

FACT SHEET

Mixed deposit return systems: Key benefits

April 2026



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From their origins in reuse to their widespread adoption for single-use containers, deposit return systems (DRS) have evolved into one of the most effective tools for recovering beverage packaging and advancing circular economy goals. As regulatory momentum builds, particularly with measures such as the EU’s Packaging and Packaging Waste Regulation (PPWR), there is growing recognition that DRS can play a pivotal role not only in high-quality recycling, but also in enabling scalable, economically viable reuse systems. The emergence of mixed DRS reflects this shift.

Although still relatively limited in number, jurisdictions that have integrated single-use and reusable containers within shared return systems demonstrate that mixed DRS can deliver significant benefits that no stand-alone reuse or recycling system can achieve, benefits that extend across the entire value chain, from consumers and retailers to producers and system operators. These include:

- Increased convenience and simplicity for consumers drives higher collection rates:** Mixed DRS simplify the return process by allowing consumers to follow a single, consistent journey regardless of container type (Figure 1). This equal effort ensures reusable containers are not disadvantaged compared with single-use options, supporting broader participation and helping to normalise reuse. When containers do not need to be segregated into different machines or locations, return rates improve for both streams. Research shows that easy, convenient, and clearly identifiable return points are the most important driver of consumer behaviour. Evidence from early mixed systems demonstrates this effect: In Latvia, the collection rate for single-use containers rose from 45% to 83%, while the return rate for reusable bottles increased from 50% to 90% after the mixed DRS was launched.ⁱ

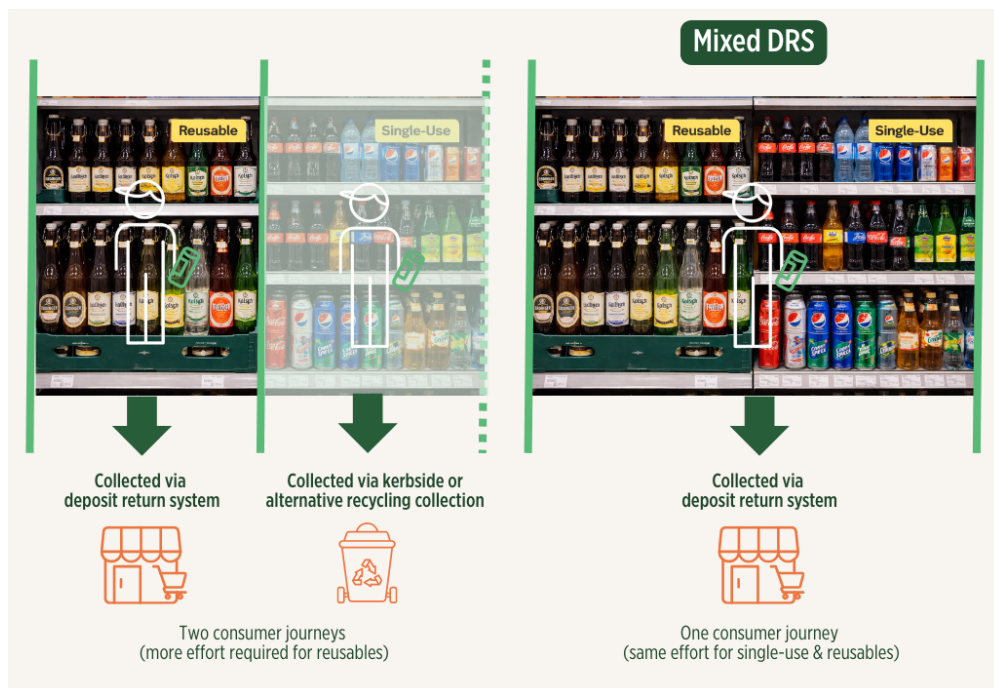
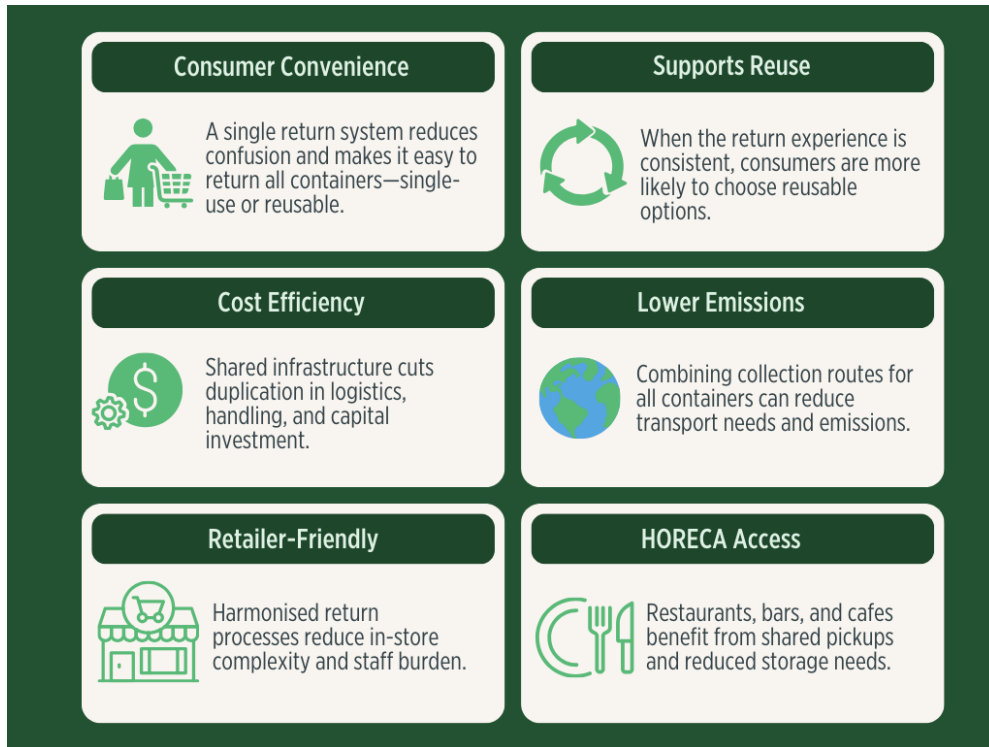


Figure 1 Consumer journeys under separate versus mixed DRS collection models. Left: reusable containers are returned through a DRS while single-use containers are collected via kerbside or other systems, requiring two consumer journeys and greater overall effort for reusables. Right: a mixed DRS captures both reusable and single-use containers within one system, simplifying participation and aligning effort across container types.

- Uptake of reusables:** When the return experience is the same regardless of format, purchasing decisions are less likely to be influenced by convenience. Reusables begin to compete on equal footing (the same effort, behaviour, and return journey), making them more attractive to consumers, where feasible. Evidence from multiple countries shows that introducing a deposit for single-use containers can strengthen reuse rather than undermine it. In Lithuania, after years of decline, the market share of reusable bottles began to rise following the launch of the deposit for recycling in 2016.ⁱⁱ In Germany, the introduction of the DRS for single-use containers in 2003 helped stabilise a long-term decline in reuse and enabled sectors like juice to reintroduce competitive reusable offerings.ⁱⁱⁱ
- Cost savings for collection points:** Shared infrastructure across the value chain reduces duplication and lowers system-wide costs, particularly at the collection point. A dual-function RVM, with one front unit (screen, optical barcode reader, IT system) and two backend modules (a compaction module for single-use containers and a soft-drop module for reusables) is far more cost-effective than installing two separate machines, each requiring its own front-end hardware, maintenance schedule, and power supply. Mixed RVMs can reduce acquisition/rental, installation, servicing, and electricity costs, as well as the physical footprint at the collection point.^{iv} One study found that a mixed RVM with three storage bins (one each for PET, cans, and glass) can lower rental costs by 14–18%^v compared with operating two separate machines (one for reusables, one for single-use PET and cans). Ongoing operating costs are also lower. Technician travel, often the most expensive part of maintenance, is reduced when only one machine needs servicing. Cleaning and routine upkeep can likewise be consolidated.
- Streamlined logistics and shared downstream infrastructure:** Under a mixed DRS, there is the potential to consolidate key logistics functions, reducing duplication and lowering operating costs. Unifying logistics and sorting/counting operations avoids non-optimal parallel systems that duplicate journeys and resources; for example, rather than multiple independent sorting centres serving the same region, a single coordinated network can localise operations, cutting transport distances and emissions. Latvia illustrates this approach: reusable and single-use containers move through the same reverse-logistics network, using the same collection points and transport routes.^{vi} A substantial share of reverse-logistics transport (around 50% of total volume) is provided by distributors, which further reduces transport costs. Downstream, Latvia operates a single counting and sorting centre for both streams. This shared infrastructure eliminates the need for parallel facilities, staff, and transport flows, and also helps maintain the cost competitiveness of reusable containers, particularly in smaller markets.

What is a soft drop module?

A soft drop module in a reverse vending machine (RVM) is a specialised mechanism for safely collecting refillable glass bottles, preventing breakage by gently lowering them into a separate bin, crucial for deposit systems to maintain bottle integrity for reuse, unlike basic RVMs that might crush or damage glass. Major RVM manufacturers offer these modules as optional add-ons for their RVMs, enabling retailers to handle both single-use (crushable) and reusable glass, optimising space and efficiency in various store sizes.



- **Lower carbon footprint:** In rural or lower-density areas, collecting all container types through a single system can reduce transportation needs, improving logistics and potentially decreasing emissions.
- **Retailer-friendly design:** A harmonised system reduces complexity at the point of return, easing the operational burden on retailers who serve as key collection points.
- **Simple market entry:** With capital and operating costs shared across all producers (single-use and reusable), allowing new participants to join easily with a one-time admin fee and producer fees based on container type and size. This offers small producers and bulk importers a cost-effective way to reduce their packaging impact and lower annual EPR fees.
- **Support for HORECA:** Shared infrastructure allows restaurants and bars to plug into collective operations, logistics and routing. Small businesses with limited storage gain efficiency through economies of scale and more frequent pickups.

Table 1 identifies the key benefits by stakeholder group.

Table 1 Benefits of a mixed DRS by stakeholder group

Stakeholder	Key Benefits
Consumers	<ul style="list-style-type: none"> • Single, simple return process for all container types • Equal effort for reusable and single-use options • Reduced confusion and better return convenience
Retailers	<ul style="list-style-type: none"> • One return system to manage instead of two • Reduced staff burden at manual return points • Less back-of-store sorting complexity

	<ul style="list-style-type: none"> • Lower equipment footprint • More predictable logistics and pickups
Producers / Fillers	<ul style="list-style-type: none"> • Shared infrastructure lowers costs • Easier onboarding into the system, especially for SMEs • Access to efficient pooled logistics • Faster turnaround for reusable formats
System Operators / PROs	<ul style="list-style-type: none"> • Consolidated logistics improve efficiency and reduce costs • Simplified data management and clearing • Economies of scale across collection, counting, and transport
HORECA (hotels, restaurants, cafés)	<ul style="list-style-type: none"> • Easier participation through shared pickups and routing • Reduced storage needs compared with operating separate return streams • Less staff training/administration
Municipalities	<ul style="list-style-type: none"> • Reduced litter and lower cleanup costs in public spaces such as streets, parks, roadsides, and beaches • Reduced pressure on public collection infrastructure, particularly in tourist areas and around restaurants • Lower out-of-home bin collection frequency and costs, as beverages under 1L (largely consumed away-from-home) represent a significant share of public bin volume
Environment / Climate	<ul style="list-style-type: none"> • Fewer transport kilometres through integrated routing • Reduced duplication of infrastructure • Higher reuse uptake and improved recycling quality • Lower overall emissions and resource use

Insight from France: Modelling shows why a mixed DRS delivers system-level benefits

France provides a clear illustration of how a mixed DRS can deliver advantages that extend beyond those achievable through stand-alone reuse or recycling systems.

In 2024, Reloop commissioned EY to conduct an *Opportunity and Feasibility Analysis of the Deployment of a Mixed Deposit System in France*.¹ The study assessed whether France should implement a mixed DRS covering both single-use and reusable beverage containers, or introduce a DRS for reusable containers only. The analysis was conducted in the context of France's AGECE law, as well as relevant EU legislation, including the Single-Use Plastics Directive (SUPD) and the Packaging and Packaging Waste Regulation (PPWR).

The study concluded that a mixed DRS represents the most effective and efficient approach for France, identifying several system-level benefits:

- Stronger alignment with regulatory objectives, increasing the likelihood of achieving the targets set under the AGECE law, SUPD, and PPWR

¹EY. (2024). *Opportunity and feasibility analysis of the deployment of the Mixed Deposit System in France (reuse and recycling of beverage packaging) – Final report*. <https://www.reloopplatform.org/study-shows-advantages-of-mixed-deposit-system/>

- Faster rollout of refillable beverage containers, enabling reuse systems to scale more rapidly, with meaningful deployment possible by 2026
- Significant economic efficiencies, with estimated total savings of €179–198 million per year compared to a phased approach that would first introduce a reuse-only DRS and add a single-use DRS later
 - €10–12 million per year in system management savings
 - €169–186 million per year from shared infrastructure and automated collection efficiencies
- Greater simplicity and acceptability for consumers, by avoiding parallel return systems
- A more level playing field between single-use and reusable packaging, limiting structural advantages for single-use formats during the transition to reuse

Taken together, the findings demonstrate how integrating reuse and recycling within a single deposit framework can reduce costs, accelerate system deployment, and improve consumer understanding, while strengthening compliance with both national and EU-level policy objectives.

Endnotes

ⁱEY. (14 May 2024). *Opportunity and feasibility analysis of the deployment of the Mixed Deposit System in France (reuse and recycling of beverage packaging)*. <https://www.reloopplatform.org/wp-content/uploads/2024/05/Reloop-Mixed-Deposit-in-France.pdf>

ⁱⁱIbid.

ⁱⁱⁱIbid.

^{iv}Ibid.

^vIbid.

^{vi}Ibid.

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