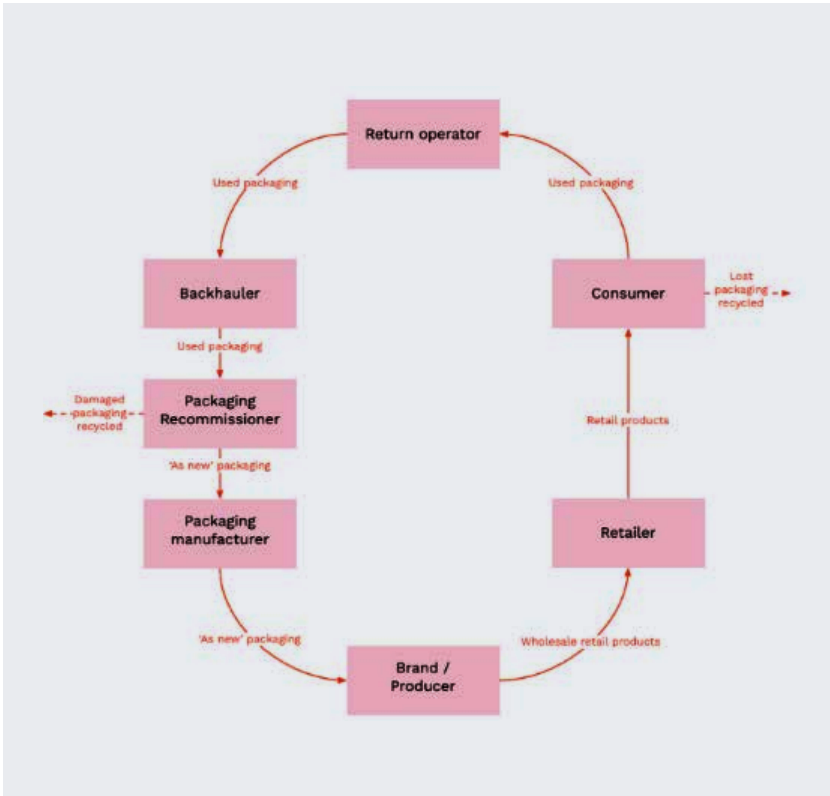
Achieving high return rates

Reusable packaging requires high return rates to be both commercially feasible and impactful. Dizzie found consumer convenience of return to be the main driver of high return rates. The solution believes that to achieve high return rates, it is crucial to:

- Incentivise less engaged customer cohorts (i.e. mainstream supermarket shoppers) with small deposit fees (evidenced by EU DRS schemes),

- Offer optionality around returns methods. Interestingly, Dizzie imagined a linear progression in collections through multiple channels, which will mean compound growth in terms of options for shoppers to return packaging. The long-term vision is for consumers to undertake no behaviour change and for reusable packaging to be discarded via existing waste channels (e.g. local council recycling collection from homes).
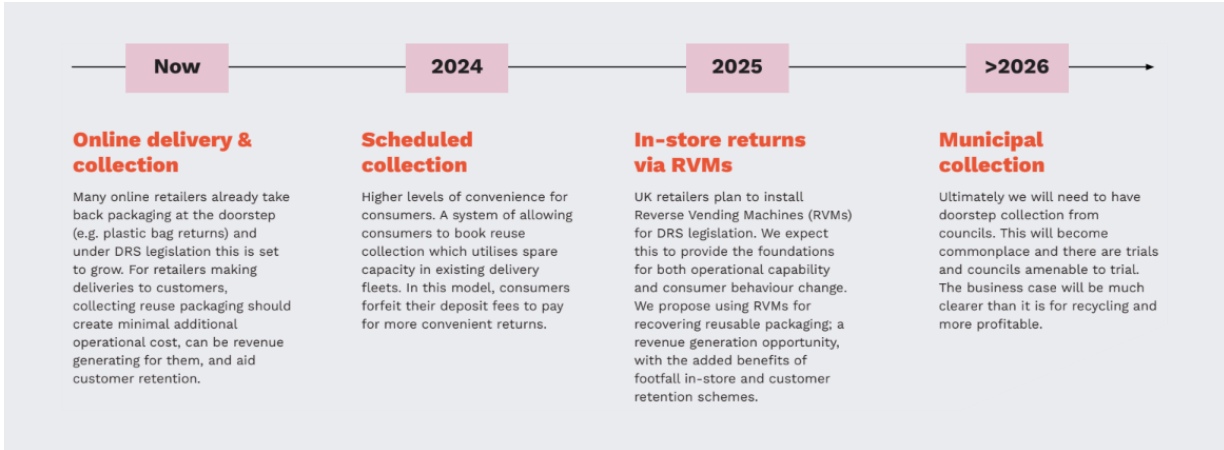
Aiming for packaging standardisation

Standardisation is key to reducing the costs throughout the reuse supply chain - reducing logistics, handling and manufacturing costs. Efficiently stackable packaging saves 2.5 times space in logistics and storage - vital for bringing down costs in transport and storage, and CO_2 impact. Having as few packaging formats as possible reduces complexity in sorting, logistics, and cleaning.

C. E-COMMERCE

12 reusable packaging solutions have been surveyed in the e-commerce sector.

1. Packaging Material
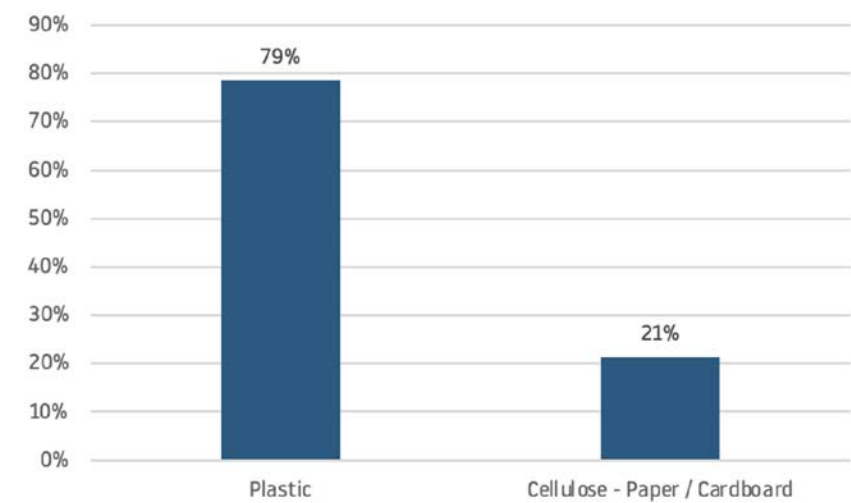
Figure 22 - Material overview in the e-commerce sector

Figure 22 shows that most solutions use reusable packaging made of plastic (79%). Boox for instance uses polypropylene, which is waterproof, greaseproof, and tearproof, making it an optimal material for reuse in the e-commerce sector.

It's worth noting that some solutions (21%) in the scope have set up a reusable cardboard models, despite cardboard being commonly used in single-use applications. Even the PPWR has excluded reuse targets for cardboard boxes as transport packaging. This prompts inquiry into its suitability for reusable packaging solutions.

RE-ZIP shared insights on the cleaning process of its cardboard packaging involving a quality assessment and heat treatment for label removal, suggesting that cardboard can be effectively reused. According to the solution, through this packaging evaluation and cleaning process, RE-ZIP's cardboard packaging can typically be reused approximately 7 times.

Re-Zip

CARDBOARD

RePack

PLASTIC

Boox

2. Return models

In the e-commerce sector, more than 90% of the respondents operate a 'return on the go' model. The only solution that operates a 'return from home' model does so to keep the ownership of the reusable packaging.
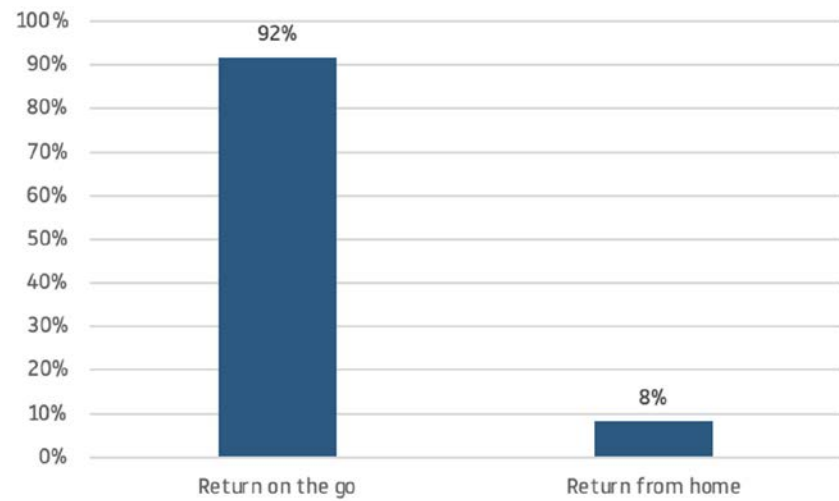
Figure 23 - Return models in the e-commerce sector

RETURN FROM HOME

R-Create

R-Create is the only solution that operates a 'return from home' model from the survey respondents. R-Create is the first B2B digital platform offering packaging-as-a-service to online stores.

1. Online retailers add the 'Eco-delivery option on their website,referring to a shipment in returnable packaging.

2. When it is chosen by customers, the online retailers pack the product in a R-Create packaging and ship it as usual.

3. At delivery, customers take the product from the R-Create bag or box and leave the reusable packaging at the courier. This way, the reusable packaging directly return to the retailer's logistic centre and it can be reused over again.

Hipli

Hipli's users make their orders online choosing Hipli's delivery system. They receive the ordered product in one of Hipli's reusable packaging. Once the product is unpacked, users fold the packaging and send it back using the closest mailbox. Hipli receives the packaging, cleans it, repairs it if needed and reuses it for other deliveries.
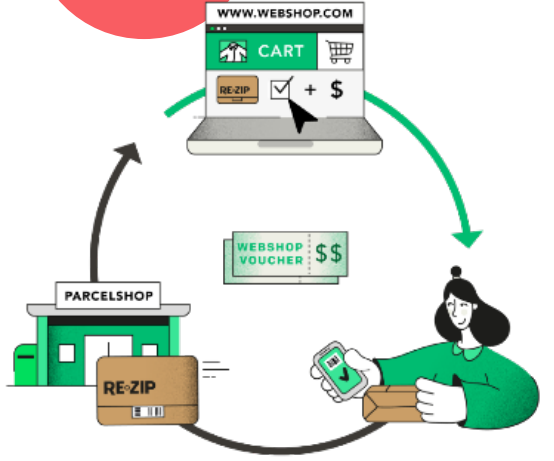
RePack

RePack packaging is innovatively designed to flatten to letter size when empty, streamlining the return process for reuse. Customers worldwide can return empty RePack packages by simply dropping them into any mailbox, at no additional cost. Upon return, each RePack undergoes thorough inspection, cleaning, and preparation for another cycle with any of its online retail partners.

RETURN ON THE GO

Re-Zip

Online customers choose circular packaging at checkout. After delivery, the packaging is collapsed to a convenient return format, and the nearest Drop Point is easily located using the RE-ZIP app.

As soon as the customer scans the RE-ZIP at a Drop Point, a reward will be issued.

The RE-ZIP infrastructure ensures any returned packaging will be guided via existing movements to a cleaning hub, where it will be prepared for the next shipment, so it can be used again.

3. Collection System

Half of the solutions in the e-commerce sector use national mailboxes: consumers can post back the empty reusable packaging. 36% of solutions have consumers bring back the packaging to dedicated drop-off points (which are not part of national mailbox networks). A minority of these drop-off points consist of RVMs. Finally, 9% of the solutions pick up the packaging from consumers directly during postal delivery (refer to R-Create's return model description).
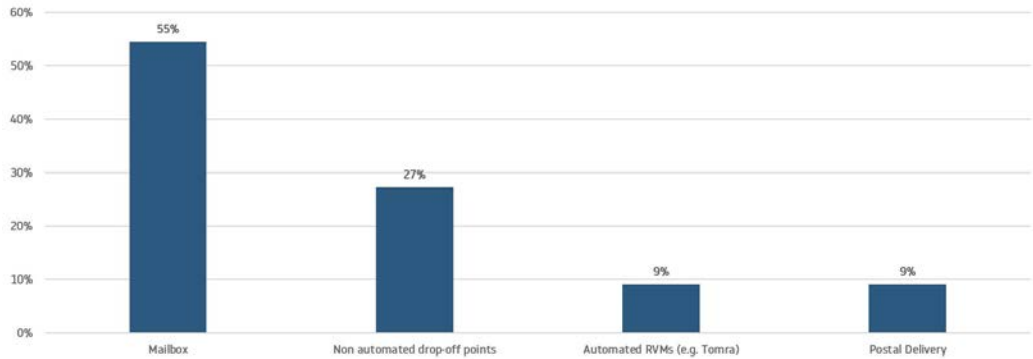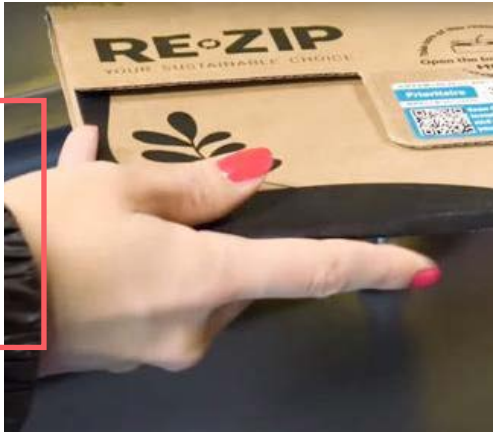
Figure 24 - Collection systems in the e-commerce sector
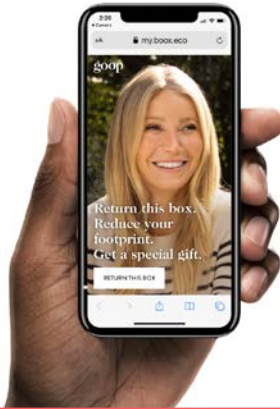
Hipli

Re-Zip

POST BOX

Boox

In the UK specifically, Boox uses InPost Lockers for consumers to return their packaging.

This is an example of consumers' digital experience when they scan the QR code on a Boox box. They can follow the instructions based on their location to find the closest return option.

AUTOMATED

Zoom on Ravioli's views: Simplicity in reusable packaging system to increase adoption and return rates

According to Ravioli, a solution offering reusable packaging in the e-commerce sector, there is a need to lower entry barriers by making reusable packaging as simple as status quo, meaning no registration or app download for example.

Simplicity also means a dense network of return locations. Ravioli emphasises that its model relies on the pre-existing network of 35,000 DHL locations in Germany, which facilitates its operational presence. However, it acknowledges the necessity of further infrastructure development to ensure convenience for end-users when expanding into new markets.

4. Environmental Impact

Half of the solutions mentioned having run a dedicated LCA in the e-commerce sector, including Hipli, Movopack and RE-ZIP.

Hipli led a dedicated LCA in August 2021, highlighting that a Hipli reusable packaging has less impact than its single-use cardboard and plastic pouches counterparts. Using a Hipli reusable packaging can reduce the carbon footprint by up to 80% compared to its single-use cardboard (100% recycled) equivalent and up to 30% compared to its single-use plastic pouch equivalent. The reverse logistics of the packaging only generate 20g of CO_2, which is 11 times lower than the emissions related to the production of a new single-use cardboard. The LCA is available online, and is currently being updated.

Movopack has run a LCA comparing its reusable packaging solution to a single-use cardboard packaging, made with 70% recycled raw material and recycled at 87% as end-of-life. The results are impressive, with a 75% reduction of CO_2 emissions, a 72% saving of energy and 75% saving of water. Improvements are already significant after the third use, with a CO_2 reduction of 53%, energy saving of 51% and water saving of 58%. Managing around 50.000 packaging units led to a decreased waste production by 12.000 kg, CO_2 emissions by 1.000kg and saved 50.000 litres of water. Other crucial benefits highlighted by the solution are the impacts of reusable packaging on the conversion rate and the average order value. According to feedback received from its partner brands, implementing Movopack's reusable packaging solution as a checkout option on their website resulted in a 10% increase in conversion rate and an 11% increase in average order value.

RE-ZIP led an internal LCA based on official figures from the Danish Environmental Protection Agency (EPA). Considering the assumption that RE-ZIP packaging is reused on average four times, there was a total CO2e reduction of 2,73 tonnes over the three-year period, highlighting the positive impact of the solution's reuse model. In addition to CO2e reductions, the solution also made significant strides in reducing cardboard and plastic waste. There was a total amount of cardboard waste reduction of 2,73 tonnes over the three-year period. These calculations are based on an average of 212g of cardboard per package. The total amount of plastic waste reduction over the three-year period is 0.22 tonnes. These calculations are based on an average of 16g plastic involved per package. The full report is accessible **online**.

CROSS-SECTOR FINANCIAL INCENTIVES, RETURN RATES AND RETENTION TIME

This section aims to provide insights into the solutions' financial incentives, return rates and retention time.

1. FINANCIAL INCENTIVE
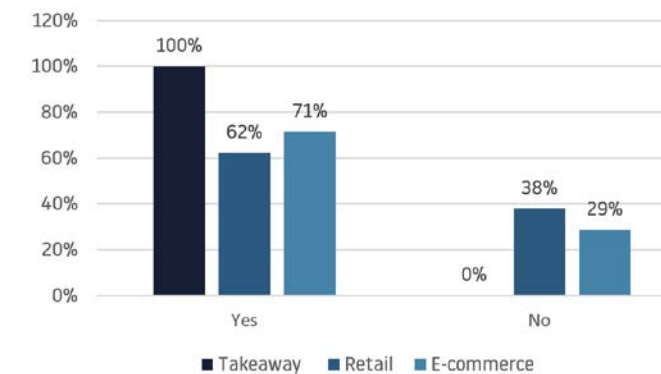
Figure 25 - Share of solutions that have set up a financial incentive per sector

Figure 25 highlights that all solutions in the takeaway sector have set up financial incentives. It also demonstrates that in the retail sector, 38% of solutions do not have financial incentives, aiming to streamline the consumer experience and ensure affordability of reusable packaging. Although these solutions may not have financial incentives, they often encourage returns through other means, such as rewards or gratifying eco-conscious behaviour. For instance, they may offer points that can be accumulated to redeem gifts. As these solutions mature, they increasingly transition to implementing deposit schemes. This shift often correlates with increased consumer engagement.

In the e-commerce sector, 71% of solutions include a financial incentive on the packaging. Solutions that have not set up financial incentives (29%) often use cheap reusable packaging that gets paid by consumers upfront when they order their product (consumers pay around 0.99€ to get delivered in the reusable packaging). That way, whether or not the consumer sends back the packaging, the model still makes economic sense for the solution. Though, if the packaging is only used once, solutions should still ensure that such a packaging makes environmental sense compared to the single-use packaging it replaces.

Figure 26 - Type of financial incentive set up by solutions per sector
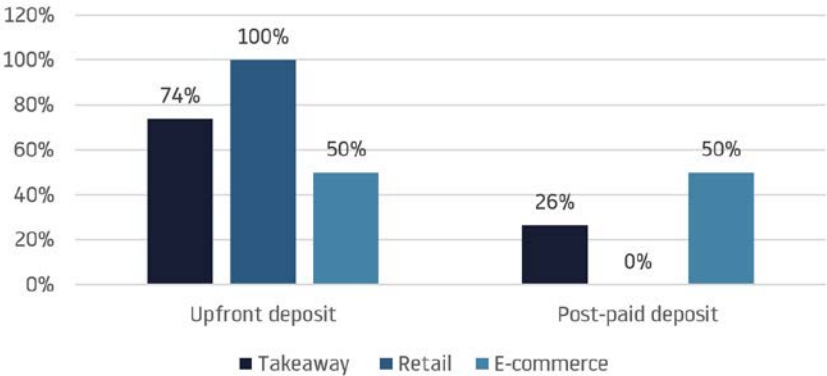
81% of solutions use upfront deposits. Figure 26 emphasises that upfront deposits are more widely set up by solutions as they are the easiest to deploy, despite the price of the product purchased being increased to incorporate the deposit's cost. To avoid consumer push-back and increase their engagement in reusable packaging solutions, several solutions in the takeaway sector have shifted from an upfront deposit to a post-paid deposit. The post-paid deposit has the advantage of being invisible for consumers: they do not have to pay any additional amount to be served or delivered in a reusable packaging, but they get the deposit debited from their bank account if they do not bring it back in the required timeframe (differs per solution, is on average 15 days). A post-paid deposit system could require solutions to have a strong data-management tool to be able to track the reusable packaging's timespan in the consumer's hands. Though, the tools that have been developed by solutions like Recirculate Systems Limited (see the dedicated case study) tend to ease the set-up of post-paid deposits.

MyCoffeeCup, Austria

Users order the to-go drink in a reusable myCoffeeCup and pay a deposit of €1 for the cup. After finishing the drink, users can drop the dirty cup at any myCoffeeCup partner in Austria or in a RVM and will get back the 1€ deposit.

UP-FRONT DEPOSIT

BOTH UP FRONT AND POST-PAID DEPOSIT

Pactozerø, Spain

Pactozerø offers a pool of reusable containers, a digital platform, and preparation-for-reuse services to make packaging truly circular. It operates under two reuse models, depending on the project needs:

1. Initial registration and ready-to-use model: in this case a small deposit is required at the initial registration, the user is identified by a code through a mobile app, and up to 10 containers can be used at once. There are no further costs or deposits for the user as long as the containers are returned.

2. Deposit and return model: in this case, containers are given at the counter in exchange of a deposit. The deposit can be recovered by returning containers at the kiosk or return Machine, through a patented drop, tap and go Technology in partnership with Cuploop.

In both cases, the solution indicates having return rates of 99%.

WeCarry, a solution providing reusable packaging in the retail sector shares that 70% of consumers are willing to pay more for such packaging because they understand the related positive environmental impacts, despite the higher upfront costs. This underlines that a niche of consumers has already embarked on the reuse journey, conscious of the need to reduce packaging waste.

Kleen Hub

Kleen Hub, a solution providing a post-paid deposit for its reusable cups, explained why this decision was preferable to an upfront deposit. It indicated that the decision-making process regarding upfront deposit systems is too complex as it involves several key considerations:

- Firstly, the standard of the packaging used must be carefully assessed to ensure that the deposit amount is perceived as reasonable by consumers. While lower deposits may suffice for cheap packaging, higher deposits can act as a barrier, particularly for families requiring multiple items.

- Additionally, upfront deposit systems often encounter challenges related to low return rates, as there is limited urgency for consumers to return items promptly. Initiatives aimed at increasing returns, such as promotional campaigns, may not always yield desired results.

Moreover, the logistical and accessibility challenges associated with managing upfront deposits, including app use and VAT considerations, present significant barriers, particularly for older demographics and in regions with differing currency systems, contributing to the complexity of implementing such systems.

POST-PAID DEPOSIT

Zoom on Recirculate Systems Limited's app-less deposit scheme

Recirculate Systems Limited highlighted its innovative approach to facilitating deposit schemes without the need for a dedicated app, which is often considered intrusive for consumers. It has developed a code that can attach a deposit to any object and automatically refund it upon return, regardless of where it was purchased, or which payment platform was used. This app-less system aims to streamline return processes, particularly in Europe where existing app-based systems have proven inefficient and costly. By eliminating the need for app downloads and minimising personal data requirements, Recirculate Systems Limited's solution aims to cater to a broader market. It explained that its software ensures a seamless and cost-effective transition to reuse, offering a friction-free experience comparable to single-use options. Recirculate Systems Limited is currently implementing its own DRS in Sheffield under the brand name Delete, with successful trials already conducted in cafes in Essex in the United Kingdom.

Figure 26 also demonstrates that solutions with a reuse incentive in the retail sector operate with an upfront deposit system. circolution, shared that the post-paid deposit model offers several benefits, though, it doubts its feasibility in a retail environment: completely changing the checkout process at the cashier for retailers to accommodate this model would prove extremely challenging, if not impossible. Consumers are accustomed to a smooth checkout experience: go to the cashier, scan the product, and pay. Introducing an app requirement for purchasing reusable products would add unnecessary complexity. circolution believes that consumers should have the option to buy reusable products without the need to download an app, ensuring a seamless shopping experience. Additionally, updating existing reverse machines to accommodate digital returns would be necessary, as RVMs currently operate without requiring any app scanning. Despite its potential, successful implementation would depend on the dedication of both consumers and retailers alike.

Deep Dive in the retail sector: Dizzie's deposit systems with retailers

Dizzie operates with different systems depending on the type of retailers (online or offline), to test consumer behaviour and fit with different retailer preferences.

- With physical retailers, consumers currently pay an upfront deposit fee of £0.50 as part of the retail price, which is refunded to them when they return the packaging. The deposit fee is intended to incentivize responsible behaviour among consumers while safeguarding packaging manufacturers from losses.

- With online retailers, a loss rate is factored into the cost of the product and a reconciliation is arranged once a quarter.
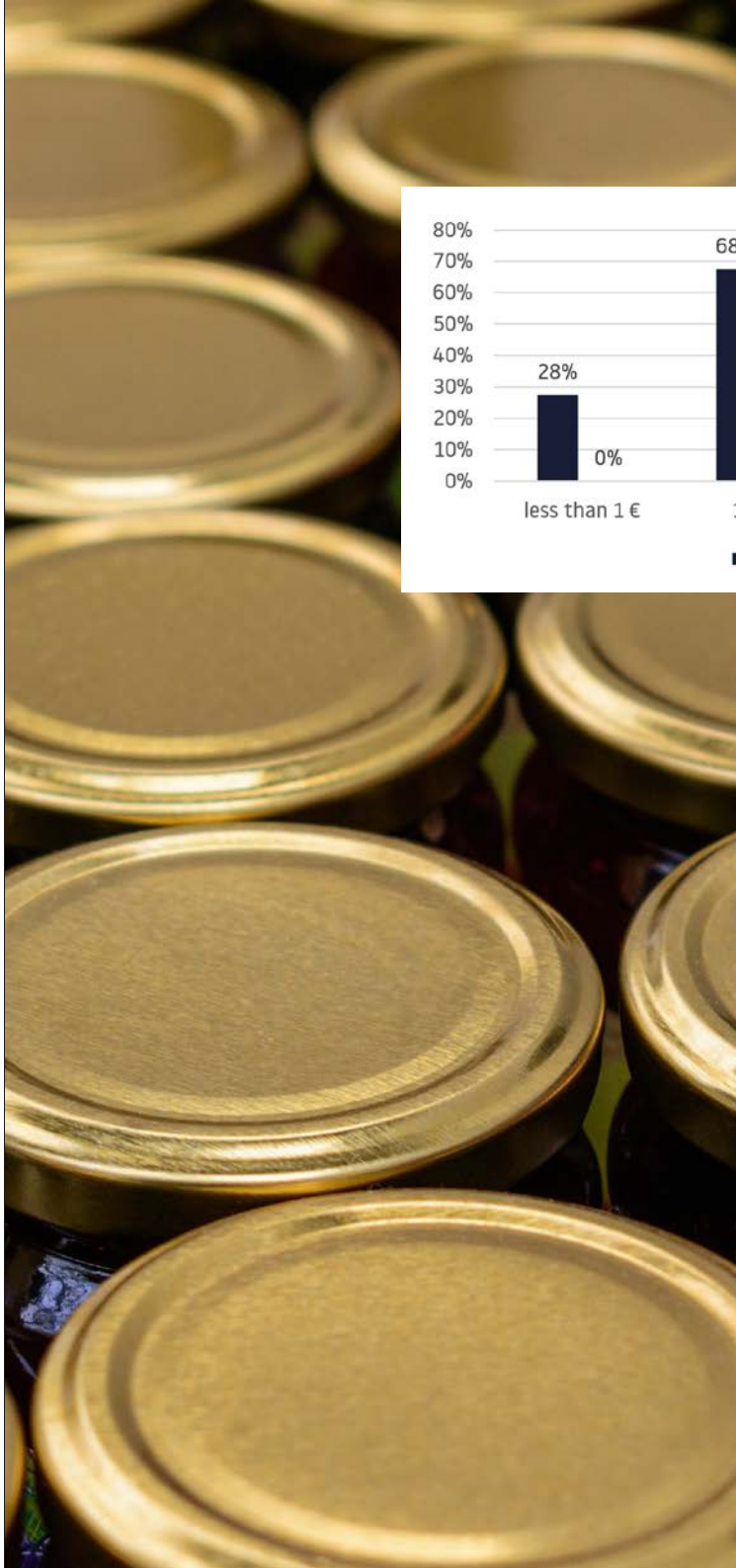
Figure 27 - Amount of the deposit fee based on the type of financial incentive

As demonstrated in Figure 27, solutions that use an upfront deposit tend to have low deposit amounts (mostly up to 5€) while post-paid deposits models usually set up deposit amounts that are higher (from 1€ to 10€), sometimes setting up even higher deposit amounts (from 11€ to 20€). Therefore, in addition to having consumers not having to pay an additional cost when they purchase a product, another advantage of the post-paid deposit scheme is that it allows solutions to charge consumers with a higher deposit amount than they would be able to set with an upfront deposit. This enables solutions to cover the actual cost of packaging if consumers were to keep it. This can also allow solutions to use high-quality reusable packaging as they do not need to restrict themselves to a maximum cost of 5€ per packaging.
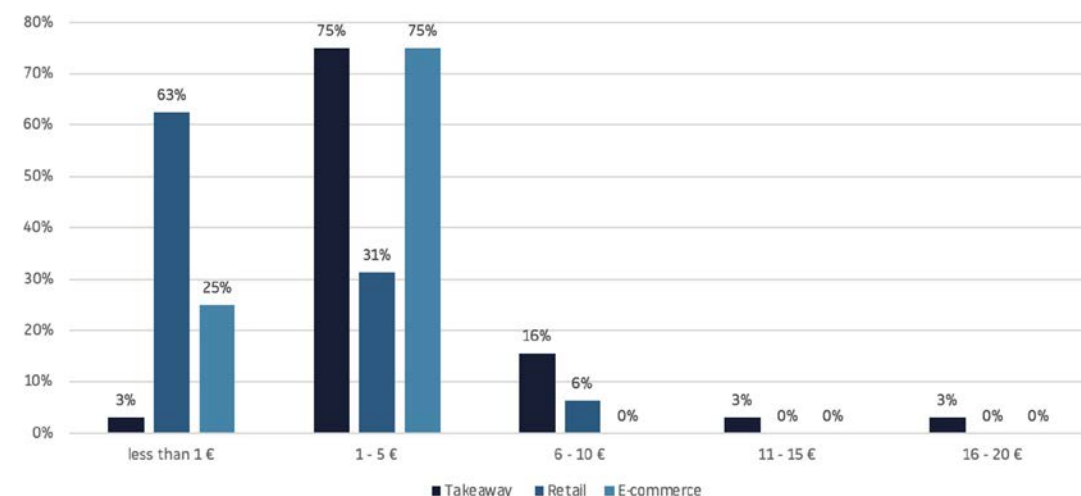
Figure 28 - Amount of the deposit fee per sector

62% of solutions have set up a deposit ranging between 1-5€. Figure 28 indicates that this number rise to 75% for takeaway and e-commerce solutions. This is an effective amount to encourage consumers participation in the reuse cycle, as both sectors demonstrates the highest return rates of the sample (refer to next section). The graph also demonstrates that around two thirds of retail solutions (63%) have set low deposit amounts of less than 1€.

Zoom on L'Empoteuse's view: Driving consumer engagement through communication and education

According to L'Empoteuse, bolstering reusable packaging is not just about setting financial incentive, addressing concerns and providing support to businesses in the takeaway sector. The solution explains it is equally important to enhance consumer awareness about the benefits of reusable packaging, to help alleviate scepticism and facilitate smooth transitions to reuse.

Deep Dive: Legislation as a complementary strong incentive to deposit systems, to raise stakeholder awareness and foster consumer adoption

Deposits are crucial incentives to foster consumer engagement in reusable packaging solutions. Though, legislation can also be a strong incentive to accelerate behaviour change. One solution that has already established a profitable and efficient business in the B2B sector, is struggling to develop a successful reusable packaging solution for B2C. A spokesperson mentioned that "scaling is difficult as not many customers are eager to take the risk and switch to reusable packaging". Large retail companies also express scepticism about consumer behaviour's readiness to embrace change, rendering the transition challenging – a risk many are unwilling to undertake.

Furthermore, Bumerang, a provider of reusable food containers, shifted focus from restaurants to catering and travel sectors due to insufficient legislation pushing consumers to use reusable packaging in the takeaway sector.

Some reusable packaging solutions of the survey argued that less engaged corporates and consumers should be compelled to use reusable packaging through strict laws, such as banning single-use plastic packaging or making consumers pay based on the waste they generate. Without supportive legislation, they also suggested national communication campaigns as an alternative to educate consumers and businesses on the benefits of using reusable packaging.
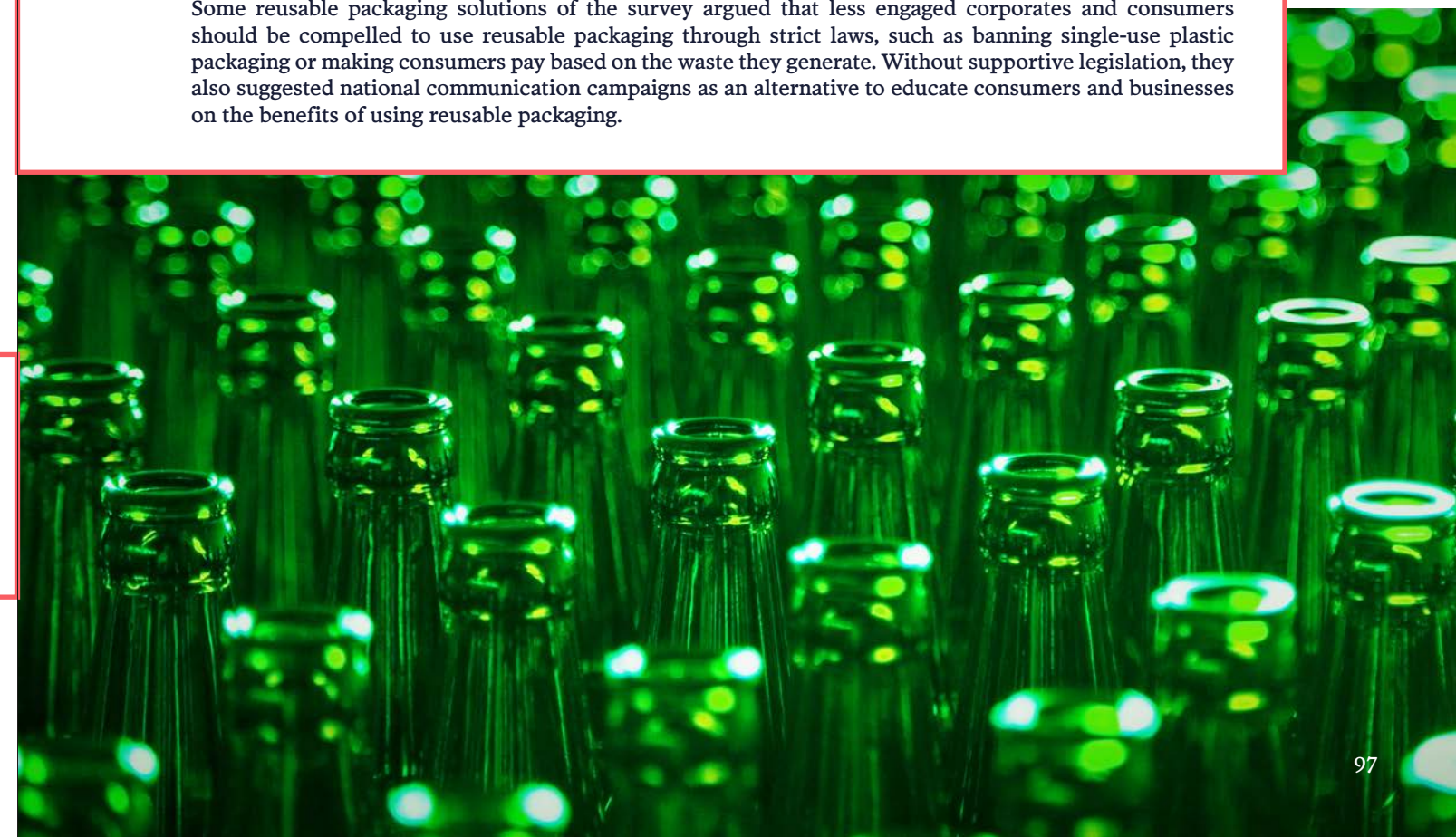
2. RETURN RATE
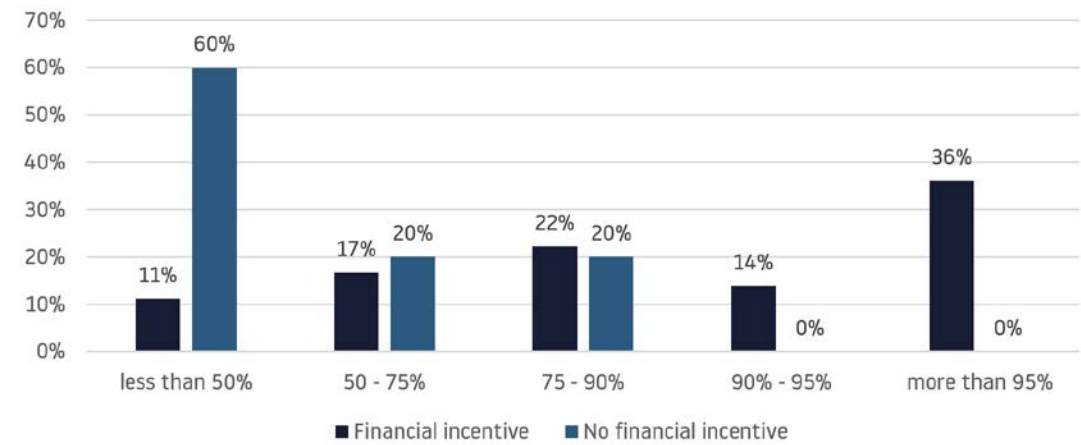
Figure 29 - Return rate based on the existence of a financial incentive

Figure 29 demonstrates that return rates are correlated to the existence of a financial incentive: the solutions that have the highest return rates are the ones that have set-up a financial incentive. However, it is important to note that high return rates aren't solely driven by financial incentives, as evidenced by some respondents reporting substantial return rates even in the absence of financial incentives. This concerns small very local solutions that have a very engaged consumer base. This suggests that consumer engagement in reusable models is multifaceted, influenced by factors beyond monetary motivations, including convenience and environmental consciousness.
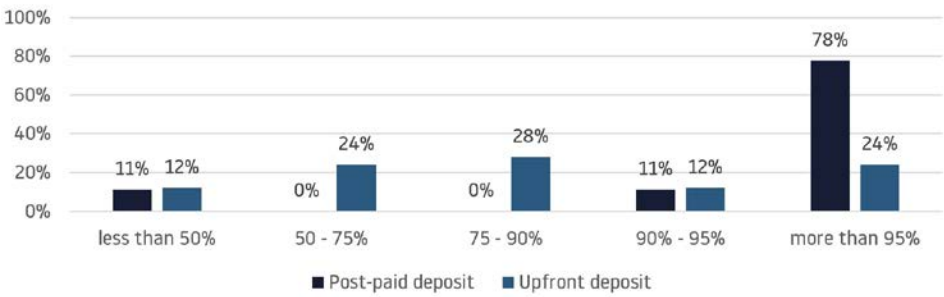
Figure 30 - Return rate based on the type of financial incentive

Post-paid deposit schemes seem to be more efficient than upfront deposit schemes when it comes to reaching the highest return rates, as shown in Figure 30. This could be explained by the fact that:

- post-paid deposits tend to be higher thus increasing consumers' motivation not to be charged for this amount,

- solutions using post-paid deposits usually notify consumers a couple of times that they should hand back the packaging before being charged.
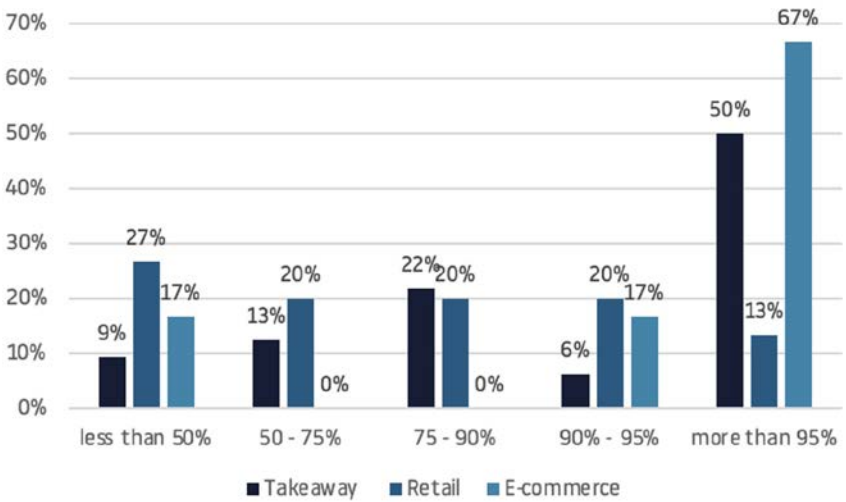
Figure 31. Return rate per sector

Figure 31 highlights that consumer engagement in reusable packaging solutions in the e-commerce and takeaway sectors is evident, as demonstrated by the highest return rates of the sample, achieving more than 95% of returned packaging. Retail solutions show more inconsistent return rates across the sample. As seen in the section above, despite the need for consumers to return empty reusable packaging to designated collection points or partnering restaurants, these high return rates indicate a promising trend towards the widespread adoption of reusable packaging in both sectors. A takeaway solution experiencing a return rate below 50% clarified that approximately 80% of its users prefer to reuse the box themselves instead of returning it. This underscores that lower return rates within the sector do not necessarily imply that consumers are not committed to reducing their packaging waste.

3. RETENTION TIME
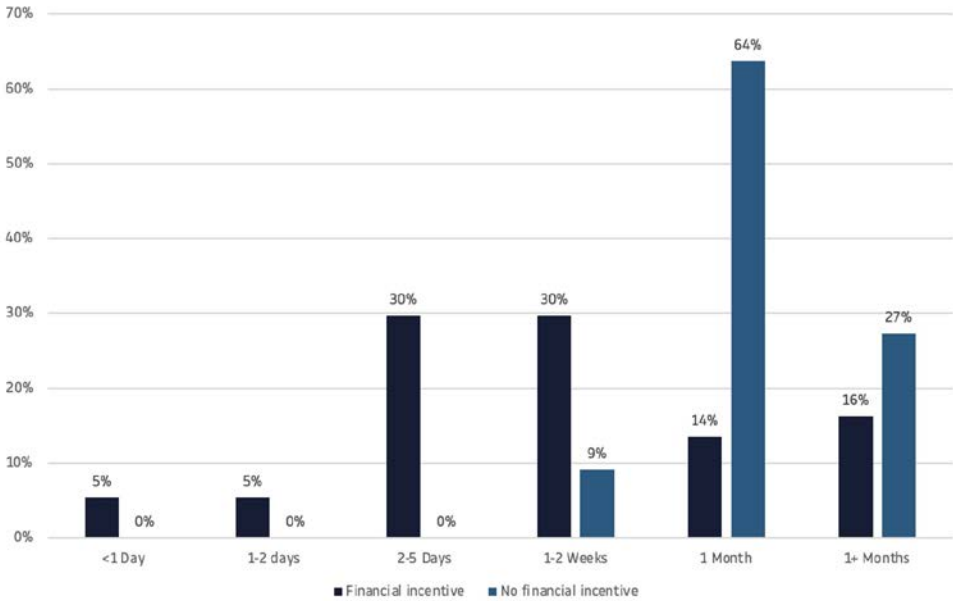
Figure 32 - Retention time based on the existence of a financial incentive

Figure 32 highlight that retention time is corelated to the existence of a financial incentive: solutions that have the shortest retention time are the ones that have set-up a financial incentive.
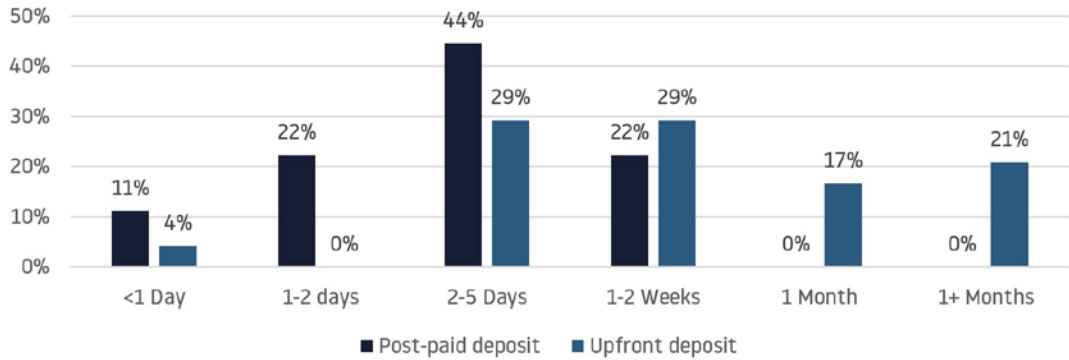
Figure 33 - Retention time based on the type of financial incentive

Figure 33 demonstrates that post-paid deposit schemes are more efficient than upfront deposit schemes when it comes to reaching the shortest retention time. 77% of solutions collect their packaging in up to 5 days thanks to post-paid deposit systems. Upfront deposits enable more than half (58%) of the barometer's solutions to collect their packaging between 2 days and 2 weeks. More than a third of the barometer's solutions have their packaging retained by consumers for a month or more.
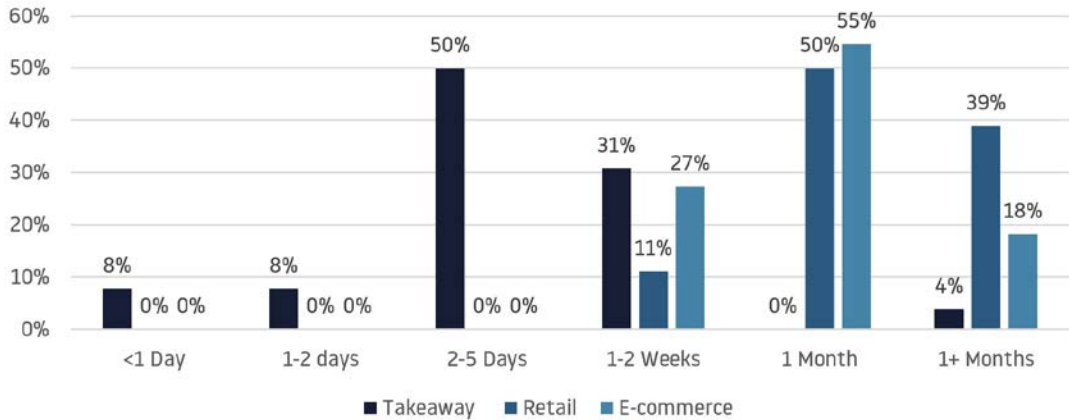
Figure 34 - Retention time per sector

82% of solutions have retention time of 1 month of less. Figure 34 clearly demonstrates that takeaway solutions have the shortest retention time: indeed, the packaging can be handed back by the user a few minutes after it has been borrowed (e.g. after having eaten the meal or consumed the drink). However, this time can be longer for the e-commerce sector (82% of solutions collect their packaging between 1 week and 1 month) and even longer in the retail sector as the packaging is used to store the product at consumers' homes (89% of solutions collect their packaging after a month or more). Reusable packaging usage differ from one sector to another and not all of them necessarily require short retention time. Therefore, it is not relevant that all solutions to apply a post-paid deposit scheme. However, it can make sense for takeaway solutions if they want to maximise the number of cycles and thus reduce the time during which the packaging is immobilised by consumers.
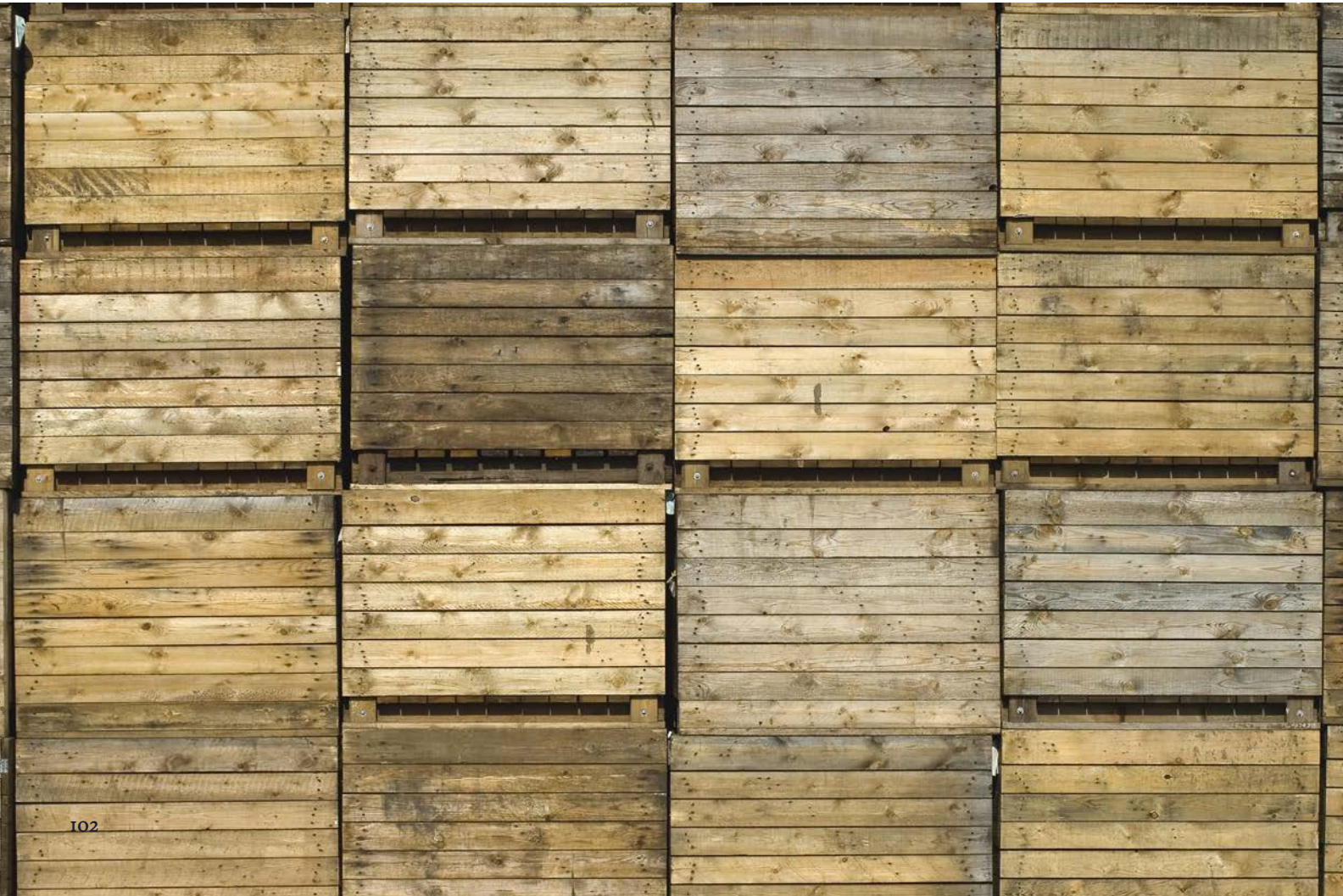
03
PROFITABILITY, FUNDING & VOLUMES

This section aims to explore the financial status of solutions involved in reusable packaging. It provides insights into the reusable packaging solutions' profitability, past and future funding, and employment projection.

A. GENERAL PROFITABILITY OVERVIEW

More than half of the reusable packaging solutions surveyed has not yet reached profitability, as demonstrated by Figure 35.

Figure 36 highlights that 57% of the solutions expect to become profitable within 5 years while the rest either aim at becoming profitable within 6 to 11 years or are uncertain about this timeframe.

48%

52%
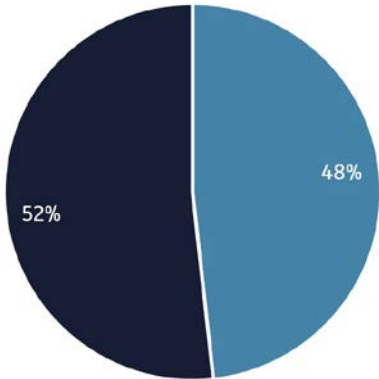
■ Profitable in 2023   ■ Not yet profitable

Figure 35 - Distribution of solutions' profitability levels in 2023
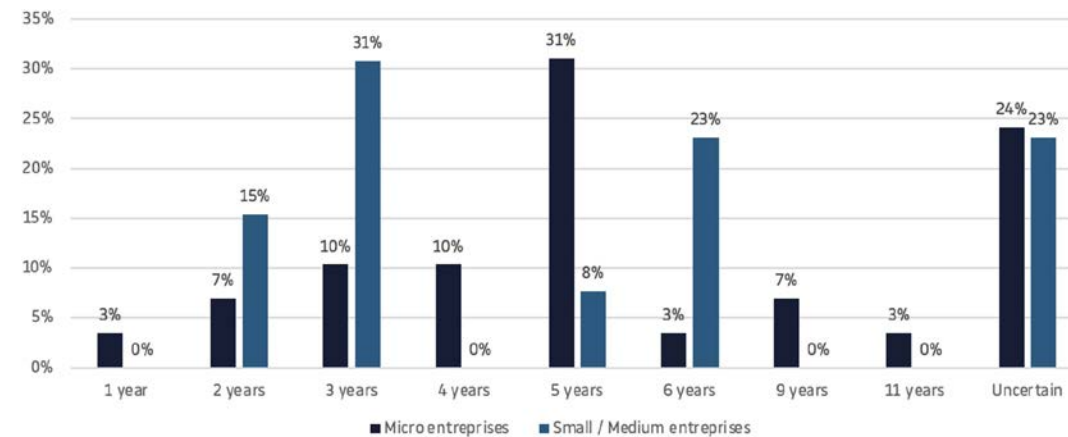
Figure 36 -Expected timeframe for solutions to become profitable

B. PROFITABILITY OVERVIEW PER SECTOR
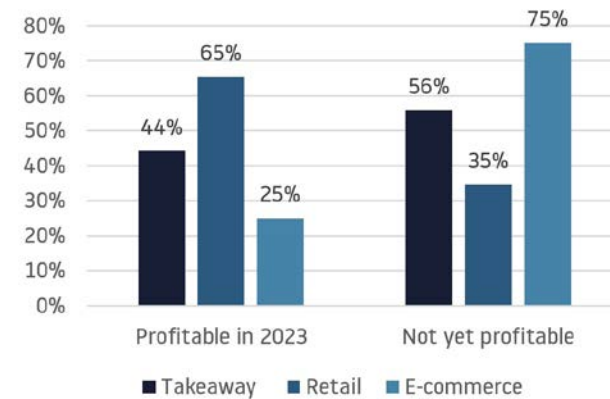
Figure 37 - Distribution of solutions' profitability levels in 2023 per sector

The retail sector seems to be the most structured, with 65% of solutions being profitable. The takeaway and e-commerce are more emerging sectors and a larger proportion of solutions in these sectors is not yet profitable (respectively 56% and 75%). For example, futuREproof, a takeaway solution, explains that it needs to reach higher economies of scale to bring down the costs related to the cleaning and logistics inherent to reusable packaging. It also mentioned that the 'packaging as a service» model, where upfront investments in the packaging are needed, requires a certain number of cycles before it financially pays off.

Deep dive in the retail sector

Zoom on circolution: Making reusable packaging as affordable as single-use

circolution stresses the importance of maintaining price parity between reusable and single-use products wherever and whenever possible, to encourage widespread adoption of reuse solutions. While the final product kilogram price is determined by producers, circolution recommends aligning it with single-use prices to avoid creating barriers for consumers. The addition of a deposit on top of the kilogram price is clarified as a temporary allocation of funds, which will be reimbursed upon the return of the container. This clear communication strategy aims to promote understanding and acceptance of the deposit system. The goal is to ensure that sustainability is not seen as a premium solution limited to certain consumer niches, but rather to make it accessible to everyone in order to achieve the desired impact.

Furthermore, in the context of developing reusable solutions, circolution highlights the significance of the need for thorough assessment to determine the viability of reuse in different retail categories, both economically and ecologically. By optimising processes for scale and automation, reuse solutions can offer competitive pricing, driving the momentum of the reuse movement forward.

Zoom on Soofût: Making reusable packaging cheaper than single-use

Soofût is a French company renting reusable kegs to beer producers. In France, many independent breweries were launched in the last years. These breweries can hardly afford to purchase expensive reusable kegs (around 100 € for a new keg), nor a cleaning machine, nor pay for collection costs if kegs have been delivered far away from production sites. As a result, they usually rely on single-use plastic kegs that are hardly recyclable. In 2020, Soofût has solved this issue by renting its kegs at a cheaper price than the price of a single-use plastic keg. A brewery can use the reusable keg as easily as it would use a single-use keg: it fills the keg and can deliver it wherever in France. After it has been used, Soofût collects it, cleans it and rents it again to this brewer or to another one.

Zoom on MaConsigne's view: Legislation as an enabling condition to achieve profitability

MaConsigne, advocating for reusable glass containers in Monaco echoed the effectiveness of mandatory legal frameworks eliminating single-use options. The solution also emphasised legislation's impact in achieving profitability and maintaining high return rates. Despite efforts to incentivise returns and leveraging co-funding opportunities, profitability remains a challenge in the takeaway sector. Regulatory support, such as preferential pricing and subsidies, are needed to facilitate the transition.

Zoom on VasoVengo's case: Cost-saving opportunities associated with reusable packaging

Reusable packaging can lead to savings, for instance VasoVengo was able to generate 2.000€ savings per year in cafeterias through its reusable cups.

C. FUNDING OVERVIEW PER SECTOR

	Has raised or has planned to raise funds	Total funds raised or planned to be raised by 2025 (m€)	Average deal (m€)
All sectors	69%	186,3	4,1
Takeaway	75%	86,3	3,8
Retail	58%	75,2	5,4
E-commerce	83%	24,8	3,1

Figure 38 - Solutions' funding status

Overall, 69% of reusable packaging solutions of the barometer have already raised or have planned to raise funds by 2025. The average amount of funds raised to date is between €3 to €5 million. The 85 solutions that have answered the 'Funding' section of the survey have an overall funding need of 186 million euros (funds already raised or planned to be raised by 2025). The 381 reusable packaging solutions identified throughout Europe could represent a total funding need of around 835 million euros.

The deals are distributed as follows:

- 20% of the solutions have raised or planned to raise more than 10m€,
- 34% of the solutions have raised or planned to raise more than 4m€,
- 31% of the solutions have raised or planned to raise between than 2,5 and 5m€,
- 43% of the solutions have raised or planned to raise between than 500K€ and 2,5m€,

On one hand, with nearly half of the respondents not yet profitable (refer to section 'General profitability overview') and more than 70% having raised funds or planning to do so, this section shows how important funding is to support these solutions' development and scaling across Europe. On the other hand, some solutions mention that they are struggling to raise funds as investors do not yet understand the economic and environmental benefits of reusable packaging.

In that sense, it seems crucial to raise investors' awareness on the needs of this industry and the benefits of funding reusable packaging solutions.

Vytal

Funding Round

Vytal successfully secured approximately €12 million in equity funding. Although Vytal also benefitted from public grants, the company pointed out that there is an insufficient amount of grants and government funding to scale reusable packaging efforts.

Service Offered

Leveraging its sophisticated technological platform, Vytal ensures the complete lifecycle of reusable packaging, offering businesses and consumers seamless and eco-friendly solutions for various formats such as food containers, pizza boxes, cups, and more. Additionally, the company provides customised solutions and guidance to drive adoption rates. Vytal collaborates with a diverse range of partners, including restaurants, canteens, retailers, work offices, cities, municipalities, and events, to implement sustainable packaging practices. With the largest network in Europe, Vytal partners with over 6,500 entities across 15 different European countries, facilitating widespread adoption of reusable packaging solutions.

Development Plans

With the recent funding boost, Vytal is positioned to expand operations to high-volume use cases of reusable food and cups at events as well as to further increase its leadership in the reusable packaging industry. Vytal's expansion strategy involves advancing its technological platform as well as its international footprint across events, stadiums and campuses.

cauli

Funding Round

Cauli Reuse System secured a pre-seed round in 2022, multiple innovation grants from the UK government, followed by convertible funding in 2024. Despite the absence of specific funds for reusable packaging in the takeaway sector, Cauli Reuse System attracted investment from various sources interested in sustainability initiatives.

Service Offered

Cauli Reuse System specialises in assisting food businesses in managing reusable packaging through its innovative supply chain and award-winning technology. Within a circular system, Cauli's packaging solutions are meticulously tracked, facilitating efficient returns, and washing processes. This approach effectively eliminates single-use waste, offering businesses a sustainable alternative for their packaging needs

Development Plans

Cauli Reuse System's recent fundraising endeavours were directed towards strategic initiatives aimed at advancing the company's growth trajectory. These funds will primarily be allocated towards expanding Cauli's team to enhance operational efficiency and accommodate the increasing demand for its services. Additionally, investments in Research and Development (R&D) will fuel innovation, allowing Cauli to further optimise its technology and streamline its processes. Moreover, a portion of the raised capital will be dedicated to amplifying Cauli's market presence through targeted sales and marketing efforts, enabling the company to reach new clients and solidify its position in the reusable packaging industry.

TAKEAWAY

Bout' à Bout'

RETAIL

Funding Round

Bout' à Bout' successfully raised €7.3 million through a funding round led by Demeter, alongside key industry players, major beverage distributors, impact investment funds, public authorities, and over 300 individual citizens.

Service Offered

Bout' à Bout' specialises in facilitating the transition to reusable glass bottles by implementing a deposit system. Its comprehensive operations encompass the entire deposit cycle, including collection, sorting, and container washing, ensuring a seamless and sustainable process. Additionally, the company provides extensive support to producers interested in adopting reusable packaging. Services offered include bottle and label adaptation and the execution of consumer awareness campaigns to encourage participation.

Development Plans

With the newly acquired funds, Bout' à Bout' aims to bolster its reuse operations by establishing a state-of-the-art washing facility near Nantes. This facility not only expands the geographical reach of its activities but also boasts the highest capacity in France. The facility can wash up to 10,000 bottles an hour and should be able to process over 60 million bottles and jars annually. Additionally, the company plans to utilize the funds to expand its team and network, aiming to reach 800 producers and over 1000 collection points in the western region by 2025. The funds will be used to further develop Bout' A Bout's information and tracking system.

D. VOLUMES OF SINGLE-USE PACKAGING AVOIDED
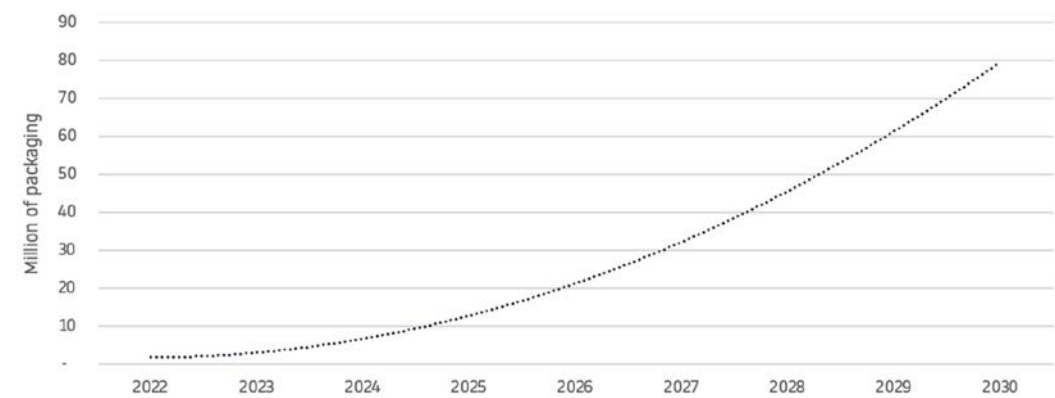
Figure 39 - Average volumes of single-use packaging avoided – or expected to be – per solution

Most of the reusable packaging solutions surveyed are young and of relatively small size, most of them are still starting their activity (refer to section 'Creation year, Turnover & Size'). This could explain why they forecast a strong growth of single-use packaging avoided in the coming years. This figure aims at growing:

- by 13 times from 2022 to 2025,
- by 7 times from 2025 to 2030.

Across the barometer's scope, the total number of single-use packaging avoided in 2022 reached 59 million items (based on the 60 solutions that filled up the 2022 figures). Projected figures in 2025 and 2030 highlight a total volume of single-use packaging avoided of:

- 813 million in 2025 (based on the 79 solutions that filled up the 2025 forecast),
- 6,6 billion in 2030 (based on the 56 solutions that filled up the 2030 forecast).

Hence, by extrapolating these figures to the 381 reusable packaging solutions identified throughout Europe, the total number of single-use packaging that could be avoided could amount to:

- 372 million in 2022,
- 3,9 billion in 2025,
- 44,9 billion in 2030.

Disclaimer: The 2025 and 2030 figures are hypothetical projections based on the estimations of reusable packaging solutions themselves. Due to the inherent uncertainty in predicting future trends, these numbers may vary considerably from reality.

Put into perspective, these figures might be relatively small compared to the number of single-use packaging avoided in other more mature sectors (e.g. reusable secondary and tertiary packaging, reusable glass and kegs in the HoReCa sector). For instance, the Cooperative of the German Mineral Water Companies (GDB) indicates that by cleaning around 6,8 billion glass bottles per year it avoids the use of 6 billion single-use glass bottles annually[LV]. This is approximately the figure that the entire portfolio of solutions surveyed expect to reach by 2030.

E. EMPLOYMENT PROJECTIONS

37% of the surveyed reusable packaging solutions anticipate hiring between 1-5 employees by 2025, and 35% plan to hire between 6 to 20 employees.
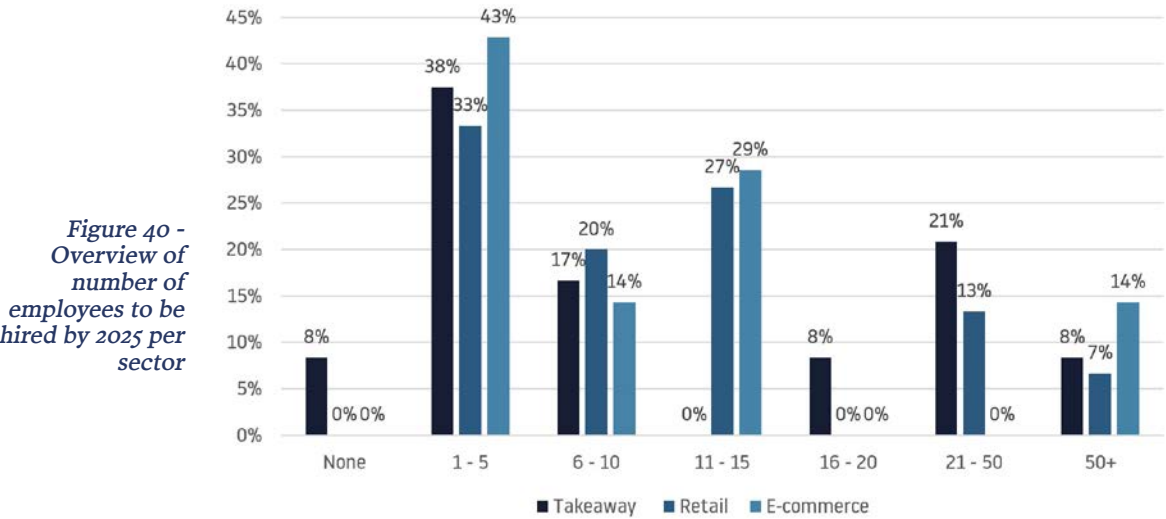
Figure 40 - Overview of number of employees to be hired by 2025 per sector

With 86 solutions targeting to employ around 669 people by 2025, the 381 reusable packaging solutions identified throughout Europe could recruit around 3 000 people by 2025.

CONCLUSIONS

Recent studies show that the most effective solutions to tackle packaging waste are to be found upstream in the value chain. In addition to adjusting our production and consumption behaviours, reuse is seen as one of the most efficient solutions to replace problematic and unnecessary packaging.

This first edition of the European Reuse Barometer has shown that the European reuse industry is vivid, growing, supported by engaged consumers and that solutions are adapting their model to make them attractive to increase their consumer base. However, some challenges still need to be tackled, consumers as well as the private and public sector should be further pushed to adopt reusable packaging and stakeholders operating in the reuse industry should further collaborate to reduce the cost of the transition and achieve scale.

This study is meant to serve as a baseline and blueprint for further editions. To strengthen the barometer's capacity to monitor the growth and evolution of the reusable packaging industry across Europe, the next editions will further include and elaborate on the following aspects. If you have any additional information you would like to see included in future editions of the barometer, please email: **contact@inoffplastic.com**.

A. GEOGRAPHICAL SCOPE

This first edition of the Reuse Barometer has capitalised on InOff Plastic's database of reusable packaging solutions in Europe, which predominantly operate in France and Western Europe. InOff Plastic currently has a stronger presence and network in these regions than in Central and Eastern Europe.
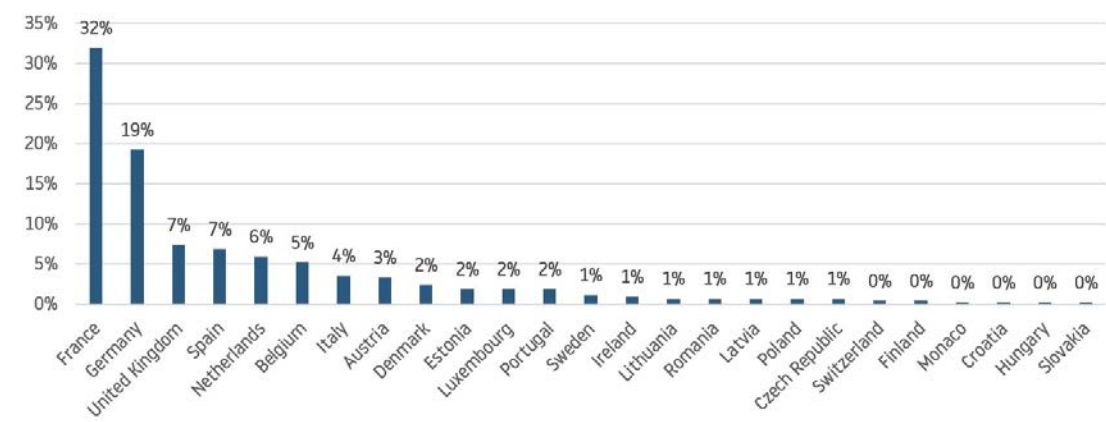
Figure 41 - Distribution of the 381 European reusable packaging solutions in InOff Plastic's database

As a result, the barometer has mainly captured data from reusable packaging solutions in Western Europe. This could skew the findings towards the dynamics prevalent in this market and not accurately represent the situation across other European countries, particularly in Eastern and Central Europe.

In further editions, the European Reuse Barometer will put stronger emphasis on reusable packaging solutions in Eastern and Central Europe, aiming for a more balanced representation of all European countries in the barometer. This will be done by fostering partnerships with local organisations in each European country. Discussions to create these collaborations are already ongoing. Additionally, the next barometer will further leverage Planet Reuse's growing network and presence in Europe, particularly in Eastern and Central Europe.

B. RESPONSE RATE

The survey has been sent to 381 reusable packaging solutions in Europe. 94 solutions responded and 90 answers were considered, representing a 25% response rate. These 90 solutions operate mainly in Western Europe, but even within this geographical scope, the barometer lacks input from key countries such as Germany, in which reusable packaging solutions are well established.

The main stakes that have limited the response rate include:

- Being the first survey of its kind, some reusable packaging solutions struggled to grasp the purpose of the European Reuse Barometer and the importance of their participation.

- The «reusable packaging solutions» category encompasses a wide range of companies. They operate across various sectors (e.g., e-commerce, takeaway), cater to different markets (e.g., B2B, B2C), and specialize in specific parts of the value chain (e.g., cleaning, transportation, tracking). The survey's structure may not have adequately captured this inherent diversity.

The second edition of the barometer has the potential to significantly improve response rates for several reasons:

- Having access to the first edition's results will allow reusable packaging solutions to see the tangible impact their data has on the barometer. This can incentivize participation.

- The survey's questions will be customized to better reflect the specific realities of different sectors and company sizes. This will make the survey more relevant for respondents.

- The data collection period will be lengthened to allow for more responses.

- Stronger promotion and wider distribution of the survey will be possible if the next barometer secures at least one local partner in each European country and counts robust support from EU partners.

C. REPRESENTATION OF LARGE ENTERPRISES

The first edition of the barometer received responses primarily from micro and small/medium-sized reusable packaging solutions that have been created in the last two decades. This is likely due to the relative ease of reaching out to and receiving responses from smaller companies compared to larger, well-established ones. As a result, the current version of the barometer cannot draw general conclusions about large companies, particularly the ones operating in B2B models, the beverage sector, or on tertiary packaging.

Capturing the stakes and insights of well-established companies that have been running large-scale reusable packaging solutions for decades in some sectors (e.g. beverages sold in the retail and HoReCa markets, B2B transport, automotive) would be very relevant to confront them to the reuse models run by smaller solutions. To do that, the European Reuse Barometer will ensure it creates relationships with organisations representing these industries.

D. DATA COLLECTION METHOD

The reliance on a survey as the primary data collection method offers the advantage of capturing insights from a large number of reusable packaging solutions. However, in some extend, it limited the depth of the gathered insights, as surveys are less likely to capture detailed qualitative data or nuances than more interactive methods such as interviews. The novelty of the barometer led to some uncertainty among participants regarding the level of detail and transparency they could share in their responses, particularly concerning their business operations and challenges.

To limit these stakes, email and phone conversations have been engaged with the solutions that were willing to share more insights and had been identified as having some key insights to share.

For the second edition of the barometer to gather in-depth information, it is planned to conduct more interviews alongside the survey.

E. REGULATORY LANDSCAPE

There is a strong diversity of national legal frameworks within EU-countries when it comes to packaging. Some countries do not yet regulate the use of single-use plastic packaging or push for reusable packaging while others have set ambitious reusable packaging targets. The level of the national legal framework greatly impacts the number of reusable packaging solutions and their stage of development.

The next edition of barometer will include a mapping of the current regulatory frameworks in place across Europe and an analysis of how these regulatory environments affect the development and scaling of (national) reusable packaging solutions.

The European Reuse Barometer fills a critical gap in data on the European reusable packaging industry. However, as the first-of-its-kind study, comparisons to previous studies are challenging.

The Reuse Barometer endeavours to address this gap by instituting an annual data collection effort to establish longitudinal data on reusable packaging across Europe.

F. BUDGET CONSIDERATIONS

The inaugural edition of the barometer is a testament to InOff Plastic's dedication to the cause, leveraging internal resources within a limited budget. However, to fully unlock its potential and achieve a more comprehensive picture, securing external funding will be crucial.

The European Reuse Barometer is seeking financial support to publish even more comprehensive editions in the next three years. For any funding opportunities, please email **contact@inoffplastic.com**.

G. END-OF-LIFE MANAGEMENT DISCLAIMER

While this first edition of the barometer focuses on reusable packaging solutions, a key question not yet addressed is the end-of-life management of the packaging itself. Information on reusable packaging's end of life is currently scarce.

The second edition of the barometer should explore this aspect to provide a first picture of the end-of-life status of reusable packaging.

APPENDIX 1
PACKAGING AND PACKAGING WASTE REGULATION (PPWR)

The EU has put in place a legislation regulating the management of packaging and packaging waste for the first time in 1994 (Directive 94/62/EC on packaging and packaging waste -PPWD). Since then, the text has been reviewed few times, but with the focus mostly on waste management and recycling.

Now, for the first time, the packaging legislation puts forward prevention and reuse measures. This was in the European Commission's new circular economy action plan (CEAP) announced in March 2020, which is one of the main building blocks of the European Green Deal, which aims to achieve the EU's 2050 climate neutrality target and to halt biodiversity loss.

The key measures of this new regulation are:

- Overall waste reduction targets 5%-10%-15% (2030/35/40) - to be achieved by Member States

- Sector specific reuse targets for key market sectors to be achieved by economic operators;

- Set of rules for refill and criteria for 'systems for reuse' concerning governance, costs distribution, end user responsibility, cleaning and washing rules, compliance with health and hygiene standards, etc.

- Maximum empty space ratio of 50% in grouped and transport packaging (e-commerce packaging is excluded)

- Harmonisation of packaging label across the EU

- Recycled content targets for plastic packaging per unit (including reusable).

- Bans on certain single-use plastic items (e.g.: miniature hotels toiletries, single servings of sugar, cream; warps on fruits and vegetables, in-house consumption in the HORECA, very lightweight carrier bags)

- Mandatory deposit return schemes (DRS) for single-use plastic and metal beverage containers.

- Direct ban on PFAS and measures to map and eventually restrict other substances of concern in packaging

The PPWR includes **reuse targets** for the following sectors below:

- **Transport packaging (including e-commerce):**
  - 2030: at least 40% (Art. 26.1)
  - 2040: at least 70% (not binding, Art. 26.1)
  - For transport packaging or sales packaging used between different sites of the same operator or any other linked/partner enterprise + B2B same Member State (Art. 26.2 & 3): 100% by the entry into force of the PPWR (expected by mid 2026)
  - Exemption: dangerous goods, large-scale machinery, equipment and commodities for which packaging are custom-designed; flexible packaging used for transportation that is in direct contact with food and feed, and food ingredients; cardboard boxes

- **Grouped packaging in the form of boxes (Art. 26.5):**
  - 2030: at least 10%
  - 2040: at least 25% (not binding)
  - Exemption: cardboard boxes

- **Beverage packaging:** Alcoholic and non-alcoholic beverages in sales packaging (Art. 26.8):
  - 2030: at least 10%
  - 2040: at least 40% (not binding)
  - Exempted categories: beverages considered highly perishable, milk and milk products; categories of grape wine products and aromatised wine; similar products to wine products and aromatised wine products obtained from fruit other than grapes and vegetables, other fermented beverages; alcohol-based spirituous beverages
  - Exempted operators (Art. 26.12 & 13): those with a sales area of not more than 100 m² or if their sales area is situated on an island with a population of fewer than 2,000 inhabitants or in a municipality with a population density of less than 54 persons/km²,

Those targets apply to economic operators, meaning manufacturers packaging, importers, distributors, authorised representatives, final distributors and fulfilment service providers.

The reuse targets for the beverage sector apply to final distributors (retailers).

There is the possibility for Member States both to derogate some economic operators from these targets (based on their waste prevention and recycling rates) and also to set higher targets on national level.

In addition to the sector specific reuse targets aforementioned, the PPWR lays down obligations for the Retail and HORECA sectors to enable more reuse and refill of packaging:

Retail (obligations related to refill)

- As from January 20230, the retail sector must ban:
    - Single-use plastic packaging for less than 1.5 kg pre-packed fresh fruit and vegetables.
    - Plastic packaging used at the point of sale to group goods sold in bottles, cans, tins, pots, tubs, and packets designed as convenience packaging to enable or encourage consumers to purchase more than one product. (Except grouped packaging necessary to facilitate handling)

- As from January 2030 final distributors with sales areas > 400m2 are pushed to dedicate 10% of their retail space to refill stations for both food and non-food products (not binding).

- Packaging should not be provided free of charge at the refill stations or provided as a part of a deposit and return system.

- The regulation also lists requirements that refill stations should meet, including hygiene standards (Part C of Annex VI).

HORECA (obligations related to takeaway packaging)

- The final distributors in the HORECA sector must:
    - Ban the following packaging items:
        - Single-use plastic packaging for condiments, preserves, sauces, coffee creamer, sugar and seasoning (except if those are provided with takeaway food/drink indented to be immediately consumed)
        - Single-use plastic packaging for foods and beverages filled and consumed within the premises in the HORECA sector, which include all eating areas inside and outside a place of business (except establishments in the HORECA sector that do not have access to drinking water)
        - Single-use packaging for cosmetics, hygiene and toiletry products for the use in the accommodation sector
    - (24 months after the entry into force), accept and inform consumers about the possibility to bring their own container to be filled in their premises at no higher costs and under no less favourable conditions than single-use packaging.
    - (36 months after the entry into force) offer products packaged in reusable packaging at no additional cost and inform consumers of the possibility of obtaining products in reusable packaging.
    - By 2030, to offer 10% of products in reusable packaging (not binding).

When it comes to systems of reuse, the PPWR lays down general requirements that needs to be simultaneously satisfied, including governance structure, access to the system for operators and end-users, minimum rotations, packaging design, among other things (Annex V). The minimum rotations for reusable packaging will be further defined in secondary legislation according to the packaging type.

APPENDIX 2
REUSABLE PACKAGING SOLUTIONS THAT ANSWERED TO THE SURVEY

The solutions below have taken part in the survey and have officially agreed to communicate their names in the Barometer. This list is not exhaustive and does not reflect all the respondents of the first edition of the Reuse Barometer.

TAKEAWAY SECTOR

Bako, France
Bako consigne support professionals to switch to reusable packaging. From choosing the pack to its reuse, including tracking, payment, collection and washing, it helps you every step of the way.

Bloup!, France
BLOUP! operates as a food packaging reuse solution in the Manche department, engaging in two primary activities: providing a deposit scheme for returnable meal boxes for takeaways and events, and offering bottle and jar washing services for local producers.

Bumerang, Spain
Bumerang is a reusable packaging system 100% digitalised, with a penalty-based system, utilising the power of technologies such RFID, QR and NFC payments to create convenient systems to replace single-use packaging effectively.

Cauli Reuse System, United Kingdom
Cauli is on a mission to decarbonise and digitalise the foodservice industry through IoT-powered reusable packaging systems. It is the UK's largest provider of reuse solutions for food & drinks on the go.

CLUBZERØ, United Kingdom
CLUBZERØ is a smart reuse system that combines returnable packaging with drop point infrastructure and tracking technology to provide food and beverage brands a convenient and scalable alternative to single-use packaging, and its detrimental consequences.

CupUp System Croatia
Since 2016 CupUp System supports all type of events with distribution of reusable cups and all necessary service such as delivery on and off site, cup washing, storing and various other cup rental option. Since end of 2023 it has washed more than 2,5 million cups.

Ecoceno, Portugal
Ecoceno is the leading reusable packaging system operating in Portugal. It develops and operates tailormade and integrated solutions for events, takeaway, stadiums and even vending machines, making use of the in-place POS systems.

Kleen Hub, Denmark
Kleen Hub has built the first app and deposit-less system only using the Tap of a payment method to rent reusable packaging called Tap & Reuse

Les Boîtes Nomades, France
Les Boîtes Nomades offers turnkey solutions for reusing food containers with deposits in the commercial catering sector (takeaway, delivery, catering, events, etc.) in the Pays de La Loire region, France.

FutuREproof, Belgium
futuREproof provides reusable packaging as a service for takeaway meals and beverages as a sustainable and premium alternative to single-use packaging. futuREproof is one of the pioneers to drive this circular business model in the Belgian market.

La Consigne Havraise, France
La Consigne Havraise provides catering professionals and event organisers with reusable food containers to replace their single-use packaging, to reduce the amount of packaging.

MaConsigne, France
MaConsigne is a service operated by Lemniscate with the support of the Principality of Monaco. It enables glass containers to be used among 36 partner points of sale to avoid single-use containers.

Kamupak, Finland
Kamupak's mission is to reduce the world's waste load, CO2 emissions and consumption of natural resources by building digital solutions that bring reuse and circularity into consumers and companies' daily life.

L'Empoteuse, Belgium
L'Empoteuse assists companies in carrying out their food containers reuse project and offers a standardized range of reusable containers.

MyCoffeeCup system, Austria
Together with local authorities, the Austrian company CUP SOLUTIONS has taken on the problem of disposable cups and launched the myCoffeeCup system, offering an innovative, nation-wide and simple reusable cup system for coffee to go in Austria.

New Loop, Denmark

New Loop has developed a circular deposit system for takeaway packaging. The packaging is washable and can be returned for a deposit. It washes the packaging and deliver it back to the takeaway supplier, ready to be used again. This is how it creates a new loop.

PactoZero, Spain

PactoZero thinks about packaging without a footprint. It helps organisations to design and implement sustainable packaging systems, using reusable packaging and easily integrated distribution and traceability technologies that enable the transition to a circular value chain.

Pyxo, France

Pyxo is a reuse platform enabling reusable containers usage in foodservices and in retail. Its technology helps organizing all operations, keeping track of stock along the supply chain, ensuring adoption from both employees and customers.

ReCIRCLE, Germany

reCIRCLE replaces disposable packaging by reusable, high-quality, payable and ecological packaging. Thanks to reCIRCLE's reusable system, millions of disposable containers are saved every year.

Recirculate Systems Limited, United Kingdom

Recirculate Systems Limited facilitates taking and repaying deposits for any item without asking the customer or the business owner to change their behaviour. No apps, no sign ups, no subscriptions. "We are a software service to underpin and power the entire reuse economy".

Rempil'It, France

REMPIL'IT advises and supports companies and communities interested in reusing food packaging. Its teams adapt to your offer to guide you as best as possible. Regulations, technical solutions, impact on my organisation... reuse will no longer hold any secrets for you!

Retoornado, Spain

Retoornado aims to create a full ecosystem that closes the loop providing reusable packaging, collection, logistics and hygienisation. It supports companies to develop a reusable circuit within their daily business.

Topsiring, Estonia

NGO Cupcycle (Topsiring) is a producer of several sizes cups and lids (80 and 90 mm). Some cups are produced with moulded RFID chips. It also provides circular service in Estonia together with partners.

Re-Uz, France

Bringing sustainable consumption to as many people as possible through the adoption of reusable products.

Vytal, Germany

Vytal operates the world's largest tech platform for B2C reusable packaging: more than 7,100 business partners have sold food and beverages worth more than 51 million Euros in Vytal tech-enabled containers so far.

Einfach Mehrweg, Sykell, Germany

Through its brand Einfach Mehrweg, Sykell operates the largest network of reusable packaging, compatible with existing RVMs at points of sale. Additionally, its CIRCULAR ERP platform enables companies in the circular packaging sector to manage their operations throughout the entire supply chain.

RETAIL SECTOR

Alpes Consigne, France

ALPES CONSIGNE, a cooperative society based in Grenoble, France operates a professional network dedicated to the reuse of glass bottles across three departments: Isère, Savoie, and Haute-Savoie.

circolution, Germany

circolution is a provider of reusable packaging solutions for retail products, offered at a similar cost as single-use alternatives.

Begudes Puig, Spain

The Puig Puigserver brothers shifted from shoemaking to soft drink manufacturing in Llucmajor in response to the 1927 world crisis, now focusing on sustainability efforts such as reusing glass containers. Today it sells soft drinks, siphons, and sodas all in reusable glass packaging.

Col'loC des Gourmands, France

Col'loc des gourmands is an association for local organic food producers. It avoids packaging, products are sold within 50 kms and it tries to work as much as possible with local products. At this moment, it produces cheese, biscuits, jam and tomato sauce.

Bocaux&co, France

Since 2021, Bocaux&co is developing the reuse of jars in the Dijon community. Its slogan «together, citizens, professionals, communities, let's make the jar a wealth for our territory».

Dizzie, United Kingdom

Dizzie provides a pooled packaging solution - reusable packaging for brands and retailers looking to transition from single-use. It serves 3 national retailers in the UK, with its own packaging, operations, and digital infrastructure.

J'aime Mes Bouteilles, France

J'aime Mes Bouteilles is a local yet nationally-connected glass bottle deposit scheme system in Bourgogne-Franche-Comté. The company relies on existing players to collect and transport used bottles, wash them before distributing them back to producers. Another deposit scheme system for other reusable containers (jars, takeaway dishes, cups, etc.) called 'J'aime Mes Bocaux' is emerging since the installation of a washing centre locally.

Tilkl, Estonia

REUSE ME is a unique circular economy program focused on minimizing the harm done to the environment and paying more attention to sustainable consumption through a circular economy. It looks for innovative solutions to reuse packages together with its great partners and dealers.

Le Fourgon, France

Since 2021, Le Fourgon has offered a simple solution to reduce packaging by specialising in the delivery of returnable food and drink products to homes and offices.

Soofût, France

Soofût offers craft breweries washing and rental services for reusable stainless-steel kegs, by pooling eco-efficient washers and a fleet of kegs within 6 local washing centres in France: Nantes, Paris, Lyon, Marseille, Bordeaux and Toulouse.

WECARRY, Germany

WECARRY offers a sustainable solution to the single-use packaging problem by providing bakeries with a convenient and eco-friendly alternative. Its reusable bag system reduces waste, saves costs, and promotes environmental responsibility.

Société Mahe, France

MAHE is a wine trading and distribution company for all drinks. As such, it has been bottling 60% of its commercial wines in returnable glass for over 80 years. It is the leader in the returnable wine market.

Swiv, France

Swiv sets up a collection loop for reusing glass containers. From setting up RVMs in shop, to managing traceability and reverse logistics, right through to returning the container to the packager, Swiv manages the process on a turnkey basis.

Zero Waste Bulk Food, United Kingdom

ZWBF is an online wholefoods store that sends food in packaging that customers return to be reused.

E-COMMERCE SECTOR

Boox, United Kingdom

Boox is a platform for reuse. It is a mission-driven company pioneering circularity in e-commerce brands and consumers. Boox provides products and services to e-com brands that want to show their consumers they are more sustainable than the competition.

Loopipak, Belgium

Loopipak makes reusable packaging reusing waste promotional tarpaulins, produced by Belgian special needs companies. It includes boxes, big bags, envelopes, pallet covers, etc. It also works to custom specifications.

Boxo, the Netherlands

BOXO offers a reusable packaging for e-commerce and develops returning systems for this packaging. BOXO's mission is to make reusable packaging the new normal for E-Commerce in the Netherlands.

Movopack, Italy

Movopack is a reusable packaging solution for e-commerce that provides 75% CO2 emissions reduction. Its packaging solution embraces the principles of circular economy. Instead of being produced and discarded after each use, its packaging can be reused 20 times.

Hipli, France

Hipli is a service of 100-time reusable parcels that allows everyone to order online without generating waste.

Opopop, France

Opopop is a reusable and deposit-based parcel service for e-commerce. Its parcels are made from upcycled fabrics with a French partner, it uses La Poste's networks for collection, while its teams in Lyon handle parcels' verification, repair, and preparation.

Ravioli, Germany

Ravioli offers reusable packaging-as-a-service for online shops as convenient and affordable as single-use packaging.

RePack, Finland

RePack, sets up efficient reuse systems so that companies never have to worry about packaging ever again. It provides reusable packaging solutions that reduce the environmental footprint of deliveries and improve the customer experience.

RE-ZIP, Denmark

RE-ZIP is a reuse system for e-commerce packaging. Its mission is to make reusable packaging the new normal. It does so, by providing cost efficient return logistics and packaging solutions for their partners.

COSMETIC SECTOR

Ibbeo Cosmétiques, France

Since 2021, Ibbeo Cosmétiques develops the project COVECO to provide a solution for reusable skincare packaging including a pilot cleaning machine.

Zerooo by Sea Me, Germany

The cosmetic brand, Sea Me, developed its own reuse system for cosmetics. Through innovative packaging solutions and the associated infrastructure, drugstore items pass through the three circles of the Zerooo reusable system and are kept in closed material cycles.

B2B PACKAGING

Pandobac, France

Pandobac offers reusable packaging solutions to replace single-use transport packaging for food products.

CROSS-SECTOR

Uzaje, France

Uzaje enables foodservice professionals and food manufacturers to eliminate packaging and consumption waste through container cleaning and change management. It can pool and wash a variety of container formats and materials for several sectors (e.g. bottles, bowls, crates).

GLOSSARY

Single-use packaging: Packaging which is not reusable packaging[LVI].

Reuse: Any operation by which reusable packaging is used again multiple times for the same purpose for which it was conceived[LVII].

Refill: An operation by which a container, owned by the end user, which fulfils the packaging function, or a container purchased by the end user at the point of sale of the final distributor, is filled by the end user or by the final distributor with a product or several products purchased by the end user from the final distributor[LVIII].

Systems for reuse: Organisational, technical or financial arrangements, together with incentives, that allow the reuse either in a closed loop or open loop system. It includes deposit and return systems, when they ensure that packaging is collected for reuse.[LIX]

Reusable packaging: Packaging placed on the market shall be deemed to be reusable where it fulfils the following conditions:

1. it has been conceived, designed and placed on the market with the objective to be reused multiple times;

2. it has been conceived and designed to accomplish as many rotations as possible in normally predictable conditions of use;

3. it fulfils the requirements regarding consumer health, safety and hygiene.

4. it can be emptied or unloaded without causing damage to the packaging which prevents its further function and reuse;

5. it is capable of being emptied, unloaded, refilled or reloaded while ensuring compliance with the applicable safety and hygiene requirements, including those on food safety;

6. it is capable of being reconditioned in accordance with Part B of Annex VI, whilst maintaining its ability to perform its intended function;

7. it can be emptied, unloaded, refilled or reloaded while maintaining the quality and safety of the packaged product and allowing for the attachment of labelling, and the provision of information on the properties of that product and on the packaging itself, including any relevant instructions and information for ensuring safety, adequate use, traceability and shelf-life of the product;

8. it can be emptied, unloaded, refilled or reloaded without risk to the health and safety of those responsible for doing so; and

9. it fulfils the requirements specific to recyclable packaging set out in Article 6 when it becomes waste.[LX]

Return from home: Process wherein the reusable packaging is picked up from home by a collection service (e.g. by a logistics company)[LXI].

Return on the go: Process wherein users return the packaging at a store or drop-off point (e.g. in a deposit return machine or a mailbox)[LXII].

Return rate: Percentage of packaging returned to the starting point at the end of a use cycle. It is an important indicator with major impact on the economics of reusable packaging, as it indicates the number of reusable containers that need to be re-purchased. The higher the return rate, the more economically viable the reuse system is. A return rate higher than 95% should always be pursued, to make a system economically feasible for a system provider[LXIII].

Rotation: Cycle that reusable packaging accomplishes from the moment it is placed on the market together with the product it is intended to contain, protect, handle, deliver or present, to the moment it is ready for being reused in a system for reuse with a view to it being supplied again to the end users together with another product[LXIV].

Upfront deposit: Deposit scheme where consumers are required to pay a fee when they acquire reusable packaging. The fee is usually paid at the time of purchase and is refunded upon the return of the packaging.

Retention time: Average time measured in days a packaging needs to complete one rotation, thus unavailable for reuse as it is currently at another point in the use cycle (e.g., with the consumer, being washed, or being transported). The retention time can vary greatly, depending on the industry and geography of the reuse system. Retention times should generally be reduced to a minimum to use reusable packaging effectively[LXV].

Primary packaging: Packaging conceived so as to constitute a sales unit consisting of products and packaging to the end user at the point of sale; also called 'sales packaging' by the Packaging and Packaging Waste Regulation (PPWR)[LXVI].

Secondary packaging: Packaging conceived so as to constitute a grouping of a certain number of sales units at the point of sale, irrespective of whether that grouping of sales units is sold as such to the end-user or whether it serves as a means to facilitate the restocking of shelves at the point of sale or to create a stockkeeping or distribution unit, and which can be removed from the product without affecting its characteristics; also called 'grouped packaging' by the PPWR[LXVII].

Tertiary packaging: Packaging conceived so as to facilitate handling and transport of one or more sales units or a grouping of sales units, in order to prevent damage to the product from physical handling and transport, but excluding road, rail, ship and air containers. Also called transport packaging by the PPWR[LXVIII].

Micro Enterprises: Companies operating with fewer than 10 employees.[LXIX]

Small/Medium enterprises (SMEs): Companies operating with 10 to 250 employees[LXX].

Large Enterprises: Companies operating with over 250 employees.

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