



Blueprint for harmonising the implementation of takeaway food and drinks packaging systems for reuse in Europe

Insights from the ReuSe Vanguard Project (RSVP)

2nd Edition

2025

About the blueprint

This blueprint has been produced within the framework of the ReuSe Vanguard Project (RSVP), drawing not least from the experience collected in 7 EU cities in 6 countries implementing reuse systems for takeaway packaging (Aarhus (DK), Barcelona (ES), Berlin (DE), Ghent, Leuven, (BE), Paris (FR), Rotterdam (NL)).

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Executive Summary

Europe faces an urgent need to reduce packaging waste and build circular and resilient systems. With the adoption of the Packaging and Packaging Waste Regulation (PPWR), new obligations create a clear framework for expanding reuse in the takeaway sector.

This Blueprint provides public authorities, Producer Responsibility Organisations (PROs), and other stakeholders with a strategic, practical guide for designing and scaling reuse systems. It draws on hands-on learnings from seven leading European cities under the ReuSe Vanguard Project (RSVP).

Recognising that reuse is a **dynamic journey**, not a one-size-fits-all model, the Blueprint proposes a shared foundation that aims to meet overarching goals of:

- 🔄 **User-friendliness and operational simplicity.**
- 🔄 **Environmental and economic performance.**
- 🔄 **Scalability and replicability.**

The five essential system criteria outlined - **effectiveness, recognition, interoperability, inclusiveness, and guaranteed safety** - provide a structured approach to building systems that are legally compliant, user-friendly, high-performing, and future-proof.

By aligning local actions with the spirit and letter of the PPWR, stakeholders can drive a transition that reduces waste, boosts circular innovation, and meets Europe's ambitious environmental goals.

Context

Packaging waste in Europe has been steadily rising over the past decades. Without decisive intervention, this trend will only continue, with recycling proving to be largely insufficient to reverse it.¹ In an era marked by resource and energy scarcity as well as climate urgency, **prevention and reuse stand out as the most effective strategies** to preserve material value, reduce waste, and drive innovation and entrepreneurship.

The **takeaway food and drinks sector** illustrates both the scale of the problem and the opportunity. It is now one of the fastest-growing contributors to packaging waste, with significant associated costs for cleaning, collection, and litter management. For cities and a growing number of stakeholders, this sector represents a critical pressure point - but also a high-potential entry point to implement scalable, impact-driven reuse solutions.²

Data from local audits paint a stark picture. In **Barcelona**, a recent audit shows that packaging from takeaway food and drinks makes up **30% of public bin volume despite accounting for just 6% of total waste weight**. In **Aarhus**, this figure climbs to **48% of public waste, with litter from single-use containers a growing concern**.

Until recently, the European landscape of reuse solutions has been marked by scattered, small-scale initiatives, often held back by a lack of strong enough regulatory framework - be it in the shape of policy or financial incentives, or a combination of both.

This is now changing. The emergence of visionary, locally embedded solutions in several places across Europe - particularly through the **ReuSe Vanguard Project (RSVP)** - combined with the **release of the EU Regulation 2025/4, better known as the Packaging and Packaging Waste Regulation (PPWR)**, in January 2025, offers a powerful turning point. **The regulation introduces clear legal obligations and definitions for reuse**, including in the HORECA sector, creating a solid foundation for public authorities and businesses support the expansion of well-designed reusable systems with measurable environmental and economic benefits.

¹See Eurostat, the [Packaging Waste Statistics](#).

²'Making Europe Transition to Reusable Packaging', Zero Waste Europe, May 2022.

From vision to action

Purpose and intent

This blueprint provides a strategic model to **support the development and scaling of resilient reuse infrastructures for takeaway food and drinks packaging in European urban areas**. It draws from the proven environmental and economic success of large-scale reuse systems in other sectors -such as beverage bottles and B2B transport packaging - and seeks to integrate with existing logistics and infrastructure wherever possible.

It is driven by a long-term vision: a **Europe where reuse is standard practice once again**, anchored in systems that continuously evolve and improve over time.

With the adoption of the PPWR, 'introducing first EU-wide reuse obligation, including for the takeaway sector - effective implementation will be critical to realise its environmental and economic potential. Without strong system design and operational excellence, there is a risk that legal targets and waste reduction opportunities will be missed, and loopholes exploited.

While local and national authorities have introduced reuse targets, bans, or fees on single-use packaging, implementation across Europe remains fragmented. Too often, measures are deployed without the **system-level support** needed to make reuse truly viable at scale.

Building on active implementation work in **seven major European cities**, this blueprint offers timely and practical guidance **for public authorities, PROs, and other stakeholders. It is designed to help build the next generation of takeaway reuse systems— combining regulatory compliance with environmental ambition and economic pragmatism.**

Recognising that **no perfect, one-size-fits-all system exists**, and that **reuse is a dynamic journey of continuous improvement**, this blueprint proposes a shared framework built around:

- 🔄 **Common definitions.**
- 🔄 **Essential criteria.**
- 🔄 **Key performance indicators.**

The objective is to support **tailored local action** that nevertheless meets overarching standards of:

- 🔄 **User-friendliness and operational simplicity.**
- 🔄 **Environmental and economic performance.**
- 🔄 **Scalability and replicability.**

By aligning local implementation efforts with both the spirit and the letter of the PPWR, cities and operators can ensure that reuse systems are not just legally compliant, but also robust, attractive, and future-proof.

Target audience

This blueprint is primarily intended for:

- 🔄 **Public authorities** developing or regulating reuse infrastructure.
- 🔄 **Private entities**, especially **Producer Responsibility Organisations (PROs)**, engaging in the design and operation of takeaway packaging reuse systems.



Reuse systems in the EU legal framework

Packaging reuse systems are organised processes where packaging materials (such as containers, bottles, crates, or pallets) are designed, collected, cleaned, and redistributed for multiple use cycles. Instead of disposing of packaging after a single use, these systems ensure that packaging maintains its quality and safety standards over several uses. Reuse systems often involve logistics networks for returning empty packaging, cleaning facilities, tracking systems (sometimes using bar codes or RFID), and standardised packaging designs to make repeated use efficient and cost-effective.

This system should **not be confused with refill systems**, where the consumer buys - and thus is the one owning - a product like a cup or bowl and refills it either at the point of sale or at home.³

This chapter focuses on the **definitions and requirements** laid down in the **Packaging and Packaging Waste Regulation (PPWR)** that are relevant to the understanding of this blueprint when it comes to the essential criteria **for reusable takeaway packaging systems**. For additional and more specific details, check **Annex II**.

³ Packaging Reuse vs. Packaging Prevention.

TAKEAWAY PACKAGING REQUIREMENTS DEADLINE

PPWR main requirements for Takeaway packaging

(EU Regulation 2025/40, Art.33)



February 2028

All businesses selling food and drinks (hot, cold, ready-to-eat) for immediate consumption – including HORECA (e.g. all outlets (e.g. salad bars) – must:

- Offer reusable packaging options within a reuse system
- Ensure reuse is as easy and affordable as single-use (no extra fees, no worse conditions)
- Make reuse options clearly visible through signage or information boards.

2030

Non-binding goal: At least 10% of all ready-to-eat food and drink products sold in reusable packaging.

Applies to all businesses offering takeaway-ready products, from cafés to retail store.

Clarifying scope and definitions: what is a packaging reuse system?

In the PPWR, a ‘**reusable packaging**’ is defined as those designed to be re-used multiple times, accomplish as many rotations as possible, and **must be inserted in a reuse system** [EU Regulation 2025/40, art 11 (1)].

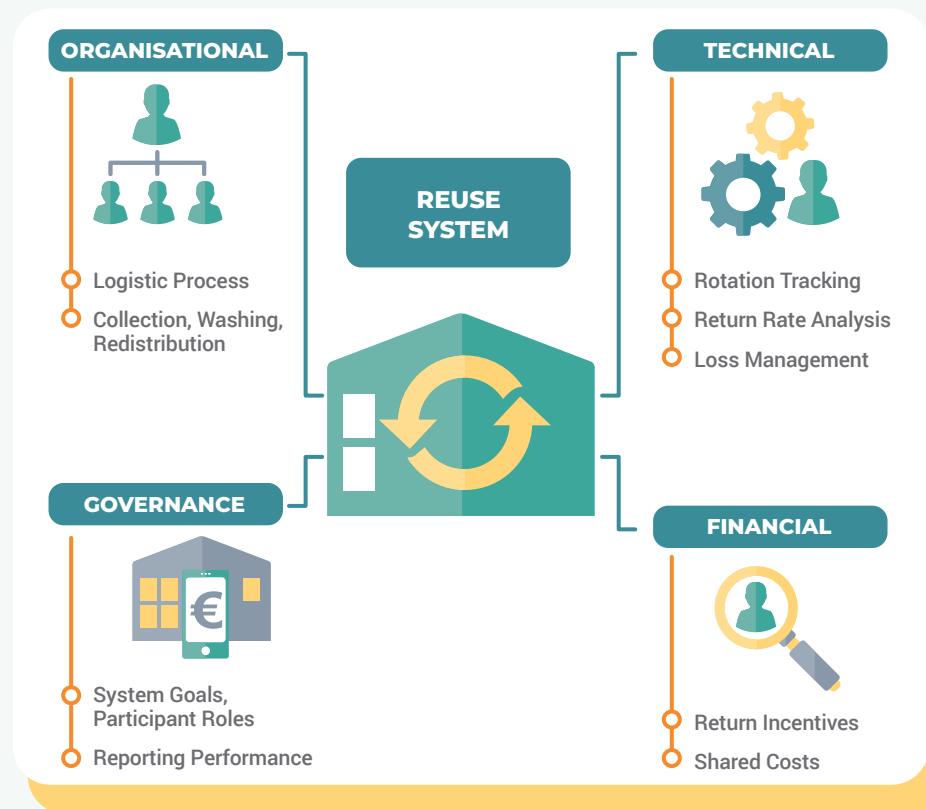
The legal definition of ‘**reuse system**’ under the PPWR is: any **organisational, technical or financial arrangements**, together with **incentives**, that allow re-use either in a **closed loop** or **open loop** system, such as a deposit and return system that ensures that packaging is collected for re-use [EU Regulation 2025/40, art3 (31)].

In other words, packaging reuse systems are those under which the return and reuse of a reusable packaging is made possible by adequate technical, financial, and organisational logistics and can be managed by a system operator⁴ or even other system participants (see below).

Therefore, the key essential aspects of reuse systems are:

- 🔄 **Organisational:** logistic process - collection, washing, redistribution, etc.
- 🔄 **Technical:** packaging type - including all the quality aspects related to its safety and durability, traceability (QR code, RFID), washing and hygiene.
- 🔄 **Financial:** shared costs of the investment, distribution of benefits, incentive to return the packaging - e.g: deposit.
- 🔄 **Governance:** management of the system by defining the rules and ensuring the proper functioning of the system.

⁴ NB: Only closed loop systems are legally required to have a system operator, under the PPWR, not open loop ones.



The system, therefore, engages the entire value chain, including packaging design, washing, transportation, urban logistics, collection points, and data platform. Typically, the packaging **is owned by one or several system participants**, be it by a pooling system, a system operator, a restaurant chain, or a producer consortium. This model ensures system-level accountability and optimisation.

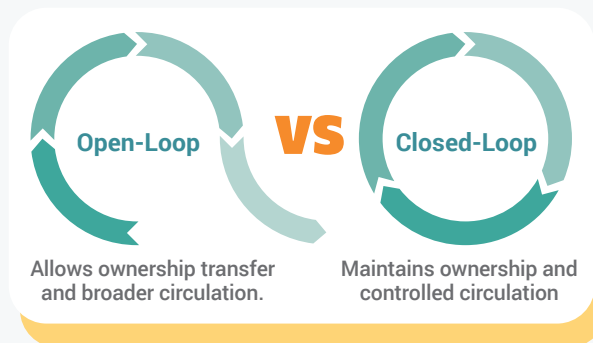
Other key definitions

To design effective, scalable systems for reusable takeaway packaging, all stakeholders must operate from a shared understanding of the legal terms that define what reuse systems are (and, at the same time, understand what they are not).

Since this blueprint focuses on **takeaway packaging**, it is relevant to add its legal definition, meaning *'service packaging filled at attended points of sale with beverages or ready-prepared food that are packaged for transportation and immediate consumption at another location without the need for any further preparation and are typically consumed from the packaging'* [EU Regulation 2025/40, art 3 (3)].

When it comes to reuse system structure, importantly, all players of the reuse system are legally defined as **'system participant'** and a reuse system can comprise one or more system participants, including those that collect the packaging, recondition it, distribute it, transports it, fills it, packs it or offers it to end users. [EU Regulation 2025/40, ANNEX VI (e)] **'End users'** are in this sense also considered a 'system participant' (being either a consumer or a professional end user, such as HORECA) [EU Regulation 2025/40, art 3 (23)].

Also, a **system operator** is defined as any natural or legal person who **manages a reuse system**; [EU Regulation 2025/40, ANNEX VI (d)]. Therefore, the operator would typically be the one in charge of the tracking, monitoring and logistics of the system, usually the same as the technology provider (e.g. TOMRA is the system operator of the Aarhus project, and PackBack the one for the Statiegeldbeker pilot in Rotterdam [see ANNEX 1 for project snapshots]).



Additionally, the reuse system definition explained above refers to **two types of reuse systems**: closed loop and open loop systems. According to the legal definition, a **'closed loop system'** means a "re-use system in which reusable packaging is circulated by a system operator or a co-operating group of system participants without the change of the ownership of packaging"; while an **'open loop system'** means a "re-use system in which reusable packaging circulates amongst an unspecified number of system participants, and the ownership of the packaging changes at one or more points in the re-use process" [EU Regulation 2025/40, ANNEX VI (b, c)].

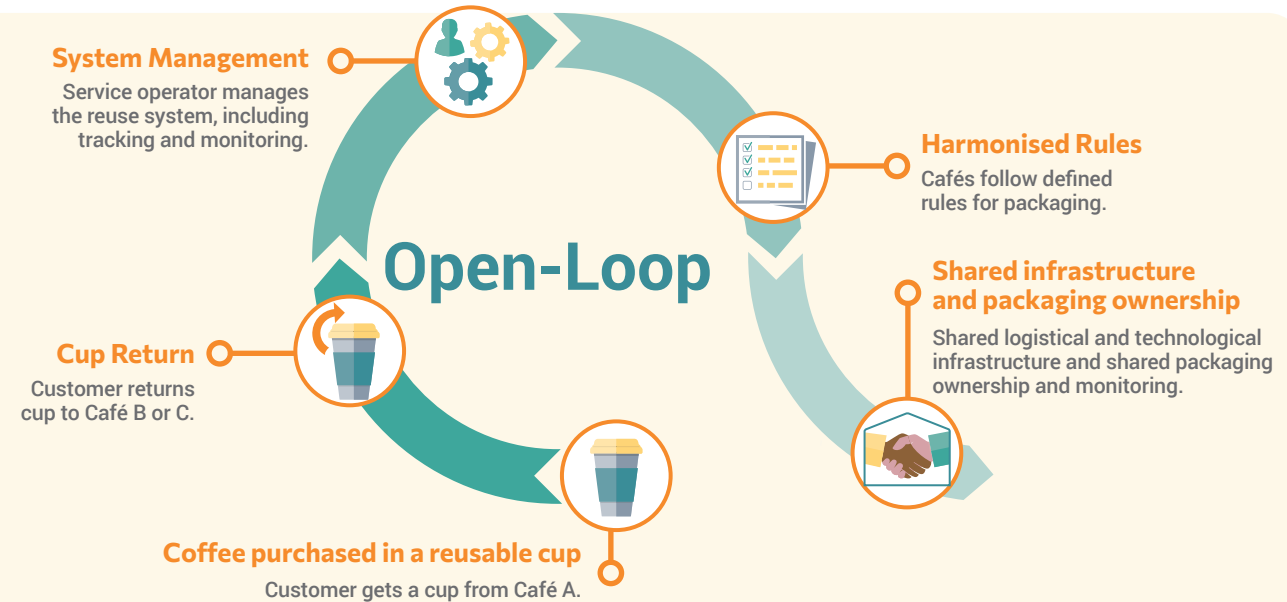
So far, all RSVP projects have been implementing (or planning to) closed loop systems as defined by the PPWR, with some variations in terms of number of system participants, logistical arrangements or level of optimisation (e.g. standardised packaging [Aarhus, Rotterdam] or not; centralised washing [Rotterdam, Aarhus, Berlin] or decentralised washing [Ghent, Leuven, Barcelona]). The Aarhus, Rotterdam, Berlin and Paris projects have, for instance, been addressing the issue of shared infrastructure designed to accommodate effectively (Rotterdam, Berlin) or with the intention to (Aarhus) one or more packaging system operators.

One example of an existing, scaled up, **open loop system is the reuse system for beer bottles in Germany**. More than 1,000 breweries use standardised reusable bottles, which they continuously feed into the system - effectively purchasing them at that point and selling them to a beverage wholesaler or a supermarket. The deposit on reusable bottles is always charged at the point when physical possession of the bottle transfers from one party to another. At the end of the circle, the beverage wholesaler collects, sorts, and returns empty bottles to the brewery or to another one that uses the same standardised bottle type. The brewery pays a handling fee for the return and can then refill the bottles for reuse.

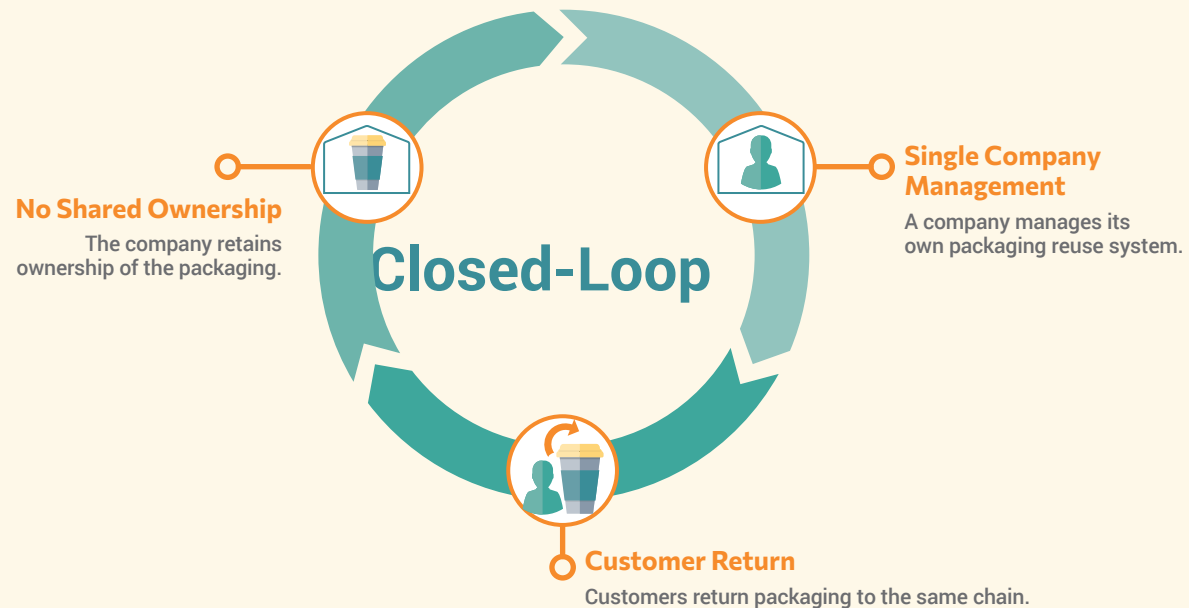
See the graphics on the next page:

Other key definitions (Continued)

OPEN-LOOP SYSTEM - TAKEAWAY REUSABLE PACKAGING



CLOSED-LOOP SYSTEM



Other key definitions (Continued)

Legal Building Blocks For A Reuse System

To qualify as a reuse system under EU law, packaging must:

- ✓ Be designed for multiple uses.
- ✓ Operate under a managed system if 'closed loop'.
- ✓ Involve third-party ownership (not the consumer).
- ✓ Include logistical and incentive mechanisms (e.g. deposit-return).

2028 Reuse Readiness Checklist For Local Authorities And HORECA

Proactive preparation will ensure legal compliance and smoother public uptake.

- ✓ Establish or join a compliant reuse system.
- ✓ Ensure all takeaway businesses offer reusable options.
- ✓ Clearly communicate reuse availability at the point of sale.
- ✓ Ensure cost parity between single-use and reuse packaging.
- ✓ Train frontline staff and HORECA personnel.
- ✓ Monitor and report return rates and participation.
- ✓ Roll out appropriate incentives (deposits, tax, subsidies, make reuse the default option, not the exception).



**Suma't al take away
del futur**

Art is Trash amb Rezero

Essential system criteria based on real-world experience

This section outlines the **five key criteria** to successfully set up and run reuse systems for takeaway food and drink. It is designed to help public authorities and private actors make informed decisions based on **real-world experience**.

The insights shared here come from hands-on work in **seven European cities across six countries** between 2022 and 2025 (see ANNEX 1 for project snapshots), complemented by lessons from mature reuse systems in the beverage sector and other proven solutions.

You will find practical guidance on what makes a system work - or fail - from both an environmental and economic perspective, with examples from diverse local contexts.

5 ESSENTIAL CRITERIA FOR REUSE SYSTEMS

1 Effectiveness
delivering environmental and economic performance, supported by the right incentives.



2 Recognition
systems must be easily understood and highly visible to users.



3 Interoperability
different actors and systems must be able to work together.



4 Inclusiveness
systems must be accessible, fair, and easy for everyone to use.



5 Guaranteed Safety
systems must meet high hygiene and safety standards.



1. EFFECTIVENESS

This blueprint supports **optimisation over time**, helping to create reuse systems that are **robust, convenient, and high-performing**.

High-performing systems must:

- 🔄 Maximise **return rates**
- 🔄 Enable **multiple rotations** of packaging.
- 🔄 Ensure **traceability**
 - all while being financially viable and scalable.

To achieve this, reuse systems must be backed by:

- 🔄 Strong **incentives** for businesses and consumers both to use the system, such as fees/taxes on single-use packaging, and incentives to return the packaging. Key performance indicators to align environmental and economic goals.
- 🔄 **Key performance indicators** to align environmental and economic goals.⁵
- 🔄 **A growing network** of HORECA partners to drive adoption.
- 🔄 **A dense and convenient network of return points**, be it at the point of sale (PoS) (i.e. HORECA, retailers) or dedicated, available and well-maintained point of collection (PoC) (e.g. public space, supermarkets).

⁵As seen at many festivals across Europe, the return process for reusable packaging is often poorly indicated, poorly facilitated—or both—resulting in additional revenues for organisers at the expense of both the environment and consumers' wallets.

⁶The story of the city of Tübingen, Zero Waste Europe, 2022.

The role of policy in supporting system effectiveness

The PPWR mandates that, by **February 2028**, final distributors (e.g. HORECA actors, retailers with salad bars) must offer consumers a reusable packaging option within a reuse system.

However, evidence from Germany, Belgium (Kombak project), and the Statiegeldbeker pilot in Rotterdam shows that **obligations alone are not sufficient** to drive meaningful change.

A recurrent challenge observed across RSVP pilots has been the **limited engagement of HORECA actors**.

Insights from RSVP projects, but also the case of the city of Tübingen (see below),⁶ confirm that reuse systems only reach meaningful penetration and performance when **public authorities step in with strong leadership, combined with policy or financial incentives**.

Key Point: the continued dominance of cheap single-use packaging - whose true environmental costs (e.g. littering, carbon emissions, biodiversity loss) remain unpriced - makes the transition to reuse difficult without public sector intervention.

Public authorities must create conditions that make reuse the default, accessible, and economically viable choice.

Cities and regulators can boost reuse by combining instruments such as:

- 🔄 **Ban single-use packaging for specific formats** (e.g. cups or food containers), as done in Lisbon (Portugal). However, bans alone are not enough - without accessible and well-designed reuse alternatives, including proper return incentives and collection points, bans can backfire, leading to discouragement, cheating, and even more material waste when reusables are used as single-use.
- 🔄 **Introduce a tax or fee on single-use packaging to level the playing field, using the money to support the development of reuse infrastructure or as a system operational subsidy.** This has proven to be one of the most effective tools for accelerating reuse uptake (see the highlight on Tübingen below).

Where legal frameworks do not permit the introduction of a tax on single-use packaging, system users should be supported to establish a **joint minimum fee** on such items. The purpose of this fee - and how revenues are used - must be clearly communicated to customers. This fee should be a **prerequisite for HORECA actors** wishing to join the reuse system, where possible.

Additional Complementary Measures:⁷

- 🔄 **Expose hidden costs of single-use:** in some contexts (e.g. Denmark), packaging can account for up to **10% of the total price** of a takeaway coffee, for instance. Requiring price transparency helps shift consumer behaviour.
- 🔄 **Promote voluntary default-to-reuse:** in the absence of legal mandates, HORECA actors can be encouraged to make reuse the default option. Public authorities or NGOs often need to play a convening and confidence-building role, as businesses frequently fear losing customers if acting alone.
- 🔄 **Introduce variable waste fees:** cities can lower waste collection fees for businesses that serve a significant portion of their takeaway products in reusable packaging.
- 🔄 **Offer targeted subsidies:** direct financial support can help HORECA actors cover the costs of subscribing to reuse systems. Subsidies should be **progressive**, increasing with the share of reusable packaging offered. As demonstrated in the **Kombak project**, these schemes must be simple to access and properly enforced, with both system providers and local authorities supporting uptake and compliance.
- 🔄 **Reward consumer loyalty:** a “reuse points” system can offer small rewards to customers who choose reusable packaging. While having been tested in Barcelona’s Returnable Takeaway project, such systems require, however, a substantial effort to set up and may have limited impact if not widely supported.

The Case of Tübingen

In January 2022, Tübingen introduced a municipal tax on all single-use packaging, tableware, and cutlery intended for immediate consumption - regardless of material.

Tax rates:

- **€0.50 per beverage container, food dish, or packaging item.**
- **€0.20 per cutlery set or similar auxiliary item.**

The tax is levied on businesses at the point of sale. Most businesses pass the cost onto customers by including it in menu prices, creating a **clear financial incentive** for consumers to opt for reusable alternatives.

Impact:

- **Sharp increase in the number of businesses offering reuse options.**
- **Tübingen now leads Germany in reusable packaging density per capita.**

Administration:

- **Minimal staff required: 1.75 full-time positions at launch, reduced to 1.25.**
- **Annual operating cost: ~€100,000 (including subsidies); tax revenue in 2022: €1 million, reinvested in waste prevention initiatives.**

To avoid the tax, many businesses adopted or switched entirely to **reuse systems** - proving that well-designed local fiscal measures can drive rapid change at scale.



⁷PPWR implementation guide for national and local governments

Performance indicators

Implementing effective reuse systems is challenging but crucial.

This Blueprint focuses on **continuous optimisation**: while early-stage performance may be imperfect, systems must rapidly improve over time.

It requires evolving infrastructure, behavioural shifts, and close collaboration between many actors. Yet the environmental case for reuse remains strong - **if systems are well-designed and optimised over time.**

Minimum Environmental Performance Targets

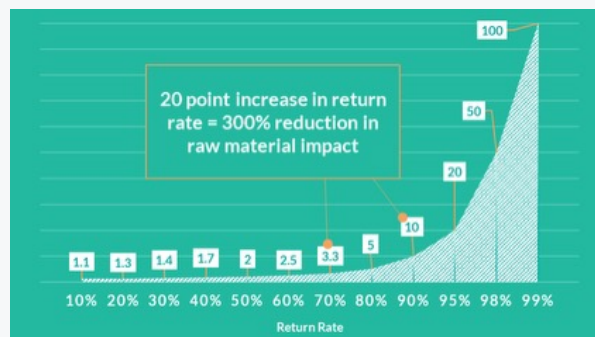
An environmentally effective reuse system should meet these minimum average targets:

Indicator	Target
Average Return Rate	
Year 1	60–80%
Year 2	75–90%
Year 3	≥90%
Rotation cycles before end of life	Min. 10 cycles ⁸

Low performance can be justified in the early stages but, as the system is optimised, it should not be excused indefinitely. To sum up, **reuse must aim for - and reach - high return rates and rotation cycles** to truly outperform single-use alternatives.

⁸Note that, as part of the PPWR enforcement process, secondary legislation is expected to clarify the required number of rotations. In the context of this blueprint, dealing essentially with reusable cups and food containers, we believe this is a minimum average number of rotations for packaging being part of a system for reuse based on this [study](#) (p.31). Depending on the carbon intensity of the material used to make the packaging, a higher number of rotations may be needed to ensure a positive carbon footprint. This is to be determined on a case by case basis. Waste Europe, 2022.

Graph: Reuse cycles by return rate - the exponential benefits



Source: Eunomia, Zero Waste Europe, Reloop (2023)

Scaling, efficiency, and the red line

Acknowledging the need for a phasing of the indicator targets is important because takeaway reuse systems are still scaling and adjusting. This is especially accurate when testing shared infrastructure and incentive mechanisms. When integrating a takeaway reuse system with an existing and well-established infrastructure and reverse logistics for reusable bottles, for instance, initial distances between collection and washing and PoS may not be optimised for a local reuse scheme.

However, as a general rule:

Systems must not operate below 90% return rates or below break even rotation cycles for extended periods.

Persistent under performance likely indicates the need for corrective actions, be it in terms of:

- 🔄 Enhancing accessibility.
- 🔄 Considering, correcting or testing additional incentives.
- 🔄 Improving user-friendly return options.

Example: Aarhus (Denmark)

- **86% return rate achieved** and 850,000 reusable cups collected by end of Year 1.
- **92% return rate** during city-wide events.

Lesson: with proper design, support, and progressive optimisation, **high performance is achievable** even in complex environments.

2. RECOGNITION

Ensuring that reusable packaging systems are clearly recognisable to consumers is crucial for widespread adoption and correct usage. This goes beyond aesthetics: recognition enables habit formation, supports behavioural change, and builds trust and confidence in the system.

When users can easily distinguish reusable packaging - and understand where and how to return it - they are more likely to participate. Conversely, poor recognition undermines return rates and system credibility.

In short, recognition matters because it:

- 🔄 Reinforces the **social norm** that reuse is expected and accessible.
- 🔄 Enables **correct use and returns**.
- 🔄 Helps ensure **compliance** with legal requirements.
- 🔄 Encourages **consistent use across cities and systems**.

Communication campaigns

Municipalities are uniquely positioned to educate and engage citizens about reusable packaging systems. They can do that through various channels such as:

- 🔄 Local media.
- 🔄 Public infrastructure (e.g. transport, libraries, community centres).
- 🔄 Events or schools.

By doing that, they can ensure the information is relevant and widely seen. Their involvement can bridge the gap between reuse system participants and everyday users by promoting awareness, clarifying processes, and addressing barriers to participation.

However, without active local communication, even well-designed reuse systems risk failure due to lack of public understanding or buy-in.



©DUH_Kern



©Rezero



©Ewald Geerdink, the Arrows

Key elements of a recognisable system

To differentiate from non-compliant or poorly performing reuse efforts, systems should ensure both the **system design** and the **packaging** are clearly identifiable.

The system:



©Sophie Nuytten

Clear **signage** at return points (e.g. maps, arrows, pictograms, stickers).



©REUSABLE

Online tools that show **where to return**.



©REUSABLE

Visual and/or digital confirmation when a return is made (e.g. beeps, receipts, screen messages).



©REUSABLE

Distinctive infrastructure that does not resemble general waste bins or habits.

The packaging:

Made from **durable, safe materials** (see Section 6: Guaranteed Safety).

Recyclable at end-of-life (both container and lid).⁹



©Ewald Geerdink, the Arrows



©Ewald Geerdink, the Arrows

Marked with **traceability codes** (e.g. QR, RFID).



©Ewald Geerdink, the Arrows

Displays **clear visual symbols** linking it to the return system (crucial for unmanned machines).

A reuse logo - what's at stake?

A logo/label is also a relevant tool to make the system recognisable. The **PPWR requires all reusable packaging in Europe to be labelled by 12 February 2029** so as to 'inform users that the packaging is reusable', but it is unclear if this will be a single EU-wide logo or allow national/regional versions.

A logo alone will not ensure success unless:

- 🔄 **Governance is in place** to enforce proper use (to avoid greenwashing).
- 🔄 It is **backed by systems that actually deliver** high environmental performance.

Mehrweg

The **Mehrweg** logo is widely used in Germany, Austria, and Switzerland to mark reusable packaging - especially in beverage systems. It helps consumers distinguish between single-use (Einweg) and reusable packaging.



Key features:

- 🔄 **Not trademarked or state-controlled.**
- 🔄 Used voluntarily but **aligned with standards** (e.g. by the Deutsche Umwelthilfe (DUH) – an environmental NGO-, the Genossenschaft Deutscher Brunnen (GDB) – a cooperative of German mineral water producers that runs a widespread reusable bottle pool system and the private beverage associations and bottle pool operators).
- 🔄 Signals that the packaging meets **minimum requirements** to operate in a reuse system.

This logo has helped mainstream reuse in German-speaking countries - especially for bottles - but its success relies heavily on **systemic support and alignment**, rather than the logo alone.

Given Europe's fragmented landscape and existing local reuse logos, this Blueprint **does not recommend a single logo** as a success factor - **pending further EU-level guidance and governance mechanisms.**

⁹As part of the EU Regulation 2025/40 secondary legislation, the European Commission will be in charge of developing EU-wide criteria on recyclability and related requirements for packaging to be considered recyclable (also called design for recycling criteria).

Summary: Recognition in practice

Element	Must ensure
System Design	High visibility, intuitive signage, clear return instructions.
Packaging	Durable, labelled, traceable, visually distinct.
Public Communication	Localised campaigns, city leadership, user education.
Logo Use	Only with governance, performance backing, and legal clarity.

3. INTEROPERABILITY

For reuse systems **to scale effectively across Europe, interoperability is essential.** Even if different cities use various packaging types, technologies, and operators, they must all “speak the same language” - ensuring that users can **recognise, use, and return** packaging across multiple systems.

Interoperability also applies at the system management level: standardised **reporting protocols**, compatible **traceability formats**, and **user-friendly interfaces** allow for seamless integration and cooperation between actors.

Interoperability in practice

While EU legislation currently limits the scope of Deposit Return Schemes (DRS) to **beverage packaging**, several projects have shown that **interoperable systems can work for takeaway food and drink containers as well.**

This is the case of the **Rotake Reusable project** in Aarhus or the reuse system **Einfach Mehrweg** in supermarket chains across Germany.

Packaging design for interoperability

Interoperability starts with **designing packaging that fits shared infrastructure** for collection, transport, washing, refilling, and redistribution.

Key attributes:

- 🔄 **Standardised formats** (size, shape, volume).
- 🔄 **Stackability**, which reduces storage and transport inefficiencies.
- 🔄 **Material durability**, especially under repeated washing and handling

These design choices are central to **reverse logistics efficiency** and cost control, as demonstrated in long-standing systems in the beverage and business-to-business (B2B) sectors (e.g. pallets, crates).

Interoperability enhances the effectiveness of packaging reuse systems by allowing multiple stakeholders to use and return packaging across a common network and shared infrastructure, increasing efficiency, scalability, and consumer convenience.

A core design requirement is **stackability**, critical to avoiding logistical bottlenecks and inefficiencies as systems scale. Lessons from established reuse models in the beverage and B2B sectors (e.g. pallets and crates) show that **packaging standardisation** is a key factor in reducing complexity, optimising reverse logistics, and lowering long-term costs.



Balancing standardisation and market reality

The level of standardisation possible at launch depends heavily on the local market landscape.

Scenario 1: markets with existing, competing reuse systems

In mature markets, multiple reuse solutions may already coexist, each with its own packaging types, return schemes, and incentive mechanisms.

Germany exemplifies this case, where several large market players operate thousands of points of sale (PoS), but with **divergent financial return systems** (e.g. cash-based vs. cashless).

In such contexts, **full standardisation may be neither feasible nor desirable**.

Instead, the goal should be **pragmatic interoperability**, focusing on:

- Aligning **packaging dimensions**.
- Coordinating **return logistics**.
- Establishing interoperable **data and deposit mechanisms**.

A practical example of this approach is the **Berlin pilot project** (see ANNEX 1), where **two major reuse operators are collaborating** to integrate their systems using **shared Reverse Vending Machine (RVM) infrastructure** originally deployed for beverage packaging.

This demonstrates how leveraging shared infrastructure can **foster interoperability without requiring full uniformity from day one**.

Scenario 2: markets with limited or no existing reuse infrastructure

In emerging contexts, the absence of dominant reuse operators offers a **strategic opportunity** to build interoperability from the ground up, aiming for scalability, cost-efficiency and environmental performance.

In **Rotterdam**, the **Statiegeldbeker pilot project** (see ANNEX 1) is a strong example. Implemented collaboratively with **HORECA stakeholders**, the initiative introduced **standardised, non-branded reusable cups** supported by a **centralised collection system at Rotterdam Central Station**. As there were **no dominant market players to accommodate**, stakeholders were free to co-design a streamlined, scalable system based on **shared infrastructure and governance**.

Other initiatives like Le Paris du *Réemploi* project in Paris or else REUSEABLE in Aarhus, show how **cities or PROs** can establish new reusable system standards from the outset, by:

- Leading **inclusive stakeholder processes** to define packaging standards.
- Launching **public tenders** to select one or more system operators.
- Investing in **shared infrastructure**, managed under transparent and inclusive governance.

Standardisation from the outset in such markets helps avoid later fragmentation and builds the conditions for **scalability, cost-efficiency, and environmental performance**.

Collection points

For a reuse system to succeed, citizens must find it **easy and intuitive** to return packaging. The **density and accessibility** of return points directly influence **return rates, user satisfaction**, and ultimately, **system performance**.

However, there's a necessary trade-off: a denser return network usually leads to higher operational costs. Finding the **right balance** between convenience and economic viability is crucial.

Implementation Tip:

all return infrastructure should be backed by pre-agreed operational arrangements between stakeholders - including roles for collection, deposit handling, storage, and cleaning logistics.

Two primary models exist, with several variations:

- 🔄 Return to point of sales (PoS) at restaurants, cafés or kiosks.
- 🔄 Return to specific points of collection (PoC).

To relieve restaurants of the labour-intensive task of taking back reusable packaging, it can also be an option to externalise the return process by either using existing return locations and infrastructure or creating new ones.



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@ringo

Here are several examples:

Supermarkets as PoC

Germany has long used RVMs in supermarkets to return reusable bottles. Centralised transport and rinsing logistics have already been set up. This existing infrastructure is now expanding to **to-go food and drink packaging**.

This has been the case since 2023 with EINFACH MEHRWEG, with now around 10.000 automated Points of Collections (RVMs) recovering to-go cups and food packaging in Germany. The project launched in March 2025 in Berlin is, not least, about enabling the return of RECUP reusable cups through this system.

High-tech and low-tech PoC in public space

Aarhus has installed high-tech RVMs in streets, food halls, and the university campus, making returns easy throughout the city.

PoCs in transit hubs

In Rotterdam, the national railway company (NS) ran a 3-month pilot using RVMs in the central station's main hall. Since in-store returns weren't feasible, this model proved critical for space efficiency, cost efficiency and user convenience.

HORECA outlets in the station area did not have the capacity to take back cups over the counter, so there was a clear need for an unmanned take-back.

Low-tech return bins at PoS:

Used outside high-footfall zones. Some of the advantages of this solution are:

- **20% cheaper than high-tech solutions.**
- **Ideal for semi-supervised or indoor use.**
- **Require more oversight and are not suited for unsupervised public areas.**

Low-tech return bins in the Public Space:

Another example is the Estonian company **Ringo**, which has placed over 180 low-tech return boxes in the public spaces in Tallinn (streets, airport, gas stations, shopping malls, etc).

Labelling, data and traceability

For reuse systems to be truly interoperable and transparent, all stakeholders - **system operators, tech providers, and retailers** - must adopt a **common and open data language**.

This ensures:

- Accurate **tracking of KPIs** (e.g. return rates, trips).
- Efficient **logistics coordination**.
- **System compatibility** across locations and technologies.

Operators and tech providers (e.g. RVM companies) should agree on a **minimum common data set** to ensure traceability, while still allowing encrypted or proprietary fields for business-sensitive functions.

Legal Mandate: Under **Art. 12(2)** of the PPWR, reusable packaging must:

- Carry a **label** clearly identifying it as reusable.
- Include a **QR code or digital data carrier** for tracking reuse cycles and locating collection points.
- Be visually distinguishable from single-use packaging.

Local Pilot Lessons: projects in Berlin, Aarhus, and Rotterdam have shown that:

- **Codes must match local infrastructure.** If integrated into national DRS, use the same code standards.
- **Different sectors use different coding systems,** so the selection of codes must be adapted to local conditions and existing infrastructures.
- **Multiple code types** may be necessary during early implementation phases.
- **Codes should ideally be pre-printed** on the packaging during manufacturing to ensure hygiene and safety, and to avoid degradation or detachment during use and cleaning.

Technical standards for RVM integration

Based on trials in Berlin and Aarhus, reusable packaging returned via RVMs should meet these conditions:

- Code serial elements can be up to 19 alphanumeric digits.
- QR code format must be compatible with readers (e.g. TOMRA OneRing supports versions 3 and 4).
- Optimal contrast: black on white background.
- Code blocks (modules) must be square and sharply defined.
- Code must follow **GS1 GRAI logic (Global Returnable Asset Identifier)**.
- Can include a **GRAI Digital Link** (consumer-facing URL) if total content fits the supported format and sharply defined.

Extract from Art 12 (2): Reusable packaging placed on the market [...], shall bear a label informing users that the packaging is reusable. Further information on reusability, including the availability of a local, national or Union-wide re-use system and information on collection points, shall be made available through a QR code or other type of standardised, open, digital data carrier that facilitates the tracking of the packaging and the calculation of trips and rotations, or, if that calculation is not feasible, an average estimation. In addition, reusable sales packaging shall be clearly identified and distinguished from single-use packaging at the point of sale.



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©echoposter

4. INCLUSIVENESS

A well-functioning reuse system must be **inclusive by design**, ensuring **open access for operators** and **ease of use for all citizens**, regardless of background, physical condition, or digital literacy. Inclusiveness is not an afterthought: it is a **core design principle** that strengthens both fairness and adoption.

System openness

Any operator that meets the defined criteria should be able to join the system. In the case of a reuse system set up through **public procurement**, the requirements should be **technology-and provider-neutral**, focused on setting **performance-based standards** rather than specifying a proprietary system.

These standards should emerge from either:

- 🔄 A robust **stakeholder engagement process**; or
- 🔄 An **independent impact assessment**, ensuring that the outcomes reflect a fair cross-section of user and market needs.

Importantly, systems should be **modular and scalable**, designed to:

- 🔄 Incorporate different types of packaging (e.g. cups, bowls, trays).
- 🔄 Eventually extend to other product categories (e.g. bottles, jars).

Examples from the RSVP pilots show this in action:

- 🔄 In **Berlin**, multiple reuse operators collaborate using shared RVM infrastructure, and the system is being progressively extended from cups to **include food containers**.
- 🔄 In **Aarhus**, reusable bowls are now integrated into the return system initially designed for cups, showing the potential for **multi-format inclusion**.
- 🔄 In **Paris**, the system (to be launched in 2026) is being designed to accommodate both takeaway and delivery cups and bowls from HORECA and retailers and possibly also other packaging like sushi or pizza boxes.

People-centric design

Inclusiveness also means ensuring accessibility for all end users, including people:

- 🔄 With physical disabilities.
- 🔄 Who do not own a smartphone.
- 🔄 Who are unfamiliar with digital platforms.

While no system can be 100% accessible from day one, **barriers should be anticipated and minimised** early on. For example, collection points should be **easy to reach and operate**, and instructions should be **clear, visual, and multilingual** wherever possible. For example, when deciding the location of the collection infrastructure, cities must consider both the waste generation hotspots and a fair geographical coverage - ensuring convenience and ease of packaging returning regardless of people's location.

Incentives: cash vs. cashless returns

A major challenge in ensuring inclusiveness is the **financial incentive for return** used in deposit-return systems. Both **cash and cashless refund options** could coexist but, in practice, most systems are built around **a single refund method**, based on local payment habits and infrastructure, to avoid confusion for users of the system.

Cashless Return Systems

Most RSVP cities are testing or implementing cashless returns, which offer speed, security, and ease of integration with modern consumer habits. Examples include:

- 🔄 **Aarhus:** customers receive their deposit back directly via **contactless payment**. Before returning the cup, users tap their bank card, phone, or smartwatch on the RVM scanner. The refund is issued **automatically and securely**, thanks to integration with **Visa, Mastercard, and Shift4**.
Note: First-time users occasionally experience confusion with the tap-before-return sequence.
- 🔄 **Rotterdam (Statiegeldbeker):** no app is needed. Users return cups to a smart bin or over the counter, receive a **QR-coded ticket**, and scan it using **Tikkie**, the most widely used payment platform in the Netherlands (10+ million users). Even those without the app can enter bank details to get refunded, making the system both **low-tech and accessible**.
- 🔄 **Berlin pilot:** After returning a container at an RVM, users receive a **paper ticket** with a scannable code, which can be.
 - 🔄 **Redeemed for cash;** or
 - 🔄 **Used to make purchases** in participating stores. This hybrid approach offers both **flexibility and accessibility** to diverse users - as well as an incentive for stores to participate in the scheme.

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Cash Return Systems

Some reuse systems still allow for **on-the-spot cash refunds**, typically at staffed return points. These remain important in areas or demographics with **low digital uptake or limited banking access**.

These remain an important option in areas or among demographics with **low digital uptake, limited banking access, or greater comfort with cash transactions**.

In some contexts, **cash is preferred** because it feels **more tangible and immediate** than digital refunds. It can also help users **avoid transaction or processing fees** associated with certain digital platforms, especially for those without a local bank account or app familiarity.

Including **cash-based refund points** alongside digital options increases **trust, usability, and uptake**, especially in mixed-demographic urban environments or where public inclusion is a priority.

Considerations for implementation

To enhance **inclusiveness** while ensuring **long-term viability and scalability**, system designers should:

- **Adapt to local context:** design systems that reflect the local population's payment habits, digital access levels, and socio-economic profiles. There is no one-size-fits-all solution.
- **Phase implementation where appropriate:** start with the dominant local preference (cash or digital) and gradually expand or diversify options as infrastructure and user readiness evolve.
- **Issue return tickets (with QR codes or similar):** allow flexibility in the timing and channel of reimbursement, and reduce transaction costs by consolidating multiple returns where possible.
- **Minimise friction at first-use moments:** particularly in contactless or app-based systems, ensure clear prompts and intuitive instructions (e.g. reminding users to tap their card before depositing at RVMs).
- **Continuously monitor user feedback and accessibility barriers:** use insights to refine system design, remove participation hurdles, and support broader adoption across diverse user groups.



5. GUARANTEED SAFETY

Overview

Ensuring the safety of reusable food packaging systems is essential for building both business confidence and consumer trust. This section outlines the key hygiene and chemical safety requirements for reuse systems in the takeaway sector.

From a hygiene perspective, reuse systems must comply with existing food safety regulations concerning the **use, collection, cleaning, and redistribution** of food contact materials (FCMs) - whether single-use or reusable.

However, current EU legislation on FCMs is **fragmented and outdated**. There is still no comprehensive legal framework that:

- 🔄 Certifies all materials and their chemical content as safe over multiple reuse cycles.
- 🔄 Provides standard testing protocols to assess safety after repeated use.

This Blueprint clarifies what is currently possible within the existing legal context and supports **the development of future regulations**, including introducing a **harmonised testing protocol**.

It also aims to **advance science-based verification tools**, such as the **UP Scorecard**, to inform procurement, system design, and long-term regulatory development.

The UP Scorecard can indeed serve as a helpful starting point to identify when reuse systems can reduce overall environmental and human health impacts compared to single-use alternatives. Further, its customisable scenario calculations can identify:

- 🔄 Which generic materials lead to the lowest impacts (scores are provided for plastic pollution, chemicals of concern, climate, water use, sustainable sourcing, and recoverability).
- 🔄 How many reuse cycles are needed to achieve break-even points in terms of impacts.
- 🔄 How different transportation distances and modes of transport affect impacts.
- 🔄 What are the total impacts and impact trade-offs of entire product portfolios, operational sites, or divisions.

Regulatory Framework

🔄 Current Regulations:

- 🔄 Regulation (EC) 852/2004 mandates that reusable food contact materials must be cleanable, disinfected, and not a source of contamination.
- 🔄 Regulation (EC) 1935/2004 mandates that food contact materials “do not transfer their constituents to food in quantities which could endanger human health.”
- 🔄 Regulation (EU) No 10/2011 sets out specific requirements for the manufacture and marketing of plastic materials and articles intended to come into contact with food
- 🔄 EU Regulation 2024/3190 bans BPA and certain other bisphenols in food contact materials.
- 🔄 EU Regulation 2025/40 prohibits PFAS in food-contact packaging (Article 5)
- 🔄 EU Regulation 2025/351 requires manufacturers to provide information on preventing and recognising deterioration of plastic materials.

🔄 Upcoming Developments to monitor and prepare for:

- 🔄 Revised Food Contact Materials Regulation 1935/2004 (1st proposal expected in 2027).
- 🔄 Delegated act from EU Regulation 2025/40 will set minimum durability requirements for different packaging formats.
- 🔄 Regulation (EU) No 10/2011 sets out specific requirements for the manufacture and marketing of plastic materials and articles intended to come into contact with food.
- 🔄 By January 2030, standardised digital marking of substances of concern will be required in packaging (Article 12, EU Regulation 2025/40).

Practical safety considerations¹⁰

Design and Material Choice

Design plays a critical role in the safety of reusables. Material choice is of central importance, impacting cleaning processes, degradation, and consumer safety and ease of use.

- Use materials that can deliver the required safety for the planned number of rotations.
- Ensure packaging is easy to clean and safe to handle.

Cleaning and Hygiene Protocols

Generally speaking, washing reusable containers - except those made of plastic - is no different than washing pots, pans, dishes and utensils. Two parts of washing need to be inspected: cleaning that removes dirt and sanitising (or disinfecting) that kills bacteria.

- Cleaning chemistry and procedures must comply with national/local standards or guidelines.
- Reuse systems should minimise the use of water, energy and chemicals; and safely manage residues.
- Regular inspection of containers is essential to ensure both cleanliness and integrity. Special care needs to be applied when washing plastics (not least to ensure perfect drying before storage). Whereas the properties of permanent materials such as glass and stainless steel do not change over extended periods of use, plastics can be chemically modified by exposure to heat, UV, and oxygen. Cleaning of reusable plastic foodware and packaging can also change the chemistry of the material and lead to increased migration of a variety of different chemicals, such as degradation products, additives, and residuals from previous uses, such as dishwasher detergents.

Labelling and Instructions

- Future EU law will require digital labelling (e.g. QR codes) to provide users and authorities with data on packaging reuse cycles and material composition.
- Plastic articles intended for repeated use must provide consumers with instructions to recognise degradation and prevent unsafe use.

Standardisation Updates

- Ongoing work at CEN (TC 194 & TC 261) aims to set durability and migration standards for reusable packaging formats, building on Regulation 10/2011.

Action Checklist for Public Officials Drafting the Safety part of a Reuse Tender

- Require certified food-contact materials, while the final packaging must not intentionally contain any **chemical of concern** in Tier 1 of the **UP SCorecard** Food Contact Chemicals Priority List.
- Set minimum durability standards (i.e. wash cycles without losing critical properties).
- Demand written hygiene and cleaning protocols compliant with local food safety laws.
- Include traceability and labelling (e.g. QR codes, usage guidance).
- Ask for documentation on safe storage, transport, and filling.
- Include compliance with evolving EU safety and labelling requirements (PPWR, CEN standards).

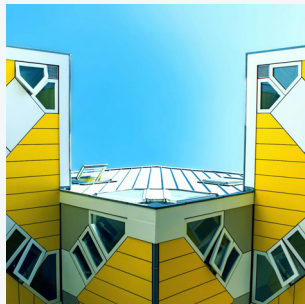
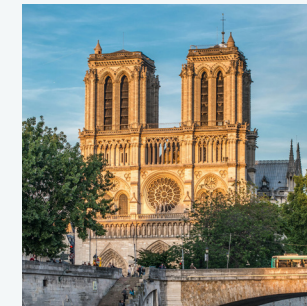
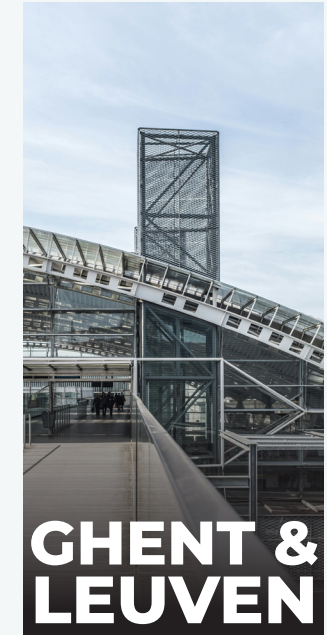
¹⁰World Economic Forum 2021: [Consumers Beyond Waste - Safety Guidelines Working Group](#).

¹¹Food Packaging Forum: [Reusable foodware and packaging](#).



ANNEX I

What has been tested under RSVP - Six city projects snapshots





1

Aarhus - REUSEABLE



RSVP core local partner:

Plastic Change.

Key Local Partners:

City of Aarhus (Project Lead), Tomra, local retailers, waste services!

Funding Sources:

Municipal funding, supported by infrastructure partnerships.

Duration of Test Phase:

3 years (2023-2026).

Core Goals & Key Elements Tested:

The project is testing both cups and food containers, which are returned in specially designed Return Vending Machines placed around the city center. Highly user-friendly digital system using contactless refunds.

Geographical Scope:

City centre, Aarhus.

Regulatory Context:

There are no specific targets or fiscal incentives to drive reuse in Denmark at the time of launching this project. The Municipality of Aarhus plays a central role in prioritising reuse and investing in this specific project. On a national level, the Danish government and the political parties supporting the Finance Act of 2025 have agreed to establish a partnership of relevant stakeholders within reuse, e.g. recycling companies, municipalities, industry associations, deposit system, restaurants, etc. The partnership will receive a subsidy of €670.000 annually in 2025-2027. Building on REUSEABLE, the partnership must identify challenges and opportunities for introducing a national deposit and return systems for e.g. plastic cups etc.

Reuse System type (Closed/Open):

Closed loop system with shared infrastructure.

System Operator:

Tomra (machines and logistics).

System Participants & Roles:

Municipality coordinates; Tomra operates; retailers distribute and collect.

Type of Incentive to Return:

€0.67 refundable deposit via contactless bank card.

Tracking System:

Biometric QR codes scanned at RVMs.

Key Learnings:

- ⌚ A well-designed system can achieve return rates above 85% within a year and continue improving, while significantly reducing waste in public spaces.
- ⌚ Simplicity and visibility of reuse options—especially at retailers and RVMs—are essential for user uptake.
- ⌚ Staff engagement at local retail points is crucial to encouraging consumer participation.





2

Barcelona - Retornable Takeaway



RSVP core local partner:
Rezero Foundation (Project Lead).

Key Local Partners:
Barcelona city, Vasovengo, Bumerang, Pacto Zero, Restaurant Guild, 22@network Barcelona, Eix Comercial Poblenou, Westfield, Clear Channel.

Funding Sources:
Plastic Solutions Fund; co-funding from Barcelona town hall and waste company.

Duration of Test Phase:
(April 2024–July 2025).

Core Goals & Key Elements Tested:
Increase HORECA sector and consumer awareness about reusable cup and bowl systems and their benefits; create a network of allies to promote their adoption as well as test incentives and reward systems.

Geographical Scope:
Barcelona city, focus on Poblenou district.

Regulatory Context:
No binding local regulation at the time; supporting voluntary uptake. By Spanish legislation, establishments must charge a fee for single use plastic take away containers but it is not implemented.

Reuse System type (Closed/Open):
3 closed loop systems, no shared infrastructure.

System Operator:
Vasovengo, Bumerang and Pacto Zero.

System Participants & Roles:
Rezero leads, recruits and implements loyalty system; providers manage logistics and digital platforms.

Type of Incentive to Return:
Deposit-based model (Vasovengo) and library system (Bumerang, Pacto Zero). A loyalty point system redeemable for gifts was also developed as an additional incentive.

Tracking System:
QR codes via Bumerang; Barcodes for Pacto Zero, Vasovengo operates without individual packaging traceability.

- Key Learnings:**
- Without binding regulation, scaling reuse systems is extremely difficult—even with strong public outreach.
 - Success also depends on collective commitment from authorities, HORECA actors, service providers, and consumers.
 - Reuse systems can act as a gateway to other sustainable behaviours, such as refill and bring-your-own.
 - Simplicity in the return process is critical—especially the need for unified digital interfaces in multi-provider settings.





3

Berlin - Mehrweg pilot



RSVP core local partner:

DUH (Environmental Action Germany - Project Lead).

Key Local Partners:

REWE, Sykell (Einfach Mehrweg), Recup, Tomra, Sielaff, Profimiet, Berlin Senate.

Funding Sources:

Plastic Solution Fund, Environmental Defense Fund and Berlin Senate.

Duration of Test Phase:

12 months (March 2025- February 2026).

Core Goals & Key Elements Tested:

Return of reusable to-go-cups from the two system providers RECUP and EINFACH MEHRWEG via RVMs in supermarkets; serialisation of existing reuse packaging (Recup); the goal is to explore improvements in convenience for the HORECA sector and consumers by simplifying the return of reusable packaging through reverse vending machines (RVMs), as well as to test opportunities for scaling reusable systems via shared infrastructure.

Geographical Scope:

Friedrichshain-Kreuzberg district, Berlin with around 85 gastronomy partners of RECUP and eight REWE stores.

Regulatory Context:

German packaging law encourages reuse partly through an obligation for large gastronomy businesses to offer reusables; is going to be aligned with EU PPWR.

Reuse System type (Closed/Open):

2 separate closed loop systems sharing the reverse logistics (collection, washing, redistribution).

System Operator:

DUH coordinates the project activities, manages press and public relations and evaluates the results (with support from the Kühne Logistics University)..

System Participants & Roles:

Tomra and Sielaff collect through their RVM technologies; Sykell manages the data through its IT system Circular ERP and organises the logistics together with the retailer REWE; Profimiet is the washing provider, sorts and scans the packaging; city actors coordinate.

Type of Incentive to Return:

Deposit-based model (RECUP and EINFACH MEHRWEG).

Tracking System:

Recup and Einfach Mehrweg use several types of codes for the tracking (data matrix, barcode, QR-code).

Key Learnings:

- ⌚ The success of the project depends on the commitment of key stakeholders in the German reuse-to-go sector. For cities looking to implement similar pilots, it's crucial to identify and involve existing players, as their participation can significantly impact pilot development.
- ⌚ While the project is in its early stages, it has already highlighted the need for unified digital interfaces for automated returns. Supermarkets and vending machine manufacturers in Germany currently use barcodes and data-matrix codes, while reusable packaging system providers prefer QR codes. For new reuse systems, automated returns should be facilitated through serialised printing. We recommend that industry representatives agree on standardised codes.



Ghent & Leuven - Kombak project



PROJECT
SNAPSHOT

4

RSVP core local partner:

Fair Resource Foundation.

Key Local Partners:

IVAGO (WM company in Ghent - Project Lead), futuREproof, L'Empoteuse, City of Leuven, OVAM.

Funding Sources:

Plastic Solutions Fund, Green Deal Anders Verpakt, IVAGO, City of Leuven.

Duration of Test Phase:

12 months (April 2024 - April 2025).

Core Goals & Key Elements Tested:

Adoption of reuse systems by local HORECA, A-B testing of library system and classic deposit system, public instances support through funding and communication materials.

Geographical Scope:

Ghent and Leuven city centres.

Regulatory Context:

Voluntary schemes encouraged; no formal reuse mandate.

Reuse System type (Closed/Open):

Closed loop systems, no shared infrastructure.

System Operator:

L'Empoteuse (Ghent), Futureproof (Leuven).

System Participants & Roles:

Restaurants serve and clean; app provider manages tracking in Leuven.

Type of Incentive to Return:

€1,5 - 8 deposit in Ghent; app-based late fee model in Leuven.

Tracking System:

None in Ghent; mobile app in Leuven.

Key Learnings:

- Without binding regulation, restaurants are reluctant to charge for single-use packaging or make reuse the default—slowing adoption and scalability. Complementary measures like EPR schemes or local single-use packaging taxes could fund reuse infrastructure and ease the transition.
- Despite positive feedback and stated interest, low consumer uptake reveals a persistent gap between intention and action, pointing also to structural friction in the system rather than lack of willingness.
- Limited return points and short return windows create friction and discourage consistent participation. A wider, more flexible collection network is needed.
- Lack of clear, consistent communication—combined with limited visibility and incentives—undermines restaurant engagement and user awareness.

- Gathering qualitative feedback in existing circumstances, labor-intensive and often yields low returns
- System-level data collection has proven challenging both on the restaurant and consumers side, hindered by low adoption rates, reliance on low-tech processes, or a lack of visibility into end-user behaviour—calling for better-integrated digital tools and shared infrastructure for monitoring.



Herbruikbare bowls.
Probeer ze bij je favoriete resto.
bowls.ivago.be

IVAGO

In samenwerking met
Rec Net



5

Paris – Le Paris du Réemploi



RSVP core local partner:

Réseau Vrac et Réemploi (Project Lead until 2024).

Key Local Partners:

CITEO (Producer Responsibility Organisation (PRO) - Project Lead since 2024) and Ville de Paris.

Funding Sources:

CITEO (operating and financing the project).

Duration of Test Phase:

12-24 months.

Core Goals & Key Elements Tested:

Launch an experimental reuse scheme for takeaways and deliveries in a target area for a period of 12 to 24 months to assess key to assess the optimum conditions for success such as :

- 🔄 A dense and easily accessible network of RVMs to simplify the consumer journey
- 🔄 A turnkey solution for restaurant owners with all the operations externalised.

Geographical Scope:

8th, 9th, 11th, 12th, and 13th arrondissements (pre-selected - to be confirmed)

Regulatory Context:

Since 2023, the French AGEC law requires all restaurants, including fast-food chains, to provide reusable tableware for dine-in customers. This regulation aims to significantly reduce single-use waste and promote a circular economy in the food service industry. Also thanks to AGEC-law, sellers of takeaway drinks must offer a lower price when the beverage is served in a reusable container brought by the customer, compared to one served in a disposable cup.

While the AGEC law does not yet mandate the exclusive use of reusable containers for takeaway sales, it sets progressive targets. For example, at least 5% of packaging placed on the market must be reusable, with a goal of 10% by 2027.

Reuse System type (Closed/Open):

Closed loop with shared infrastructure.

System Operator:

To be defined.

System Participants & Roles:

A dense network of easily accessible RVMs to simplify the consumer journey.

Target restaurants of all types: offering a diverse food selection in reusable containers and all operational processes are fully outsourced.

Reusable plastic containers designed for takeout food.

Type of Incentive to Return:

Deposit-based model (RECUP and EINFACH MEHRWEG).

Tracking System:

Deposit system without an app, using contactless payment. QR code on containers for identification when depositing in RVMs.

Key Learnings:

Not tested yet.



6

Rotterdam - Statiegeldbeker Pilot



PROJECT SNAPSHOT

RSVP core local partner:

Mission Reuse.

Key Local Partners:

NS (Dutch Railways - Project Lead), PackBack, WeCup, DutchCup, Lekkerland, Cupstack, 20+ participating food and drink retailers (including chains like Starbucks, Hema, Kiosk, AH to go), Municipality of Rotterdam, Verpact, Province of South Holland, Transitieagenda Consumptiegoederen, Versnellingshuis NL Circulair.

Funding Sources:

Municipality of Rotterdam, Province of South-Holland, Transitieagenda consumptiegoederen, Verpact, Plastics Solutions Fund.

Duration of Test Phase:

3 months pilot (March-May 2024) following 8-month pilot preparation phase and 4 months coalition building.

Core Goals & Key Elements Tested:

Test an open-loop reuse system using a deposit-return model in a high-traffic public transport hub; test QR-based tracking and app refund system; engage mixed vendor types.

Geographical Scope:

Rotterdam Central Station and surrounding small outlets.

Regulatory Context:

Dutch regulation (July 2023) mandates reusable or BYO cup options for takeaway drinks; pilot also supports compliance with future EU PPWR reuse targets.cup.

Reuse System type (Closed/Open):

Open loop system with shared infrastructure.

System Operator:

PackBack (with support of WeCup, DutchCups, Lemontri, Grin, Lekkerland, Tikkie, Cupstack.

System Participants & Roles:

NS – project lead and infrastructure host; Municipality; Reuse providers – operation and digital backend; Retailers – serve and collect cups.

Type of Incentive to Return:

€1 refundable deposit via app or bank transfer (Tikkie).

Tracking System:

QR-coded cups linked to user refund apps.

Key Learnings:

- ☞ A shared, universal return infrastructure— involving multiple hospitality venues and packaging providers—is both technically and operationally feasible, with existing logistics and technologies enabling hygienic returns and improved traceability, even with several packaging types.
- ☞ Making reuse the default option significantly boosts uptake and simplifies operations; optional models relying on staff promotion are less effective, especially under pressure.

- ☞ Reuse systems benefit from a level playing field—uniform adoption across venues builds user familiarity, reinforces sustainable habits, and makes staff engagement more consistent.
- ☞ High return rates depend on widely distributed return points, ideally integrated into users' daily routes. Centralised handling (e.g. for deposits and cleaning) is more efficient than placing full responsibility on individual venues.

Special Notes:

Strong governance and pre-launch stakeholder alignment are crucial. Scalability in high-traffic areas depends on sustainable infrastructure, clear roles, and system usability. Consumer research of the pilot can be found here: <https://circulaireconsumptiegoederen.nl/wp-content/uploads/2025/01/Consumentenonderzoek-finaal.pdf> (in Dutch)

Leur je statiegeld beker in d bakkie!

Drop your cup in this bin

ANNEX II

Additional reuse requirements for takeaway packaging under the Packaging and Packaging Waste Regulation (PPWR)

https://zerowasteurope.eu/wp-content/uploads/2025/05/PPWR-ANNEX_RSVP-Reuse-Blueprint-2025_14.04.pdf





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